Field Epidemiology. Second Edition
Edited by Michael B. Gregg


The second edition of Dr. Michael Gregg’s Field Epidemiology (1), like the first edition from 1996, is an important contribution to the area of applied epidemiology. In the text, “field epidemiology” is variously defined as “the practice of [epidemiology] in real time and real place, which in turn involves both science and art” (1, p. 10), and applies when “the problem is unexpected, a timely response may be demanded, public health epidemiologists must travel to and work in the field to solve the problem, and the extent of the investigation is likely to be limited because of the imperative for timely intervention” (1, p. 4). This book fills an important niche, particularly in view of the anthrax bioterrorism attacks in September 2001. Considering the resources now being directed toward bioterrorism preparedness, this book is needed, as are additional books and other resources on this topic.

The book chapters were contributed by a cast of experts in both methodological and substantive areas of field investigations; most contributors are associated with the Centers for Disease Control and Prevention (CDC). New to this second edition are chapters related to occupational disease and injury, natural disasters, the state and local health department perspective, and bioterrorism. Also new is an appendix “walk-through” exercise using the classic Oswego County church supper outbreak.

The chapters provide either details on a specific aspect of field investigation (e.g., operational aspects, analyzing and interpreting data, dealing with the media) or information on particular types of field investigations (e.g., health care settings, child care settings). Particularly noteworthy chapters include the following: 1) an overview of analyzing and interpreting data that, without using probability theory, clearly defines the main epidemiologic measures of association and the steps for proper analysis; 2) a practical description of using computers in field investigations, including valuable details such as coding questionnaires and missing values; 3) insights on dealing with the media (including what kind of tie or dress to wear for TV interviews!); and 4) an overview of legal considerations in field investigations. In a chapter on laboratory support, there is a comprehensive set of tables for specimen collection and identification for a wide range of pathogens.

However, if the intention of these tables is to help the book function as a “field manual,” it should be noted that there are no similar tables for key features of the main foodborne pathogens (e.g., “Diagnosis and management of foodborne illnesses: a primer for physicians” (2) or http://www.cdc.gov/ncidod/dbmd/outbreak/guide_fd.htm), key features of the main suspect bioterrorist agents (e.g., http://www.dhs.ca.gov/ps/dcdc/bt/pdf/BT%20Syndrome%20Grid.pdf), or key features of other important outbreak-related pathogens. A number of useful Web sites are listed in several chapters (particularly as data sources in the surveillance chapter), but useful resources that are omitted include the CDC Web site on outbreak investigation (http://www.cdc.gov/ncidod/dbmd/outbreak/), which includes a link to the FoodNet Atlas of Population Exposures. In addition, although several core epidemiology texts are referenced, key omissions in this reviewer’s opinion include Lilienfeld and Lilienfeld’s Foundations of Epidemiology (3) and specific reference to Fleiss’s Statistical Methods for Rates and Proportions (4), which supply the background and details needed to comfortably use and understand the basic statistics introduced in Field Epidemiology. The section on surveillance should reference Teutsch and Churchill’s Principles and Practice of Public Health Surveillance (5), and the section on logistic regression should include a basic reference such as Hosmer and Lemeshow’s Applied Logistic Regression (6). An essential reference for field investigators is the Control of Communicable Diseases Manual, known for a long time as just “Benenson’s,” presumably soon to be referred to as “Chin’s” (7). In addition, the discussion of software might benefit from mention of STATA (Stata Corporation, College Station, Texas), a very powerful program for analysis of epidemiologic data, and mention of the important role of graphical software, such as PowerPoint (Microsoft Corporation, Redmond, Washington) or Harvard Graphics (Software Publishing Corporation, Mountain View, California) for the clear presentation of epidemic curves and other required visual displays.

A small but important practical detail relates to the “line lists” shown in the text. In addition to key exposure and demographic characteristics, the line list should include the name, phone number, and other pertinent contact information. A clear centralized list with these details is often essential for communication among collaborators and for other operational aspects of some field investigations. Of course, as emphasized elsewhere in the book, the utmost confidentiality and security are essential with these data.

An emphasis on outside experts’ coming in to assist in local outbreak investigations is both a strength and a weakness of the book. Presumably, this emphasis is because the book is based largely on training materials developed for use by CDC Epidemic Intelligence Service (EIS) officers. It

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offers valuable practical advice on matters ranging from travel arrangements to meeting locals to writing reports in the field. Conversely, because a majority of outbreak investigations are done wholly, or in large part, by local (i.e., county or city) staff, many of these issues are not pertinent to those investigations. In light of the increased emphasis on, and funding for, county preparedness for local investigations in the United States, there remains an urgent need for more practical resources targeted specifically for that audience.

As with many books that rely on chapters contributed by multiple authors, there are some missed opportunities for integration among chapters and a bit of redundancy. Because of this and the lengthy chapters on substantive field topics, this book may not be the first item placed in a field investigator’s backpack. However, it certainly should be read and available for reference.

REFERENCES

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