

# READ ESSENTIALS OF MEDICAL STATISTICS

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## Essentials Of Medical Statistics Introduction

### Essential Medical Statistics

Blackwell Publishing is delighted to announce that this book has been Highly Commended in the 2004 BMA Medical Book Competition. Here is the judges' summary of this book: "This is a technical book on a technical subject but presented in a delightful way. There are many books on statistics for doctors but there are few that are excellent and this is certainly one of them. Statistics is not an easy subject to teach or write about. The authors have succeeded in producing a book that is as good as it can get. For the keen student who does not want a book for mathematicians, this is an excellent first book on medical statistics." Essential Medical Statistics is a classic amongst medical statisticians. An introductory textbook, it presents statistics with a clarity and logic that demystifies the subject, while providing a comprehensive coverage of advanced as well as basic methods. The second edition of Essential Medical Statistics has been comprehensively revised and updated to include modern statistical methods and modern approaches to statistical analysis, while retaining the approachable and non-mathematical style of the first edition. The book now includes full coverage of the most commonly used regression models, multiple linear regression, logistic regression, Poisson regression and Cox regression, as well as a chapter on general issues in regression modelling. In addition, new chapters introduce more advanced topics such as meta-analysis, likelihood, bootstrapping and robust standard errors, and analysis of clustered data. Aimed at students of medical statistics, medical researchers, public health practitioners and practising clinicians using statistics in their daily work, the book is designed as both a teaching and a reference text. The format of the book is clear with highlighted formulae and worked examples, so that all concepts are presented in a simple, practical and easy-to-understand way. This second edition enhances the emphasis on choice of appropriate methods with new chapters on strategies for analysis and measures of association and impact. Essential Medical Statistics is supported by a web site at [www.blackwellpublishing.com/essentialmedstats](http://www.blackwellpublishing.com/essentialmedstats). This useful online resource provides statistical datasets to download, as well as sample chapters and future updates.

### Essential Medical Statistics

An introduction to medical statistics, this book covers all the topics which a medical student or research worker is likely to encounter in routine work. It can be used for self-teaching, as a reference text and as a companion to basic courses in medical statistics.

### Essentials of Medical Statistics

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

## **Essential Statistical Methods for Medical Statistics**

A concise, straightforward introduction to medical statistics, this book covers all the topics which a medical student or research worker is likely to encounter in routine work. It can be used for self-teaching, as a reference text, and as a useful companion to basic courses in medical statistics. The book consists of twenty short chapters, each including worked examples, the chapter order reflecting a logical progression of practical concepts rather than a formal mathematical development.

## **Essentials of Medical Statistics**

Most medical researchers, whether clinical or non-clinical, receive some background in statistics as undergraduates. However, it is most often brief, a long time ago, and largely forgotten by the time it is needed. Furthermore, many introductory texts fall short of adequately explaining the underlying concepts of statistics, and often are divorced from the reality of conducting and assessing medical research. *Practical Statistics for Medical Research* is a problem-based text for medical researchers, medical students, and others in the medical arena who need to use statistics but have no specialized mathematics background. The author draws on twenty years of experience as a consulting medical statistician to provide clear explanations to key statistical concepts, with a firm emphasis on practical aspects of designing and analyzing medical research. The text gives special attention to the presentation and interpretation of results and the many real problems that arise in medical research.

## **Essential Medical Statistics, 3rd Edition**

It is not necessary to know how to do a statistical analysis to critically appraise a paper. However, it is necessary to have a grasp of the basics, of whether the right test has been used and how to interpret the resulting figures. Short, readable, and useful, this book provides the essential, basic information without becoming bogged down in the

## **Practical Statistics for Medical Research**

This long awaited second edition of this bestseller continues to provide a comprehensive, user friendly, down-to-earth guide to elementary statistics. The book presents a detailed account of the most important procedures for the analysis of data, from the calculation of simple proportions, to a variety of statistical tests, and the use of regression models for modeling of clinical outcomes. The level of mathematics is kept to a minimum to make the material easily accessible to the novice, and a multitude of illustrative cases are included in every chapter, drawn from the current research literature. The new edition has been completely revised and updated and includes new chapters on basic quantitative methods, measuring survival, measurement scales, diagnostic testing, bayesian methods, meta-analysis and systematic reviews. "... After years of trying and failing, this is the only book on statistics that I have managed to read and understand" - Naveed Kirmani, Surgical Registrar, South London Healthcare HHS Trust, UK

