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Essentials of Epidemiology in Public Health

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Abstract

Review of: Essentials of Epidemiology in Public Health. Ann Aschengrau and George R. Seage III. Burlington, MA: Jones and Bartlett Learning, 2014, 534 pp., $111.95. ISBN: 978-1-284-02891-1

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Aschengrau and Seage wrote in the Preface that epidemiology *'impacts both the personal decisions we make about our lives and the ways in which governments, public health agencies, and medical organizations make policy decisions that affect how we live'*. They present a textbook containing 18 chapters which deliver both methods and perspectives. More specifically, the first chapter introduces the reader to the meaning and objectives of public health and the development phases of epidemiology up to its modern applications. Chapter 2 contains information about disease definitions and the various approaches to measure disease occurrences. Calculations of absolute and relative measures of comparison (e.g. population rate difference and attributable proportion), sources of public health data (censuses, surveys, surveillance systems) and uses of descriptive epidemiology (e.g. disease and mortality patterns by person/place/time, risk factors and causal relationships) are the topics of Chapters 3-5.

Aschengrau and Seage focus in the next section on epidemiologic study designs. They start out with an overview about these designs and describe in great detail experimental, cohort, case-control, cross-sectional and ecologic studies (Chapters 6-9). The authors provide an excellent discussion about when to use a particular study design. In Chapters 10-13, they focus on issues that impact the validity of epidemiologic studies including bias, confounding, random error and effect measure modification. The fourteenth chapter delivers guidelines for how to critically evaluate published epidemiologic studies. They provide a list of questions and sample critiques which can stimulate critical thinking. Approaches to causation and the use and evaluation of screening programs in public health are the topics of Chapters 15 and 16, respectively. The seventeenth chapter, contributed by Molly Pretorius Holme, is devoted to ethics in research involving human participants. Holme describes the historical events that have shaped current ethics guidelines and discusses international research practice guidelines.

Almost all chapters contain a list of questions designed for readers to review and test subject knowledge. For feedback, the authors suggest answers in the final chapter (Chapter 18). The book also comes with a code card for access to a companion website that allows readers to participate in interactive practice exercises. The combination of question/answer and online exercises are a great way to learn beyond simply memorizing information. I also like the bullet-pointed list of learning objectives at the beginning of Chapters 1-17 and the illustrations (maps, diagrams, tables and schematics). However, I would have preferred seeing multicoloured illustrations instead of the greenish/greyish shaded illustrations. The book contains an exceptionally detailed and functional index, but lacks a glossary. Overall, I found this an easy-to-read textbook and a valuable contribution to the literature on epidemiology and public health. I recommend the book not only to instructors and students, but also to established researchers.



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