
The authors address this book to practitioners of laboratory medicine who have limited knowledge of statistics and need guidance in understanding statistical concepts and techniques. The book spans topics from data collection, selection of statistical tests, data analysis, and conclusions to presentation of results of experiments.

The first chapter introduces concepts involving difference, change, association, probability, confidence intervals, types of data, and parametric and nonparametric tests. Although basic concepts of exploratory data analysis are well presented, the interested reader should consult the book of Haeglin et al. (1) for a more in-depth treatment.

The second chapter presents statistical techniques for control and comparison of analytical methods. The basic statistical techniques and their concepts are well presented, and in the regression analysis section the Deming method is clearly explained. The section for comparison of multiple means is limited to ANOVA. Techniques for detecting which means is(are) different from the others are not presented. The section for regression analysis does not present techniques to assess linearity, outliers, influential measurements, or inequality of variance or to implement remedial measures, and regression analysis techniques alternative to the Deming method are not mentioned.

The third chapter discusses statistical techniques for diagnosis of diseases and monitoring of patients. This is probably the best chapter of the book, and the concepts are illustrated with excellent examples. It accurately represents the connection between laboratory and clinical practice. The fourth chapter presents study designs, ethics issues, data analysis, and reporting of results for medical research. The major issues are well presented and well referenced. Some aspects are treated either too briefly or incompletely, and there are no references to either multivariate data analysis or neural networks. For a broader introduction to categorical data analysis and an understanding of the relationship between contingency tables and generalized linear models, the book of Agresti (2) is suggested. The authors favor, for a beginner, the simplicity of Analyse-IT® over the intricacy of professional statistical packages such as Minitab®, SAS®, and SPSS®. However, professional statistical packages are also easily used and, as they are more complete, represent a better stepping stone for more advanced and rigorous data analysis. Furthermore, numerous statistical textbooks use Minitab, SAS, and SPSS in illustrating their practical examples. The section on reporting data is well written and referenced; practical suggestions are given to produce a poster or to write a paper. I would suggest adding the book The Visual Display of Quantitative Information (3) to the references.

In conclusion, the authors fulfill the goal of translating for the neophyte, elementary concepts and some more advanced statistical concepts, formulas, and symbols into plain English. This book is easily read, and it represents an excellent introduction to statistical concepts for laboratory medicine. It is recommended as first reading for medical students, laboratory medicine residents, and other medical practitioners interested in laboratory medicine who are not familiar with statistical techniques. This is, however, only the first step toward understanding and using statistical data analysis techniques.

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References

Meeting
Markers for Cardiac Damage – Current Status and Future Trends. 7th Bergmeyer Conference/IFCC-Roche Diagnostics Master Discussion: Improving the Clinical Value of Laboratory Data, February 1–3, 1999. Evagelische Akademie Tutzing, D-82327 Tutzing, Germany. The number of participants is restricted to 100. Early registration is requested. Information: Prof. Dr. W. Hölzel, Roche Diagnostics, Boehringer Mannheim GmbH, D-82327 Tutzing/Obb, Germany. Phone 49-8158-224231; fax 49-8158-224583; e-mail wieland.hoelzel@roche.com.

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