

## BOOK REVIEWS

**Improving infant health; The effectiveness of health promotion activities to reduce stillbirth, infant mortality and morbidity: a literature review.** Jo García, Merry France-Dawson, Alison Macfarlane (£5.99) *Health Education Authority, 1994.* ISBN 0-7521 0230 3.

Anyone in this field expecting to learn anything much or to be excited by this 60 page booklet is likely to be disappointed, and even depressed. Those outside the field may well be bored. The subtitle implies that it will review the evidence and one expects it to emerge with some crisp, well supported conclusions, or at least some critical discussion of the serious evidence. The fact that it does neither of these things is not all the fault of the authors: it may be a hallmark of the subject or the *genre*.

The "evidence" is contained in a reference list of about 270 items, which are mostly uncritically discussed. Only a little over half of them are from peer-reviewed journals, of which nearly a half in turn are ten years old or more. The rest are from reports, leaflets, and books, three quarters of them from official government or similar reports, with the usual lowest common denominator flavour characteristic of most of these "official" committee products, which rarely contain much evidence.

The first quarter of the booklet is preamble and introduction. This is followed by a section on lifestyle in pregnancy, in which the account of smoking, alcohol, and addictive drugs is straightforward enough but scarcely new. The section on maternal diet manages to steer mercifully clear of most of the vociferous but cranky minority views we hear so often, which are not evidence anyway. It leads to the probably correct conclusion that apart from vitamin D and folate there is nothing striking to recommend to the overwhelming majority of pregnant women in contemporary Britain. Even the underprivileged tiny minority, although theoretically short on RDAs, are almost certainly not thereby jeopardising their fetuses (as might have been expected), which they largely do by smoking, drug abuse, and alcohol. A rather scrappy literature does exist on the possibility that the minority of mothers and their fetuses living in poverty in our inner cities might sometimes benefit from supplementation, but the research is woefully inadequate, and some of it is given a bit too much credence here. It is curious that the evidence from the very extreme starvation suffered during the *hungerwinter* in wartime Holland is mentioned, however interesting. This extreme situation, where mothers lived largely on tulip bulbs providing about 700 kcal/day, has no bearing on 1990s Britain, where even the underprivileged diet is greatly superior to that of the Dutch cities at that time; if it had to be mentioned it is odd that the preliminary paper by Smith (1947) is quoted, instead of the major definitive work by Susser and Stein. It is refreshing to find that preconceptual measures, so much trumpeted about by activist groups in the popular press and elsewhere, and more properly belonging to the "business section", are scarcely mentioned.

When it comes to the impact of service use (antenatal care, breastfeeding promotion, etc) on maternal and child health, the general conclusion is that the effects are small, both on a population and an individual level, and that what research there is, is often inadequate. The section on genetic screening is more useful, and correctly concludes that although it has a low potential impact on health promotion at a population level, that for individuals is high.

So we are only left with the very strong facts about smoking, drinking and taking drugs, but didn't we know that?

It is probably not exclusively the authors' fault that the "evidence" is not exciting, but one wonders if this report will have any impact on either policy making or on individuals. An index would have been helpful. Perhaps it is time we had fewer of these inadequate, anodyne accounts from bodies such as the Health Education Authority and the Department of Health?

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**Medical Statistics on Personal Computers** (2nd ed). RA Brown and J Swanson Beck. (Pp 147; £10.95) London: *BMJ*, 1994. ISBN 0 7279 0771 9

The advent of powerful personal computers and good quality statistical packages to run on them has made it easy for those engaged in small scale research to analyse their data. However, in cutting out the statistician middleman there is the danger of blunders. The authors of this book aim to help their readers approach data handling and simple data analysis competently.

This work is not tied to any particular model of personal computer or data analysis package. It gives an account of how to organise data and how to select and apply appropriate analytic techniques. It is left to the reader to consult his data analysis package's manual to find out how to implement the analyses. The emphasis is on understanding when to apply a technique, how to interpret the results, and pitfalls which could be encountered. Topics covered include: data preparation and summary; analysis of data from one or more groups (leading to analysis of variance); regression and correlation; distribution free methods; handling categorical data; methods for diagnostic tests; survival analysis (introducing Cox regression); sample size and power; and writing up the statistical analysis in a scientific paper. There is also a brief review of five commonly used statistical packages. The prose is lucid and gives an accurate account of the techniques discussed.

The work appears initially to have been conceived with pathologists in mind and many of the examples reflect this. However, its content and presentation should be acceptable to anyone in the clinical disciplines. Used by itself this book will not cover the needs of those engaged in epidemiological research.

In terms of its stated purpose, this book can be recommended with reservations. Even with the authors' clear guidance many of the techniques, such as regression analysis, which nowadays are computationally straightforward, nevertheless require considerable

sophistication and experience to be used properly. Hence the book might best be used in conjunction with an elementary statistics course. However, standing alone it would be useful to anyone seeking to better understand analyses presented in published papers.