## **Medical Statistics Made Easy**

This book is written in a very easy-to-follow format, and explains the key concepts of biomedical statistics in a lucid yet straightforward manner. It explains how mathematical and statistical tools can be used to find answers to common research questions. In addition, the main text is supplemented by a wealth of solved exercises and illustrative examples to aid in comprehension. Given its content, the book offers an invaluable

quick reference guide for graduating students and can be very helpful in their examination process. At the same time, it represents a handy guide for medical and paramedical teachers, post-graduate medical students, research personnel, biomedical scientists and epidemiologists.

## **Medical Statistics from Scratch**

The majority of medical research involves quantitative methods and so it is essential to be able to understand and interpret statistics. This book shows readers how to develop the skills required to critically appraise research evidence effectively, and how to conduct research and communicate their findings.

## **Biomedical Statistics**

The new edition of this popular textbook remains a clear and practical introduction to epidemiology for students in all areas of health. By emphasising the role of epidemiology across a broad range of health monitoring and research, it gives students an understanding of the fundamental principles common to all areas of epidemiology. It also integrates the study of infectious and chronic diseases as well as public health and clinical epidemiology. Avoiding complex mathematics, it steps through the methods and potential problems underlying health data and reports, while maintaining a balance of rigour and clarity. The nuts-and-bolts of epidemiology are embedded in the wider international health perspective through recent and classical examples across different areas of health to engage students from a range of backgrounds. Concepts are illustrated with charts and graphs, and end-of-chapter questions test understanding (with answers provided). Online resources include further exercises, slides for teaching and useful weblinks.

## **Oxford Handbook of Medical Statistics**

Now in its fourth edition, *Medical Statistics at a Glance* is a concise and accessible introduction to this complex subject. It provides clear instruction on how to apply commonly used statistical procedures in an easy-to-read, comprehensive and relevant volume. This new edition continues to be the ideal introductory manual and reference guide to medical statistics, an invaluable companion for statistics lectures and a very useful revision aid. This new edition of *Medical Statistics at a Glance*: Offers guidance on the practical application of statistical methods in conducting research and presenting results Explains the underlying concepts of medical statistics and presents the key facts without being unduly mathematical Contains succinct self-contained chapters, each with one or more examples, many of them new, to illustrate the use of the methodology described in the chapter. Now provides templates for critical appraisal, checklists for the reporting of randomized controlled trials and observational studies and references to the EQUATOR guidelines for the presentation of study results for many other types of study Includes extensive cross-referencing, flowcharts to aid the choice of appropriate tests, learning objectives for each chapter, a glossary of terms and a glossary of annotated full computer output relevant to the examples in the text Provides cross-referencing to the multiple choice and structured questions in the companion *Medical Statistics at a Glance Workbook* *Medical Statistics at a Glance* is a must-have text for undergraduate and post-graduate medical students, medical researchers and biomedical and pharmaceutical professionals.

## **Essential Medical Statistics**

Designed for researchers presenting medical statistics for publication, this guide emphasises the principles of good presentation through examples. It contains tips, information boxes and figures, as well as references for the statistical methods used. It also presents the different stages of the research process.

## **Essential Epidemiology**

A fundamental and straightforward guide to using and understanding statistical concepts in medical research

Designed specifically for healthcare practitioners who need to understand basic biostatistics but do not have much time to spare, *The Essentials of Biostatistics for Physicians, Nurses and Clinicians* presents important statistical methods used in today's biomedical research and provides insight on their appropriate application. Rather than provide detailed mathematics for each of these methods, the book emphasizes what healthcare practitioners need to know to interpret and incorporate the latest biomedical research into their practices. The author draws from his own experience developing and teaching biostatistics courses for physicians and nurses, offering a presentation that is non-technical and accessible. The book begins with a basic introduction to the relationship between biostatistics and medical research, asking the question "why study statistics?" while also exploring the significance of statistical methods in medical literature and clinical trials research. Subsequent chapters explore key topics, including: Correlation, regression, and logistic regression  
Diagnostics Estimating means and proportions Normal distribution and the central limit theorem Sampling from populations Contingency tables Meta-analysis Nonparametric methods Survival analysis Throughout the book, statistical methods that are often utilized in biomedical research are outlined, including repeated measures analysis of variance, hazard ratios, contingency tables, log rank tests, bioequivalence, cross-over designs, selection bias, and group sequential methods. Exercise sets at the end of each chapter allow readers to test their comprehension of the presented concepts and techniques. *The Essentials of Biostatistics for Physicians, Nurses, and Clinicians* is an excellent reference for doctors, nurses, and other practicing clinicians in the fields of medicine, public health, pharmacy, and the life sciences who need to understand and apply statistical methods in their everyday work. It also serves as a suitable supplement for courses on biostatistics at the upper-undergraduate and graduate levels.

