

BOOK REVIEWS

MacKinnon III, G. *Understanding Health Outcomes and Pharmacoeconomics*. Burlington, MA. Jones & Bartlett Learning 2011. 218 pages. \$79.95. ISBN 978-0-7637-7099-0.

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Understanding Health Outcomes and Pharmacoeconomics by George E. MacKinnon III is directed towards pharmacists and other healthcare professionals with the intention of providing an overview and applications to assess the value of new interventions and treatments for patients and the healthcare system. MacKinnon states that the standards for studies and importance of pharmacoeconomics, health outcomes, health economics, and epidemiology are increasing, and are also higher in demand. This textbook is a strong resource for healthcare professionals for assessing or conducting research demonstrating the effectiveness, safety, and economic value of new treatments.

The book is broken into 3 major sections discussing an introduction to measuring health status, evaluating levels of evidence, and pharmacoeconomics. The 3 sections are further broken down into 14 chapters. Each chapter is composed of multiple subtopics, along with charts, figures, tables, equations, and examples to support the information discussed. In the beginning of each chapter, there are learning objectives, and at the end of the majority of chapters, there are summaries, references, and additional resources pertaining to that chapter.

In the first section, MacKinnon introduces measuring health status over 5 chapters. In chapter 1, an overview of the different factors affecting the increasing healthcare costs are covered. Chapter 2 builds on top of chapter 1 by providing information relating to drug development and the approval process. Chapter 3 covers a type of measurement of health status by an instrument known as the health-related quality of life. Chapter 4 continues with further discussions about the health-related quality of life analyzed from health surveys and questionnaires. Chapter 5 provides a basic overview of statistical analyses in biomedical research that are more important to pharmacoeconomics and health outcomes.

In the second section of the book, evaluating levels of evidence is covered starting from chapter 6. Randomized controlled trials are the most commonly used study design for determining cause and effects, and are covered in detail in chapter 6. In chapter 7, MacKinnon

provides information regarding systematic reviews and meta-analyses, and how they both are important contributors to health literature and guidelines. Chapter 8 discusses an alternative direction to conducting research by using medical and prescription claims databases when using the randomized controlled trial is not preferred. In chapter 9 – the last chapter of the second section – the use of real-world data, or patient-reported outcomes, are discussed.

In the third section, pharmacoeconomics is covered. Chapter 10 starts off the section by describing decision tables and decision trees, which are both forms of decision analysis used in pharmacoeconomics. Chapter 11 follows with the types of economic analysis and their characteristics. Cost-of-illness analysis and budget impact models are discussed in chapter 12. Chapter 13 explains cost-benefit analysis, cost-effectiveness analysis, and cost-utility analysis. Chapter 14, the final chapter of the section and the book covers comparative effectiveness. Comparative effectiveness is the determination of treatment options for specific conditions. From the results of the researches and studies, comparative effectiveness research can be conducted to construct a guideline for specific diseases or conditions.

The construction of the textbook makes it user friendly. The table of contents consists of page numbers, not just for section and chapters, but also for each subtopic, making it easier to navigate through the book. There is also an index at the end of the book, which makes searching by specific words a faster process. As mentioned before, each chapter starts off with a list of objectives. This makes it easier to keep the main points of the chapter in focus and works as a guideline for studying. The placement of references and additional resources at the end of each chapter expedites the process of further research if it is desired.

The book, however, is lacking a glossary, which practically is a standard for textbooks. There are lots of new words and definitions discussed throughout the book. A glossary would be a useful shortcut tool for the book. Also, study questions would be useful to help with learning the material. The book is intended for pharmacists and other healthcare professionals, but it is equally useful for healthcare students. The addition of chapter questions would help healthcare professionals confirm what information they have learned, while extending the books to students.

Overall, the book is an excellent resource for healthcare professionals, whether they are involved in research or just learning the material. It would be a great text for those attaining a graduate degree in pharmacoeconomics and outcome research. It would also be helpful in a required

or elective course in pharmacoeconomics or health economics at any pharmacy college or school. Students of healthcare will equally benefit from this book as an overview source for “understanding health outcomes and pharmacoeconomics.”

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