

BOOK NOTES

Structured abstracts of information on newly published books, computer programs, selected Web sites, and other material are provided in this portion of Medical Writings. Order phone numbers and Web sites can be used to place orders directly with publishers.

Applied Longitudinal Data Analysis for Epidemiology: A Practical Guide

Twisk JW. 301 pages. New York: Cambridge Univ Pr; 2003. ISBN 0521525802. \$40.00. Order phone 845-353-7500.

Field of medicine: Epidemiology and biostatistics.

Format: Softcover book.

Audience: Physician researchers, epidemiologists, and analysts of biomedical data.

Purpose: To provide a cogent nontechnical introduction to the analysis of clinical and epidemiologic longitudinal studies.

Content: In longitudinal studies, "the outcome variable is measured in the same individual on several different occasions" so that the development of a certain outcome can be studied over time and be related to development of other variables. The book's chapters on continuous, binary, and categorical and count outcomes begin by reviewing traditional approaches to longitudinal (panel) data. Those approaches include comparing changes and repeated-measures analysis of variance. The book focuses on generalized estimating equations models, random coefficient models, and other extensions of ordinary regression to repeated-measures data. Those sophisticated methods have greater statistical power, interpretability, and ability to handle missing data than do traditional approaches. The book also includes chapters on missing data, tracking, sample size, and other aspects of study design.

Highlights: Twisk uses autoregressive (Markov) models and models of changes to isolate longitudinal (within-subject) effects and carefully explains modeling strategies. By repeatedly analyzing the same data set, he compares the computer output from different model types to illustrate their similarities and differences. I used the book as the text in an ongoing longitudinal data study group, and the group found it understandable, stimulating, and practical. The chapter on software contains the statistical code (in SAS software [SAS Institute, Inc., Cary, North Carolina], Stata software [Stata Corp., College Station, Texas], and S-Plus software [MathSoft, Inc., Seattle, Washington]) and corresponding computer output from those statistical programs. We used data sets obtained from the author and replicated many analyses by comparing the generated code with the book's presented computer output.

Limitations: There were discrepancies between some of the computer output and the statistical code used to generate it. Including the data sets in the book or making them available on a Web site would have been helpful. Ambiguities, such as those in Figures 5.3 and 5.5, could be eliminated by more detailed legends.

Related reading: Kleinbaum and Klein's *Logistic Regression: A Self Learning Text*, 2nd edition (Springer, 2002), includes clear introductions to logistic regression and longitudinal data analysis but is restricted to binary outcomes. Brown and Prescott's *Applied Mixed Models in Medicine* (Wiley, 1999) is a well-written, intermediate text. It presents random coefficient models with examples analyzed in

SAS software. Diggle and colleagues' *Analysis of Longitudinal Data*, 2nd edition (Oxford, 2002), the standard advanced comprehensive reference work, includes excellent figures and detailed examples in a development that emphasizes statistical theory.

Reviewer: Leonard E. Braitman, PhD, Albert Einstein Healthcare Network, Philadelphia, Pennsylvania, for the Longitudinal Data Study Group; e-mail, lbraitman@att.net.

Handbook of Clinical Nutrition and Aging

Bales CW, Ritchie CS, eds. 698 pages. Totowa, NJ: Humana Pr, 2003. \$145.00. ISBN 1588290557. Order phone 973-256-1699.

Field of medicine: Geriatrics and nutrition.

Format: Hardcover book.

Audience: Geriatricians and nutritionists. Many chapters focus on specific organ systems or diseases and will interest relevant medical subspecialists. The practical clinical interventions provided for common geriatric nutritional problems make this a useful resource for primary care physicians.

Purpose: To provide essential information on geriatric nutrition and review the relevant nutritional aspects of geriatric syndromes and specific clinical topics.

Content: This text is divided into 4 sections. The first 2 sections discuss trends and fundamentals of geriatric nutrition and provide the reader with an in-depth understanding of this discipline. The remaining 2 sections comprehensively cover aging syndromes and clinical topics relevant to nutrition. The text includes pertinent information on etiology, epidemiology, diagnostic evaluation, and management of important issues in geriatric nutrition.

Highlights: The editors, both highly respected in geriatric nutrition, have brought together legends in this field to produce an excellent handbook. This text excels in its thorough approach to important topics. Cutting-edge geriatric and nutrition sciences are infused with practical management concepts, making this text a valuable resource. Management is addressed thoroughly, going beyond traditional prescribed diets or a simplistic "supplements" approach. Misconceptions that are pervasive in nutritional and geriatric care are refreshingly corrected. The text is exceptionally well organized and rigorously referenced, and it includes a comprehensive index to facilitate use as a reference handbook.

Limitations: This text could be enhanced by expanding the practical nutritional management techniques.

Related readings: *Handbook of Clinical Nutrition and Aging* combines the best of 2 excellent earlier texts on geriatric nutrition and should serve as an updated, expanded version of each. Both Morley and colleagues' scientifically rigorous *Geriatric Nutrition: A Comprehensive Review*, 2nd edition (Raven Pr, 1995), and Chernoff's *Geriatric Nutrition: The Health Professional's Handbook*, 2nd edition (Aspen, 1999), compare well with and provide a scope similar to that of *Handbook*. However, *Handbook* often provides additional geriatric and nutritional management strategies representing 21st-century style of holistic care.

Reviewer: Nancy J. Stiles, MD, University of Kentucky, Lexington, Kentucky.