

Contents

Preface and Acknowledgments	vii
Contributors	ix

1 Introduction	1
<i>Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash</i>	

SECTION I

Basic Concepts

2 Causation and Causal Inference	5
<i>Kenneth J. Rothman, Sander Greenland, Charles Poole, and Timothy L. Lash</i>	
3 Measures of Occurrence	32
<i>Sander Greenland and Kenneth J. Rothman</i>	
4 Measures of Effect and Measures of Association	51
<i>Sander Greenland, Kenneth J. Rothman, and Timothy L. Lash</i>	
5 Concepts of Interaction	71
<i>Sander Greenland, Timothy L. Lash, and Kenneth J. Rothman</i>	

SECTION II

Study Design and Conduct

6 Types of Epidemiologic Studies	87
<i>Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash</i>	
7 Cohort Studies	100
<i>Kenneth J. Rothman and Sander Greenland</i>	
8 Case-Control Studies	111
<i>Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash</i>	
9 Validity in Epidemiologic Studies	128
<i>Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash</i>	
10 Precision and Statistics in Epidemiologic Studies	148
<i>Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash</i>	
11 Design Strategies to Improve Study Accuracy	168
<i>Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash</i>	
12 Causal Diagrams	183
<i>M. Maria Glymour and Sander Greenland</i>	

SECTION III

Data Analysis

13	Fundamentals of Epidemiologic Data Analysis	213
	<i>Sander Greenland and Kenneth J. Rothman</i>	
14	Introduction to Categorical Statistics	238
	<i>Sander Greenland and Kenneth J. Rothman</i>	
15	Introduction to Stratified Analysis	258
	<i>Sander Greenland and Kenneth J. Rothman</i>	
16	Applications of Stratified Analysis Methods	283
	<i>Sander Greenland</i>	
17	Analysis of Polytomous Exposures and Outcomes	303
	<i>Sander Greenland</i>	
18	Introduction to Bayesian Statistics	328
	<i>Sander Greenland</i>	
19	Bias Analysis	345
	<i>Sander Greenland and Timothy L. Lash</i>	
20	Introduction to Regression Models	381
	<i>Sander Greenland</i>	
21	Introduction to Regression Modeling	418
	<i>Sander Greenland</i>	

SECTION IV

Special Topics

22	Surveillance	459
	<i>James W. Buehler</i>	
23	Using Secondary Data	481
	<i>Jørn Olsen</i>	
24	Field Methods in Epidemiology	492
	<i>Patricia Hartge and Jack Cahill</i>	
25	Ecologic Studies	511
	<i>Hal Morgenstern</i>	
26	Social Epidemiology	532
	<i>Jay S. Kaufman</i>	
27	Infectious Disease Epidemiology	549
	<i>C. Robert Horsburgh, Jr., and Barbara E. Mahon</i>	
28	Genetic and Molecular Epidemiology	564
	<i>Muin J. Khoury, Robert Millikan, and Marta Gwinn</i>	
29	Nutritional Epidemiology	580
	<i>Walter C. Willett</i>	
30	Environmental Epidemiology	598
	<i>Irva Hertz-Picciotto</i>	
31	Methodologic Issues in Reproductive Epidemiology	620
	<i>Clarice R. Weinberg and Allen J. Wilcox</i>	



32	Clinical Epidemiology	641
	<i>Noel S. Weiss</i>	
33	Meta-Analysis	652
	<i>Sander Greenland and Keith O'Rourke</i>	
	References	683
	Index	733