

Mortality, Morbidity and Health Statistics. MICHAEL R. ALDERSON. Pp. 501. MacMillan Press Ltd. (UK); Stockton Press (USA & Canada); 1988. £85.

This book was published in 1988, very shortly after the untimely death of its author. Dr Alderson had a distinguished career in public health and social medicine, specializing in cancer epidemiology. In 1981 he was appointed as chief medical statistician at the Office of Population Censuses and Surveys. The book is a fitting reflection of the wide scope of his career and of the exceptional depth as well as breadth of his knowledge. It is a mine of information about routine medical data, with descriptions of their uses and advice on interpretation.

The book aims to give an extensive guide to statistics on mortality and morbidity, which are available routinely both in Britain and abroad. It is clearly structured and each chapter describes relevant sources of data – comprehensively for the UK and in less detail for other countries. He gives a critical appraisal of the validity of the data and suggests statistical techniques for interpreting the information. Each chapter finishes with an extensive bibliography and there are a wealth of references at the end. Although the index is not as thorough as it could be, this should not prevent readers from finding items of particular interest because the list of contents at the beginning of the book is detailed and explicit.

At first glance this book might appear to have little to offer readers working in infectious disease epidemiology. The bulk of the work concentrates on deaths, cancer registration, abortions and congenital malformations. However, even these chapters give an insight into different methods of recording data, and revealingly illustrate the pitfalls which await anyone trying to interpret routine medical statistics, such as comparing two populations with different age structures or social composition. The fascinating examples of differing conclusions derived from the same data would make excellent teaching material.

Alderson, when describing inference, suggests that there are three stages: application of appropriate statistical techniques, logical appraisal of the results of these analyses, and judgement. This book was meant to cover the first two stages but not the third. This claim seems over-modest because the sections on validity and inference, which appear in most chapters, give sufficient guidance on the 'devil's advocate' approach which a researcher must follow before he or she is in a position to make a final judgement on the soundness of the conclusions reached. The only warning which needs to be added is that the reader should not take and apply the statistical techniques out of context. The formulae used are suitable only if certain basic assumptions are made, such as uniform quality of all the data. The assumptions may have to be queried when the study is being written up. Throughout the statistical sections the word 'significant' should be thought of as raising points of possible interest rather than representing a probability value which can be substantiated from these data alone.

There is an excellent chapter on Infectious Disease Statistics. This covers the history of why and when it was decided to set up various data collections in Britain. The first nationally coordinated effort stems from the Infectious Disease Notification Act of 1889. The list of notifiable diseases has gradually changed and other sources of national data – such as laboratory diagnoses and reports from General Practitioners – have been added to our tools for surveillance. It is salutary to read the Validity section of this chapter which reviews many studies of under-reporting to national schemes, both at home and abroad. Completeness of reporting varies with disease but fortunately the indications are that the more serious diseases are more completely reported, at least in developed countries. Reporting varies with age of the patient and there is usually considerable geographical bias.

Later chapters look at various national morbidity studies involving family practitioners, occupational illness, records from volunteer households and usage of medical facilities. These studies can be the only source of data for conditions which do not usually lead to hospital admission, death or microbiological diagnosis, such as migraine and asthma. They complement more specific data sets and thus build up a more general picture of trends in well-being.

In the final chapter on Monitoring The Public Health, Alderson recognizes the gaps left by routine data sources and the need for flexibility. There must be mechanisms for reacting to changing problems and investigating newly suspected health hazards. Such a subject could merit a book by itself, but this single chapter does at least demonstrate some areas of concern, although there is only a sketchy outline on solutions for communicable diseases.

This book should be of general interest for anyone working in Public Health. It might be tempting to use it merely as a reference book but that would be a mistake. Its strength lies in the guidance about using statistics, which stems from the author's invaluable experience, and not just for the documentation of so many sources of data.

HILARY E. TILLET

*Communicable Disease Surveillance Centre,
Public Health Laboratory Service,
London.*