## **Medical Statistics at a Glance**

This comprehensive workbook contains a variety of self-assessment methods that allow readers to test their statistical knowledge, put it into practice, and apply it in a medical context, while also providing guidance when critically appraising published literature. It is designed to support the best-selling third edition of *Medical Statistics at a Glance*, to which it is fully cross-referenced, but may be used independently of it. Ideal for medical students, junior doctors, researchers and anyone working in the biomedical and pharmaceutical disciplines who wants to feel more confident in basic medical statistics, the title includes: Over 80 MCQs, each testing knowledge of a single statistical concept or aspect of study interpretation 29 structured questions to explore in greater depth several statistical techniques or principles, including the choice of appropriate statistical analyses and the interpretation of study findings Templates for the appraisal of clinical trials and observational studies, plus full appraisals of two published papers to demonstrate the use of these templates in practice Detailed step-by-step analyses of two substantial data sets (also available at [www.medstatsaag.com](http://www.medstatsaag.com)) to demonstrate the application of statistical procedures to real-life research *Medical Statistics at a Glance Workbook* is the ideal resource to test statistical knowledge and improve analytical and interpretational skills. Additional resources are available at [www.medstatsaag.com](http://www.medstatsaag.com), including: Excel datasets to accompany the data analysis section Downloadable PDFs of two templates for critical appraisal Links to online further reading Supplementary MCQs

## **Presenting Medical Statistics from Proposal to Publication**

Encyclopedic in breadth, yet practical and concise, *Medical Biostatistics, Fourth Edition* focuses on the statistical aspects of medicine with a medical perspective, showing the utility of biostatistics as a tool to manage many medical uncertainties. This edition includes more topics in order to fill gaps in the previous edition. Various topics have been enlarged and modified as per the new understanding of the subject.

## **The Essentials of Biostatistics for Physicians, Nurses, and Clinicians**

In line with the other books in the *at a Glance* series, *Medical Statistics at a Glance* leads the reader through a number of self-contained topics, each covering a different aspect of medical statistics. The majority of these use the standard 'At a Glance' format of two pages per topic. The authors have provided a basic introduction

to the underlying concepts of medical statistics and a guide to the most commonly used statistical procedures. Topics describing a statistical technique are accompanied by a worked example, using real data, illustrating its use. Where possible, the same data set has been used in more than one topic to reflect the reality of data analysis. Detailed and complex hand calculations have been avoided with a concentration on the interpretation of computer data analysis. Medical Statistics at a Glance is versatile in its use as an explanation, a revision summary and a long-term source of reference. Worked examples to accompany each topic. Emphasis on computer analysis of data rather than hand calculations. Supported by a website at <http://www.medstatsaag.com/> - this site contains useful self-assessment questions to aid student learning.

## **Medical Statistics at a Glance Workbook**

From 'Abcissa' to 'Zygoty determination' - this accessible introduction to the terminology of medical statistics describes more than 1500 terms all clearly explained, illustrated and defined in non-technical language, without any mathematical formulae! With the majority of terms revised and updated and the addition of more than 100 brand new definitions, this new edition will enable medical students to quickly grasp the meaning of any of the statistical terms they encounter when reading the medical literature. Furthermore, annotated comments are used judiciously to warn the unwary of some of the common pitfalls that accompany some cherished biomedical statistical techniques. Wherever possible, the definitions are supplemented with a reference to further reading where the reader may gain a deeper insight, so whilst the definitions are easily digestible, they also provide a stepping stone to a more sophisticated comprehension. Statistical terminology can be quite bewildering for clinicians: this guide will be a lifesaver.

