As Dr. Strom states in the Textbook of Pharmacoepidemiology, “pharmacoepidemiology is the study of the use of and the effects of drugs in large numbers of people.” This textbook reviews the essential elements of pharmacoepidemiology methodology, available data sources, and drug policy applications with the goal of meeting the learning needs of students new to the field. It was developed as a more accessible and abridged version of the fourth edition of Dr. Strom’s classic reference, Pharmacoepidemiology (1).

The Textbook of Pharmacoepidemiology is organized into the following four sections. “Introduction to Pharmacoepidemiology” includes chapters on the principles of clinical pharmacology from which pharmacoepidemiology evolved, study design considerations, and reasons to perform pharmacoepidemiology studies. “Sources of Pharmacoepidemiology Data” reviews examples of drug monitoring systems and automated databases in North America and Europe and provides guidance for choosing between available alternatives, including a discussion on data validity. “Special Issues in Pharmacoepidemiology Methods” discusses a broad sampling of topics, including special issues related to bias and confounding in observational drug studies, pharmacoepidemiology methods applied to quality of life and pharmacoeconomic evaluations, bioethical issues, and an overview of the emerging field of molecular pharmacoepidemiology. The last section, “Special Applications of Pharmacoepidemiology,” summarizes selected applications of pharmacoepidemiology for drug policy decision making and provides a perspective on future direction for the field.

A major strength of this textbook is the collective expertise and experience of its editors and contributing authors. It includes the perspective of international pharmacoepidemiologists from academia, the pharmaceutical industry, and drug regulatory agencies. The student of pharmacoepidemiology will benefit greatly from learning from this diverse group of researchers, many of whom have shaped the field of pharmacoepidemiology itself. For example, the review of the strengths and limitations of available sources of pharmacoepidemiology data is authored by individuals who have pioneered the use of these data. Also of note is the overview of special applications by experts who have used pharmacoepidemiology methods to inform drug policy decisions concerning drug utilization, medication errors, and drug safety and risk management practices.

Several additional features were included in this textbook to aid the student and the instructor. Each chapter contains highlighted case examples to illustrate the pharmacoepidemiology principles and applications being presented. For example, a nested case-control study within a dynamic population-based cohort is discussed to demonstrate novel statistical approaches and to evaluate the question of whether gastric acid suppressive drugs have contributed to the increase in the incidence of a specific gastrointestinal infection in the community. At the end of each chapter, the key learning points are also summarized and an extensive list of suggested further readings is provided. However, in condensing Dr. Strom’s classic reference into an abridged student textbook, some information was lost. Epidemiologists seeking a more comprehensive review of available pharmacoepidemiology data sources or a more detailed account of the application of pharmacoepidemiology from the perspective of academia, the pharmaceutical industry, and regulatory agencies should refer to Dr. Strom’s Pharmacoepidemiology reference book (1).

Shortcomings as a student textbook are as follows. First, it would have been helpful if the authors had cited references for each of the case examples. For students, a citation would identify the research study and allow them to review the methods in greater detail (e.g., how drug exposure was defined and how confounding was controlled) and to read a more in-depth discussion of the clinical and policy implications of the results. For the instructor, these references would identify key readings for each chapter. Second, the inclusion of tables and figures to educate students on how pharmacoepidemiology data are presented and interpreted varies from chapter to chapter. Visual learners, who think in images and pictures, would benefit from seeing the data and translating it for themselves. For example, the authors could have included a corresponding data table or figure with each case example to accompany the summary bullet points.

Overall, Drs. Strom and Kimmel have succeeded in producing an important introductory textbook and essential reference for epidemiologists, clinicians, and public health practitioners interested in the field of pharmacoepidemiology, whether they reside in academia, the pharmaceutical industry, or a regulatory agency. This textbook is suitable for experienced epidemiologists wishing to extend their knowledge into pharmaceutical methods and applications, as well as for upper-level undergraduates, graduate students, and postdoctoral
fellows beginning their careers in the field. With high public interest in ensuring the safety and effectiveness of our medicines, demand for trained pharmacoepidemiologists is increasing. This textbook provides an important tool to achieve this training goal and to support the growth of the scientific capacity of the field of pharmacoepidemiology.

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REFERENCE


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