

BOOK REVIEWS

Research Ethics. Cases & Materials

Edited by Robin Levin Penslar

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There has been increasing interest in developing ethics curricula for epidemiology graduate programs and providing continuing education on ethics to practicing epidemiologists (1, 2). Such efforts have been hampered by a lack of ethical case studies on topics of interest to epidemiologists. Group discussion of ethical case studies is an important instructional method in bioethics. Previous compilations of ethical cases (3-5) have focused primarily on ethical dilemmas that arise in clinical medicine and biomedical research and have neglected many ethical problems that arise in other areas of research, such as epidemiology. *Research Ethics* may help to fill this gap.

The authors' stated aim is to provide a comprehensive resource for classroom discussion of research ethics in the natural sciences, behavioral sciences, and the humanities. The intended audience includes graduate students and postdoctoral fellows. The book is divided into four parts. Part I deals with general issues in teaching research ethics and aspects of ethical theory. Parts II through IV contain the ethical case studies and extensive questions for discussion. The topics covered include confidentiality, conflicts of interest, fraud and misconduct, access to research materials, the reporting of data, the obligations of mentors and teachers, and intellectual property. A useful annotated bibliography on research ethics is included at the end.

The case materials in this book would be useful for a general course on research ethics. They would also be useful as a secondary text for a more specialized course, such as new electives on ethics and epidemiology offered at Tulane University and the University of Miami (2). Although this book is not specifically intended for public health students, many of the topics covered (e.g., scientific misconduct and questions of authorship) cut across disciplines. An advantage of the broad focus of this book is that many of the topics have potential applicability to subspecialty areas within epidemiology. The case materials on the ethics of genetic screening and eugenics, for example, should be of interest to genetic epidemiologists. Other case materials and study questions have relevance to behavioral epidemiology or to molecular epidemiology.

A major limitation of this book, from the epidemiologic perspective, is that several ethical issues of particular importance to epidemiology are not addressed. For example, the case materials do not deal with the communication responsibilities of epidemiologists, conflicts of interest in epidemiology, and the ethics of research sponsorship nor are the ethical problems arising in public health practice, surveillance systems, investigations of disease clusters and outbreaks, and public health interventions addressed. Some aspects of confidentiality protection, informed consent, and issues arising in studies of vulnerable populations are covered, however.

Another limitation is that there is no extended discussion of the practical methods of moral reasoning that may allow epidemiologists to appropriately make and justify ethical decisions. Chapter 2, "An Introduction to Ethical Theory," provides only a brief outline of selected approaches to the analysis of ethical issues. Students wishing to have more than a brief introduction to the methods of ethical decision making will need to refer to a more comprehensive text, such as the one by Beauchamp and Childress (3).

Despite these deficiencies, *Research Ethics* does meet the authors' aim of providing faculty with a vehicle for raising and discussing many of the ethically problematic aspects of conducting research, while illustrating the interdisciplinary nature of research ethics. Chapter 1, entitled "General Issues in Teaching Research Ethics," and the carefully edited case materials that follow are likely to be of interest to those organizing courses and workshops on research ethics. Until compilations of ethical case studies in epidemiology and public health research and practice become available, this book is likely to serve as a useful resource for those innovators who are currently providing ethics instruction to epidemiologists.

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Occupational Neurology and Clinical Neurotoxicology

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This is not an epidemiologic text, whether considered from methodological or principal content perspectives. The first three chapters, which cover epidemiology, exposure assessment, and biologic monitoring, are of greatest interest to epidemiologists. They are followed by eight chapters that are predominantly clinical, covering occupational neurology, neuropsychology, neuropsychiatry, the visual system, brain tumors, generic clinical presentations associated with various chemicals, nerve entrapment disorders, and low back pain. There are additional sections on the interaction of the medical and legal systems and the health professional, which is of interest to epidemiologists, along with two chapters on ergonomics/biomechanics and a chapter on occupational rehabilitation programs.

The chapter on "neuroepidemiology" attempts to cover basic epidemiologic concepts that cannot be adequately treated in the space available. Reference could rather have been made to other texts. In my opinion, a false distinction is made between classic and clinical epidemiology that is becoming increasingly less useful to make and increasingly more important to bridge. Clinical and general epidemiologic domains are not, however, linked in a more satisfactory manner than has hitherto been the case. When reading the text, one wonders constantly how information from epidemiologic studies might be used to indicate criteria for diagnostic and therapeutic action and, conversely, how clinical data may be usefully converted to epidemiologic variables.

There is extensive treatment of Cohen's kappa statistic, while treatment of methods for assessment of agreement among continuous variables that are so common in occupational neurotoxicology is lacking.

Very little is provided in the way of evaluation data for the multitude of tests mentioned. The separation of reliability and validity is too definite. For this field in particular, there is considerable blurring of the boundary between the two, which is mentioned in passing but not adequately addressed. Repeat measurements at the same instant of time as with split-sample laboratory measurement methods for biochemical variables are not possible in this field. Inevitable time intervals between measurements produce an inextricable mix of systematic (bias) and random variation, whether the bias is of biologic, learning/behavioral, or interobserver origin. In this sense, precision means something different from repeatability. The learning curve for psychometric testing, in particular, makes it difficult to differentiate bias from random error in measurements made across time. The treatment of validity is restricted to criterion validity. Given the acknowledged absence of "gold standard" criteria together with the continuous nature of most outcomes, other aspects of validity, especially construct validity, take on added importance. These issues are not explored.

The treatment of important confounders in neuroepidemiology, such as age, education, and social and cultural variables (both within and between different countries at different levels of development), is cursory. Furthermore, computers are not necessarily standardizing if there are gross differences in computer/video experience in subsections of the study population.

The treatment of exposure standards lacks a critical approach to health-based and administrative standard setting and is rather clinically oriented. Epidemiologic aspects and implications of exposure assessment are rudimentary and better covered elsewhere. There is too much emphasis on the American Conference of