## **An Introduction to Medical Statistics**

The 5th edition of this popular introduction to statistics for the medical and health sciences has undergone a significant revision, with several new chapters added and examples refreshed throughout the book. Yet it retains its central philosophy to explain medical statistics with as little technical detail as possible, making it accessible to a wide audience. Helpful multi-choice exercises are included at the end of each chapter, with answers provided at the end of the book. Each analysis technique is carefully explained and the mathematics kept to minimum. Written in a style suitable for statisticians and clinicians alike, this edition features many real and original examples, taken from the authors' combined many years' experience of designing and analysing clinical trials and teaching statistics. Students of the health sciences, such as medicine, nursing, dentistry, physiotherapy, occupational therapy, and radiography should find the book useful, with examples relevant to their disciplines. The aim of training courses in medical statistics pertinent to these areas is not to turn the students into medical statisticians but rather to help them interpret the published scientific literature and appreciate how to design studies and analyse data arising from their own projects. However, the reader who is about to design their own study and collect, analyse and report on their own data will benefit from a clearly written book on the subject which provides practical guidance to such issues. The practical guidance provided by this book will be of use to professionals working in and/or managing clinical trials, in academic, public health, government and industry settings, particularly medical statisticians, clinicians, trial co-ordinators. Its practical approach will appeal to applied statisticians and biomedical researchers, in particular those in the biopharmaceutical industry, medical and public health organisations.

## **Medical Biostatistics**

Statistics can be an intimidating subject for many students and clinicians. This concise text introduces basic concepts that underpin medical statistics and, using everyday clinical examples, highlights the importance of statistical principles to understanding and implementing research findings in routine clinical care.

## **Medical Statistics at a Glance**

How can society most effectively prevent disease and promote health? That is the challenge addressed by this

textbook. Public health is the art and science of preventing disease, prolonging life and promoting health through the organised efforts of society. The 'science' is concerned with making a diagnosis of a population's health problems, establishing their cause and determining effective interventions. The 'art' lies in creatively addressing these problems. Essential Public Health captures both the art and science of the field. This second edition has been fully updated with contemporary examples and includes new chapters on sustainability and change, management and leadership. Examples are taken from health systems throughout the world, giving readers a wider perspective of the challenges faced. This is essential reading for all trainees in health care, social care and related disciplines. An internet companion includes supplementary information and interactive, self-assessment questions to test understanding and aid learning.

## **Medical Statistics from A to Z**

This volume, representing a compilation of authoritative reviews on a multitude of uses of statistics in epidemiology and medical statistics written by internationally renowned experts, is addressed to statisticians working in biomedical and epidemiological fields who use statistical and quantitative methods in their work. While the use of statistics in these fields has a long and rich history, explosive growth of science in general and clinical and epidemiological sciences in particular have gone through a sea of change, spawning the development of new methods and innovative adaptations of standard methods. Since the literature is highly scattered, the Editors have undertaken this humble exercise to document a representative collection of topics of broad interest to diverse users. The volume spans a cross section of standard topics oriented toward users in the current evolving field, as well as special topics in much need which have more recent origins. This volume was prepared especially keeping the applied statisticians in mind, emphasizing applications-oriented methods and techniques, including references to appropriate software when relevant. · 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

## **Medical Statistics**

Essential Statistics, Regression, and Econometrics, Second Edition, is innovative in its focus on preparing students for regression/econometrics, and in its extended emphasis on statistical reasoning, real data, pitfalls in data analysis, and modeling issues. This book is uncommonly approachable and easy to use, with extensive word problems that emphasize intuition and understanding. Too many students mistakenly believe that statistics courses are too abstract, mathematical, and tedious to be useful or interesting. To demonstrate the power, elegance, and even beauty of statistical reasoning, this book provides hundreds of new and updated interesting and relevant examples, and discusses not only the uses but also the abuses of statistics. The examples are drawn from many areas to show that statistical reasoning is not an irrelevant abstraction, but an important part of everyday life. Includes hundreds of updated and new, real-world examples to engage students in the meaning and impact of statistics Focuses on essential information to enable students to develop their own statistical reasoning Ideal for one-quarter or one-semester courses taught in economics, business, finance, politics, sociology, and psychology departments, as well as in law and medical schools Accompanied by an ancillary website with an instructors solutions manual, student solutions manual and supplementing chapters

