

"Adaptive Design Methods in Clinical Trials"

Shein-Chung Chow and Mark Chang, 2007, 277 pages, Chapman & Hall, \$89.95

Review by Norman M. Goldfarb

"Adaptive Design Methods in Clinical Trials" covers the principal adaptive clinical trial designs. The book is especially useful for biostatisticians designing a specific trial, to make sure they have considered all the ramifications. This book is the first comprehensive treatment of adaptive design statistics for clinical trials.

"Adaptive" and "Bayesian" are sometimes used interchangeably when referring to clinical trial designs. However, they refer to related but different statistical concepts and formulae. Adaptive

trial designs employ statistics to decide how to modify a study in progress. For example, a dosage arm can be dropped. Bayesian trials employ statistics that incorporate both "what we know before" and "what we just learned." The concepts sound similar, but the formulae are different. Only three chapters in the book describe Bayesian designs: Adaptive Hypotheses, Adaptive Dose-Escalation Trials, and Bayesian Approach

The book includes numerous formulae. A few of them have errors, which are corrected at http://www.firstclinical.com/journal/2009/0901_Adaptive_Errata.jpg.

The book consists of 12 chapters:

- Introduction
- Protocol Amendment
- Adaptive Randomization
- Adaptive Hypotheses
- Adaptive Dose-Escalation Trials
- Adaptive Group Sequential Design
- Adaptive Sample Size Adjustment
- Adaptive Seamless Phase II/III Designs
- Adaptive Treatment Switching
- Bayesian Approach
- Clinical Trial Simulation
- Case Studies

The book is available in bookstores.

Reviewer

Norman M. Goldfarb is Managing Director of First Clinical Research LLC, a provider of clinical research best practices information, consulting and training services. Contact him at 1.650.465.0119 or goldfarb@firstclinical.com.

This book has been selected for
[The First Clinical Research Bookshelf](#)
Essential reading for clinical research professionals