

*Clinical Epidemiology, The Study of the Outcome of Illness*, Noel S. Weiss. New York and Oxford: Oxford University Press, 1986, 144 pp.

Reviewer: Bernard Burnand, M.D., Institute of Social and Preventive Medicine, Faculty of Medicine, University of Lausanne, Switzerland.

Noel S. Weiss is Professor and Chairman of the Department of Epidemiology at the University of Washington School of Public Health and Community Medicine in Seattle, Washington, where he has developed a course in clinical epidemiology. His aim in writing this book is to give health care providers (physicians, nurses, dentists, etc.) the possibility to improve their knowledge and skills in interpreting or managing clinical research.

In the preface Weiss states that the term clinical epidemiology is used with different meanings, but he himself has added to possible confusion by introducing yet another definition: the study of variation in the outcome of illness and of the reasons for that variation. Although some basic knowledge of epidemiology and biostatistics is a prerequisite postulated by the author, the reading of this book will probably be easy and very pleasant for many clinicians, especially as it was not written as an exhaustive publication on clinical epidemiology—with a lot of mathematical equations and complex tables—but as a well-constructed text in an accessible style.

The author deals first with assessing the validity of screening and diagnostic tests—including the notions of decision and cost–benefit analysis. Thereafter he discusses some methodological and practical points of therapeutic efficacy using experimental and non-experimental study design. Some aspects of investigating for suspected adverse effects of therapeutic procedures are presented in an interesting chapter. For instance, the reasons for the choice of a particular study design to show the existence of an adverse effect are well explained. In the last section, Weiss tackles the subject of the natural history of illness, showing that a study of this aspect indicates whether a particular therapeutic maneuver should be considered.

A positive point of this book is the constant reference to numerous clinical studies, which provides a very useful link between epidemiologic methods and clinical situations and which certainly improves the comprehension of the proposed theoretical statements. In a parallel way, the inclusion of questions (and answers!) at the end of each chapter encourages the conscientious reader to reflect actively and positively on the presented topic.

A brief appendix shows how to estimate the number of subjects needed in a study and control for the influence of confounding factors. The contents of this appendix will certainly be valuable for many readers, but the topics covered could have been included in the text.

In the section devoted to therapeutic efficacy there is an interesting discussion on the reasons for proposing alternative non-experimental studies. This discussion contributes to clarifying the current debate between clinical epidemiologists, among others, on the necessity of designing randomized clinical trials for every, or almost every, clinical question. Many readers will appreciate the importance the author gives to clinically plausible results in well-designed studies over results

that are statistically significant but clinically implausible. In the same way Weiss draws attention to the major possible biases in clinical studies and to ways of controlling confounding factors.

In summary this is an attractive book, which can be read quite quickly, first because it is a small monograph and second because of its useful and clear contents. Many clinicians would benefit from reading it, more in the sense of a better interpretation of clinical research (e.g., in the medical literature) than as a basic book for clinical research management.

*Clinical Information Systems, Bruce I. Blum. New York: Springer Verlag, 1986, 414 pp.*

Reviewer: David L. Martin, M.B.A., Consultant in Health Technology, Health, and Welfare Canada, Ottawa, Canada.

Blum endeavored to do much in his book: to address neophytes in clinical information systems, the computer industry, and even experts, all under one cover. His theses were that clinical information systems (CIS) were mature, that they would have a major impact on patient care and the health delivery system, and that the number of commercial systems offering these benefits was very small. In addition to proving these theses, Blum hoped to increase the demand for more sophisticated products and to provide marketplace incentives to advance the state of the art.

There are three main sections to this book, dealing with the background of the CIS, computer systems, and clinical applications. In the first, Blum presents a lucid history of the computer and of computers in health care. At this stage he clearly differentiates between data applications, information applications, and knowledge applications (including expert systems and artificial intelligence). He addresses each of these categories in his later analyses.

The computer systems section wisely starts with the simple, such as the personal computer, and proceeds to the complex hardware, programming languages, and data base management systems. The neophyte will find the latter sections difficult, but Blum provides selected suggestions for further reading at the end of each chapter for those who must know (but don't). The last chapter on computer systems presents the well-known (by computer people) steps in system implementation, again progressing to the complex programming "heuristics" (this is one word he doesn't include in his rather complete glossary!).

Those who have been laboring heavily toward the end of the computer systems chapters will find welcome relief in the latter half of this book, when Blum launches into a largely descriptive outline of clinical applications. These chapters are dependably complete and again progress from early hospital information systems to medical decision-making applications. Blum's evaluations will be appreciated by interested medical practitioners and computer experts alike.

The concluding chapter, "A Case Study," relates the background and operating structure of the Johns Hopkins Oncology Clinical Information System. One wonders why this system was left to the last and presumably most important