



Bayesian Methods in Health Economics

Health economics is concerned with the study of the cost-effectiveness of health care interventions. This book provides an overview of Bayesian methods for the analysis of health economic data. After an introduction to the basic economic concepts and methods of evaluation, it presents Bayesian statistics using minimal mathematics. The next chapters describe cost-effectiveness analysis from a statistical viewpoint, and Bayesian computation, notably MCMC. The final chapter presents three detailed case studies covering cost-effectiveness analyses using individual data from clinical trials, evidence synthesis and hierarchical models and Markov models. The text uses WinBUGS and JAGS, with datasets and code available online.

Features

- Provides an overview of Bayesian methods for cost-effectiveness analysis
- Includes all necessary background on economics and Bayesian statistics
- Covers the use of WinBUGS/JAGS for the analyses
- Presents three detailed case studies of the cost-effectiveness analysis of health care interventions
- Offers datasets and code for download

Contents

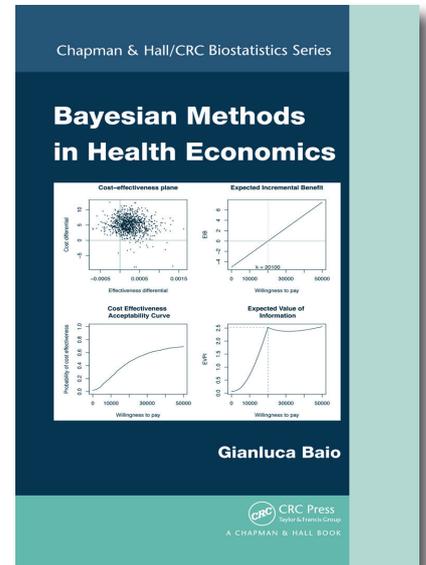
Introduction to Health Economic Evaluation: *Introduction; Health technology assessment; Clinical outcomes; Cost measures; Types of economic analysis; Comparing several health interventions*

Introduction to Bayesian Inference: *Introduction; Subjective probability and Bayes Theorem; Bayesian inference; Choosing a prior distribution; Inference on the posterior distribution; Monte Carlo methods; Non conjugated models; Conclusions*

Statistical Cost-Effectiveness Analysis: *Introduction; Decision theory and expected utility; Decision making in health economics; Uncertainty in the decision process; Probabilistic sensitivity analysis; Reporting the results of PSA; Conclusions*

Bayesian analysis in practice: *Introduction; Software configuration; An example of analysis in BUGS/JAGS; Logical nodes; Integrating R with BUGS/JAGS; An example of cost-effectiveness analysis in BUGS/JAGS*

Health economic evaluation in practice: *Cost-effectiveness analysis alongside clinical trials; Evidence synthesis and hierarchical models; Markov models*



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