



A "how to" guide for applying statistical methods to biomarker data analysis

Presenting a solid foundation for the statistical methods that are used to analyze biomarker data, *Analysis of Biomarker Data: A Practical Guide* features preferred techniques for biomarker validation. The authors provide descriptions of select elementary statistical methods that are traditionally used to analyze biomarker data with a focus on the proper application of each method, including necessary assumptions, software recommendations, and proper interpretation of computer output. In addition, the book discusses frequently encountered challenges in analyzing biomarker data and how to deal with them, methods for the quality assessment of biomarkers, and biomarker study designs.

Covering a broad range of statistical methods that have been used to analyze biomarker data in published research studies, *Analysis of Biomarker Data: A Practical Guide* also features:

- A greater emphasis on the application of methods as opposed to the underlying statistical and mathematical theory
- The use of SAS®, R, and other software throughout to illustrate the presented calculations for each example
- Numerous exercises based on real-world data as well as solutions to the problems to aid in reader comprehension
- The principles of good research study design and the methods for assessing the quality of a newly proposed biomarker
- A companion website that includes a software appendix with multiple types of software and complete data sets from the book's examples

Analysis of Biomarker Data: A Practical Guide is an ideal upper-undergraduate and graduate-level textbook for courses in the biological or environmental sciences. An excellent reference for statisticians who routinely analyze and interpret biomarker data, the book is also useful for researchers who wish to perform their own analyses of biomarker data, such as toxicologists, pharmacologists, epidemiologists, environmental and clinical laboratory scientists, and other professionals in the health and environmental sciences.

STEPHEN W. LOONEY, PhD, is Professor in the Department of Biostatistics and Epidemiology at Georgia Regents University, USA. He is a Fellow of the American Statistical Association and the Royal Statistical Society, an elected member of the International Statistical Institute, and a member of the International Biometric Society.

JOSEPH L. HAGAN, ScD, is Research Statistician at Texas Children's Hospital and Assistant Professor at the Baylor College of Medicine, USA. He is a member of the American Statistical Association.



Subscribe to our free Statistics eNewsletter at
wiley.com/enewsletter

www.wiley.com/statistics

WILEY



Also available
as an e-book

ISBN 978-1-118-02755-4



9 781118 027554