## **Basic Skills in Statistics**

Score your highest in biostatistics Biostatistics is a required course for students of medicine, epidemiology, forestry, agriculture, bioinformatics, and public health. In years past this course has been mainly a graduate-level requirement; however its application is growing and course offerings at the undergraduate level are exploding. Biostatistics For Dummies is an excellent resource for those taking a course, as well as for those in need of a handy reference to this complex material. Biostatisticians—analysts of biological data—are

charged with finding answers to some of the world's most pressing health questions: how safe or effective are drugs hitting the market today? What causes autism? What are the risk factors for cardiovascular disease? Are those risk factors different for men and women or different ethnic groups? *Biostatistics For Dummies* examines these and other questions associated with the study of biostatistics. Provides plain-English explanations of techniques and clinical examples to help Serves as an excellent course supplement for those struggling with the complexities of the biostatistics Tracks to a typical, introductory biostatistics course *Biostatistics For Dummies* is an excellent resource for anyone looking to succeed in this difficult course.

## **Essential Public Health**

From the author of *Statistical Applications for Health Information Management*, this text provides a solid foundation of the fundamentals of statistics in health information technology in an accessible and reader-friendly format. A single case study is woven throughout the book to serve as an example for each statistical process covered. Attention is given to morbidity and mortality measures, graphical display of data, measurement, central tendency and variability, normal distribution and statistical inference, and inferential statistics. Written specifically for health information technology students who need a basic understanding of the topic, this text is ideal for those with a modest background in mathematics and no prior training in statistics. Features:

- Introduces students to how statistical techniques can be used to describe and make inferences from healthcare data.
- Includes traditional hospital statistics such as average length of stay and total inpatient service days.
- Uses examples in both SPSS and Microsoft Excel.

## **ESSENTIALS OF BIOSTATISTICS**

The aim of this book is to equip biostatisticians and other quantitative scientists with the necessary skills, knowledge, and habits to collaborate effectively with clinicians in the healthcare field. The book provides valuable insight on where to look for information and material on sample size and statistical techniques commonly used in clinical research, and on how best to communicate with clinicians. It also covers the best practices to adopt in terms of project, time, and data management; relationship with collaborators; etc.

## **Epidemiology and Medical Statistics**

As many medical and healthcare researchers have a love-hate relationship with statistics, the second edition of this practical reference book may make all the difference. Using practical examples, mainly from the authors' own research, the book explains how to make sense of statistics, turn statistical computer output into coherent information, and help decide which pieces of information to report and how to present them. The book takes you through all the stages of the research process, from the initial research proposal, through ethical approval and data analysis, to reporting on and publishing the findings. Helpful tips and information boxes, offer clear guidance throughout, including easily followed instructions on how to:

- develop a quantitative research proposal for ethical/institutional approval or research funding
- write up the statistical aspects of a paper for publication
- choose and perform simple and more advanced statistical analyses
- describe the statistical methods and present the results of an analysis.

This new edition covers a wider range of statistical programs - SAS, STATA, R, and SPSS, and shows the commands needed to obtain the analyses and how to present it, whichever program you are using. Each specific example is annotated to indicate other scenarios that can be analysed using the same methods, allowing you to easily transpose the knowledge gained from the book to your own research. The principles of good presentation are also covered in detail, from translating relevant results into suitable extracts, through to randomised controlled trials, and how to present a meta-analysis. An added ingredient is the inclusion of code and datasets for all analyses shown in the book on our website (<http://medical-statistics.info>). Written by three experienced biostatisticians based in the UK and US, this is a step-by-step guide that will be invaluable to researchers and postgraduate students in medicine, those working in the professions allied to medicine, and statisticians in consultancy roles.

## **Essential Statistics, Regression, and Econometrics**

Essentials of Probability Theory for Statisticians provides graduate students with a rigorous treatment of probability theory, with an emphasis on results central to theoretical statistics. It presents classical probability theory motivated with illustrative examples in biostatistics, such as outlier tests, monitoring clinical trials, and using adaptive methods to make design changes based on accumulating data. The authors explain different methods of proofs and show how they are useful for establishing classic probability results. After building a foundation in probability, the text intersperses examples that make seemingly esoteric mathematical constructs more intuitive. These examples elucidate essential elements in definitions and conditions in theorems. In addition, counterexamples further clarify nuances in meaning and expose common fallacies in logic. This text encourages students in statistics and biostatistics to think carefully about probability. It gives them the rigorous foundation necessary to provide valid proofs and avoid paradoxes and nonsensical conclusions.