It is a pity that there is a plethora of books that seem to imagine that data arise from thin air and give the impression that their analysis can be undertaken without much thought to their provenance – that is, the conceptions which led to the study, the underlying theoretical framework, the study design, and the measurement procedures. Data analysis, or perhaps more accurately *data processing*, might have been reduced to a simple task using a personal computer but there is a danger that many will not come to understand the broader art and science of designing, undertaking, analysing and interpreting studies. This danger is particularly so for the kind of people attracted to books of this type. By all means use it but as, by definition, you will be a beginner, do consult a professional at the planning stage of your study.

A S ST LEGER  
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**A Dictionary of Epidemiology** (3rd ed). John M Last (ed) (Pp 180; £29.50 hbk; £12.95 pbk) Oxford: Oxford University Press, 1995. ISBN 0 19 509668 1 (pbk), 0 19 509667 3 (hbk)

Epidemiology does not exist for the gratification of its practitioners. It is justified when its findings influence disease control and policies to promote the public health. Hence its concepts and the terms used to express them should be accessible to members of the many disciplines that consume epidemiological findings. Furthermore, the terms should be used consistently.

Publication in 1983 of the first edition of the dictionary marked the coming of age of epidemiology. Its practitioners had moved toward agreement on their technical terms and hence it might be said that a Kuhnian paradigm was emerging. The dictionary was remarkably successful and editions have appeared in at least ten languages with more in preparation or planned.

The third edition contains almost 300 new entries and revisions of previous entries. Because the boundaries of epidemiology and other disciplines are not closely defined, the scope of the entries has increased and there is improved coverage of infectious disease epidemiology and control, health promotion, genetics, informatics, health economics, and biomedical ethics. The definitions have been produced after consultation among the editorial team and many experts. For the most part they represent a consensus view.

In the preface to the second edition the editor expresses the hope that the dictionary will be "authoritative without being authoritarian". A scan through the definitions of the third edition quickly confirms the authoritative nature of the work. There are few definitions with which one would quibble and barely any with which one could not live. Indeed, perhaps the time has come for those who teach epidemiology to set aside their favourite but idiosyncratic definitions and proselytise those from the dictionary in an authoritarian manner; the first edition of the dictionary was most helpful to me in resolving the confusion students had with the variety

of definitions of measures of attributable-risk found among the textbooks.

This is a very important work. Practitioners and students of epidemiology and related disciplines would be well advised to have it easily at hand for ready reference. The epidemiological community must surely owe a great debt to Professor Last, his editorial colleagues and the many others who contributed. A fourth edition is planned. In the meantime we must keep the language of epidemiology precise and alive.

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**Pharmacoepidemiology** (2nd ed) Brian L. Strom (ed). (Pp xvii + 741 pp; £75.00) Chichester: John Wiley & Sons, 1994.

This comprehensive book on pharmacoepidemiology involves the contributions of 59 authors in addition to the editor Brian Strom. The book aims to be both a reference source and a textbook, and it indeed fulfils both roles admirably. For those new to the subject area there is a thorough introduction section which forms part 1 of the book defining "What is pharmacoepidemiology?". This discusses when studies should be conducted and what study designs are available. There are also a couple of very practical chapters on the basic principals of clinical pharmacology which are relevant to the pharmacoepidemiologist, and a section on sample size considerations which is supplemented by tables as an appendix to the book. Part 2 of the book includes perspectives on pharmacoepidemiology from academia, industry, regulatory agencies, and the court room. These sections are all written by authors from the United States and relate almost exclusively to that country. This is particularly true about the chapter on legal aspects. A substantial amount of the book is devoted to reviewing the systems for collecting information on drug use which are available for conducting studies. This section is more international, including a chapter on substance reporting systems outside the United States and whole chapters devoted to data collection systems in, for example, Scotland, The Netherlands, and Canada. Of particular interest to those already working in the area will be section 4 which considers specific methodological issues in the field including economic evaluation of pharmaceuticals, quality of life measurements, n-of-1 randomised clinical trials, and the use of meta-analysis. There is a particularly clear and well written chapter on the important issues of bias and confounding. Finally, the editor devotes a chapter to his personal views of the future of the subject.

This is a quite superb book, useful to both the novice and the experienced epidemiologist alike. It is well laid out and written in a style which makes the reading enjoyable. I could find few typographical errors and the index is extensive. For those working the area, and especially if only intermittently, this will be an invaluable source of information and one well worth persuading your local librarian to purchase.

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**Alcohol, cocaine, and accidents** (Drug and Alcohol Abuse Reviews, Vol 7) Ronald R Watson (ed). (Pp 230; \$69.00) