

# **Contents**

|  |     |
|--|-----|
| Preface to the Third Edition .....   | ix  |
| Introduction .....   | xi  |
| 1. What Is Special about Infectious Disease Epidemiology? .....                  | 1   |
| 2. Definitions .....   | 5   |
| 3. Descriptive Epidemiology .....  | 17  |
| 4. Risk, Relative Risk and Attack Rate.....                                      | 23  |
| 5. The Case Control Study: Odds, Odds Ratio – The Concept<br>of Confounding..... | 31  |
| 6. The Cohort Study: Rates – The Concept of Bias .....                           | 45  |
| 7. Some Statistical Procedures That Are Often Used<br>in Epidemiology.....       | 57  |
| 8. Clinical Epidemiology: Sensitivity, Specificity and Misclassification.....    | 71  |
| 9. Multivariate Analysis and Interaction.....                                    | 81  |
| 10. Survival Analysis .....  | 97  |
| 11. Mathematical Models for Epidemics.....                                       | 107 |
| 12. Detection and Analysis of Outbreaks.....                                     | 121 |
| 13. Routine Surveillance of Infectious Diseases.....                             | 137 |
| 14. Measuring Infectivity.....   | 149 |
| 15. Studying the Natural History of Infectious Diseases .....                    | 161 |
| 16. Seroepidemiology.....  | 171 |
| 17. The Study of Contact Patterns .....  | 181 |
| 18. Methods to Decide Whether or Not an Illness<br>Is Infectious .....           | 195 |
| 19. The Epidemiology of Vaccination .....  | 205 |

20. The Use of Subtyping ..... 221

21. Further Reading ..... 225

Index ..... 227

Preface to the Third Edition ..... ix

Introduction ..... xi

1. What is Special about Infectious Disease Epidemiology? ..... 1

2. Definitions ..... 5

3. Descriptive Epidemiology ..... 17

4. Risk, Relative Risk and Attack Rate ..... 23

5. The Case Control Study: Odds Ratio – The Concept of Confounding ..... 31

6. The Cohort Study: Rates – The Concept of Bias ..... 45

7. Some Statistical Procedures That Are Often Used in Epidemiology ..... 57

8. Clinical Epidemiology: Sensitivity, Specificity and Misclassification ..... 71

9. Multivariate Analysis and Interaction ..... 81

10. Survival Analysis ..... 97

11. Mathematical Models for Epidemics ..... 107

12. Detection and Analysis of Outbreaks ..... 121

13. Routine Surveillance of Infectious Diseases ..... 137

14. Measuring Infectivity ..... 149

15. Studying the Natural History of Infectious Diseases ..... 161

16. Seroepidemiology ..... 171

17. The Study of Contact Patterns ..... 181

18. Methods to Decide Whether or Not an Illness is Infectious ..... 195

19. The Epidemiology of Vaccination ..... 205

20 ..... 215