

BOOK REVIEW

Martin M. Zdanowicz. *Concepts in Pharmacogenomics*. Bethesda, MD: American Society of Health-System Pharmacists; 2010. 414 pp, \$69.00 (paperback), ISBN 978-1-58528-234-0.

Reviewed By: Kelly C. Lee, PharmD
University of California, San Diego

Pharmacogenomics is a rapidly evolving and complex scientific field that warrants the availability of resources that are user-friendly and concise. The editor of *Concepts in Pharmacogenomics* had this philosophy in mind when developing this reference. The book is geared toward pharmacy practitioners, educators, and trainees who are seeking resources about pharmacogenomic principles and applications in clinical practice. As the editor points out, the book is “written at a level that would have broad usefulness to... [those] practicing in all areas...”

The book is divided into 3 parts: Part I: Fundamentals of Pharmacogenomics, Part II: Applications of Pharmacogenomics in Therapeutics, and Part III: Important Issues in Pharmacogenomics. Part I is dedicated to basic principles of pharmacogenomics and is composed of 6 chapters covering basic genetic concepts, methodologies used in pharmacogenomics, and pharmacokinetic/pharmacodynamic applications in pharmacogenomics. Part II is divided into 6 chapters that highlight 6 therapeutic areas (cardiovascular disease, hematology/oncology, central nervous system, infectious diseases, respiratory diseases and toxicogenomics). Part III addresses miscellaneous topics such as ethical considerations in pharmacogenomics and topics that are not traditionally addressed in similar pharmacogenomic textbooks, such as the role of pharmacists in pharmacogenomics and pharmacogenomics in pharmacy education.

Several features of this book may appeal to those desiring a concise yet fairly comprehensive reference on pharmacogenomics. Each chapter is preceded by learning objectives and key definitions that orient the reader to the chapter content. A case study is also included in most chapters with questions following the case. The text is easy to read with several tables and figures within each chapter that provide quick summaries for the reader. Another helpful feature is the Clinical Pearl callouts in prominent text boxes that serve to highlight important points that have clinical relevance or applications. References appear at the end of each chapter along with answers to case study questions in some chapters.

The strengths of the book include its readability, case studies, and a good cohort of authors who practice or conduct research in pharmacogenomics. The book does not include extensive discussions of each gene or

polymorphism as other similar textbooks; however, the coverage of therapeutic drugs that have relevant applicability in pharmacogenomics is sufficient for most practitioners and trainees. The reader should be able to comprehend sufficiently the current state of pharmacogenomic knowledge based upon the text and the extensive reference list. The editor notes that due to the rapidly evolving field of pharmacogenomics, a companion Web site is envisioned where authors can post updates or supplemental materials periodically. When such a Web site would be available is unknown.

I recommend *Concepts in Pharmacogenomics* to pharmacy practitioners, educators, and trainees who are interested in learning more about pharmacogenomics and its clinical applications. The book can serve as a quick reference for practitioners and trainees who are faced with drug-specific questions that may have pharmacogenomic applicability. For educators, it can serve as a primary or supplemental textbook for a required or elective course in pharmacogenomics. This book would be a good complement to primary literature and basic science textbooks that provide in-depth coverage of genetic and pharmacogenomic principles.

Corresponding Author: Kelly C. Lee, PharmD, BCPP,
University of California, San Diego, Skaggs School of
Pharmacy and Pharmaceutical Sciences, 9500 Gilman Drive,
MC 0719, La Jolla, CA 92093-0. Tel: 858-822-3462.
Fax: 858-822-6857. E-mail: kellylee@ucsd.edu

Philip O. Anderson, Susan M. McGuinness, and Philip E. Bourne. *Pharmacy Informatics*. Boca Raton, FL: CRC Press; 2010. 289 pp, \$57.00 (hardcover), ISBN 978-1-42007-175-7.

Reviewed By: KTL Vaughan, MSLS
University of North Carolina, Chapel Hill

Among the areas in which graduates of accredited PharmD programs are expected to show competency is that of pharmacy informatics (Accreditation Council for Pharmacy Education (ACPE) Guideline 12.1). However, according to a 2008 study by Fox and colleagues, few schools have dedicated courses or time in the curriculum for teaching informatics.¹ One school that has done well with designing a standalone course for this subject is the University of California at San Diego, which offers this course in addition to a course in drug information.

Pharmacy Informatics is the textbook that resulted from the course planning and lectures for that course. The textbook is laid out in 5 sections, each having specific chapters that often are authored by the lecturer/expert in

that subspecialty. The first section lays out a general definition of pharmacy informatics with an essay on what is pushing this field forward. The second section covers the prerequisites to form common understandings of the basic computer, information, and library science concepts that underpin all of informatics. Third, specific types of information systems and their implications are discussed, with particular emphasis on information systems in hospital and community settings, specific technologies including personal digital assistants (PDAs) and barcoding, informatics' role in preventing medication errors, the career of informatics, and tertiary sources for pharmacy. The fourth section takes informatics "beyond the basic recall of information to help in decision support of patients." This section looks at evidentiary practice, clinical computing and decision support, and data mining as a tool for outcomes management. The fifth section looks to the future of pharmacy informatics, both to discuss emerging technologies and to consider what the goals of pharmacy informatics are, and how to reach them.

These sections are laid out well and are relatively easy to read, with a good balance between theory and practice. Because the book is designed to support the curricular course, it has a good flow from the big picture, through definitions, theory, and practice, and back to a big picture conclusion. The topics covered are core concepts, and easily applied to other curricula.

The only concern with this textbook is that it is focused entirely on the pharmacy informatics course at the University of California at San Diego, and thus does not have voices from outside that institution. However, that appears to be less of a failing than it could have been; among the chapter authors are representatives from several different hospitals, health care programs, community pharmacies, and both the schools of pharmacy and medicine at the university. This breadth of viewpoint is also reflected in the 3 main authors, who represent traditional drug information, library science, and computational biology among other interests.

Pharmacy Informatics is the only textbook of its kind available today. Even if it had competition, it would be strongly recommended for all pharmacy schools looking to fulfill the ACPE requirement for instruction in this subject area.

REFERENCES

1. Fox BI, Karcher RB, Flynn A, Mitchell S. Pharmacy informatics syllabi in doctor of pharmacy programs in the US. *Am J Pharm Educ* 2008;72(4):Article 89.

Corresponding Author: KTL Vaughan, MSLS, AHIP,
University of North Carolina, Chapel Hill.
E-mail:ktlv@email.unc.edu