## **Biostatistics For Dummies**

Provides students and practitioners with a clear, concise introduction to the statistics they will come across in their regular reading of clinical papers. Written by three experts with wide teaching and consulting experience, *Medical Statistics: A Textbook for the Health Sciences, Fourth Edition*: Assumes no prior knowledge of statistics Covers all essential statistical methods Completely revised, updated and expanded Includes numerous examples and exercises on the interpretation of the statistics in papers published in medical journals From the reviews of the previous edition: "The book has several excellent features: it is written by statisticians, is... well presented, is well referenced... and is short." THE LANCET "Many statisticians are concerned at the generally poor standard of statistics in papers published in medical journals. Perhaps this could be remedied if more research workers would spare a few hours to read through Campbell and Machin's book." BRITISH MEDICAL JOURNAL "... a simple, interesting and insightful introduction to medical statistics... highly recommended." STATISTICAL METHODS IN MEDICAL RESEARCH "Campbell and Machin found the golden mean... this book can be recommended for all students and all medical researchers." ISCB NEWSLETTER

## **Essentials of Statistics in Health Information Technology**

Statistical methods are a key part of data science, yet very few data scientists have any formal statistics training. Courses and books on basic statistics rarely cover the topic from a data science perspective. This practical guide explains how to apply various statistical methods to data science, tells you how to avoid their misuse, and gives you advice on what's important and what's not. Many data science resources incorporate statistical methods but lack a deeper statistical perspective. If you're familiar with the R programming language, and have some exposure to statistics, this quick reference bridges the gap in an accessible, readable format. With this book, you'll learn: Why exploratory data analysis is a key preliminary step in data science How random sampling can reduce bias and yield a higher quality dataset, even with big data How the principles of experimental design yield definitive answers to questions How to use regression to estimate outcomes and detect anomalies Key classification techniques for predicting which categories a record belongs to Statistical machine learning methods that "learn" from data Unsupervised learning methods for extracting meaning from unlabeled data

## **Essentials of a Successful Biostatistical Collaboration**

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.

## **Presenting Medical Statistics from Proposal to Publication**

This text book is a comprehensive, user friendly and easy to read resource on Biostatistics and Research Methodology. It is meant for undergraduate and post graduate students of medical and biomedical sciences. Health researchers, research supervisors and faculty members may find it useful as a reference book.

## **Essentials of Probability Theory for Statisticians**

In this \"important and comprehensive\" guide to statistical thinking (New Yorker), discover how data literacy is changing the world and gives you a better understanding of life's biggest problems. Statistics are everywhere, as integral to science as they are to business, and in the popular media hundreds of times a day. In this age of big data, a basic grasp of statistical literacy is more important than ever if we want to separate the fact from the fiction, the ostentatious embellishments from the raw evidence -- and even more so if we hope to participate in the future, rather than being simple bystanders. In *The Art of Statistics*, world-renowned statistician David Spiegelhalter shows readers how to derive knowledge from raw data by focusing on the concepts and connections behind the math. Drawing on real world examples to introduce complex issues, he shows us how statistics can help us determine the luckiest passenger on the Titanic, whether a notorious serial killer could have been caught earlier, and if screening for ovarian cancer is beneficial. *The Art of Statistics* not only shows us how mathematicians have used statistical science to solve these problems -- it teaches us how we too can think like statisticians. We learn how to clarify our questions, assumptions, and expectations when approaching a problem, and -- perhaps even more importantly -- we learn how to responsibly interpret the answers we receive. Combining the incomparable insight of an expert with the playful enthusiasm of an aficionado, *The Art of Statistics* is the definitive guide to stats that every modern person needs.

## **Medical Statistics**

Correctly understanding and using medical statistics is a key skill for all medical students and health professionals. In an informal and friendly style, *Medical Statistics from Scratch* provides a practical foundation for everyone whose first interest is probably not medical statistics. Keeping the level of mathematics to a minimum, it clearly illustrates statistical concepts and practice with numerous real-world examples and cases drawn from current medical literature. *Medical Statistics from Scratch* is an ideal learning partner for all medical students and health professionals needing an accessible introduction, or a friendly refresher, to the fundamentals of medical statistics.

## **Practical Statistics for Data Scientists**

Basic Biostatistics for Geneticists and Epidemiologists

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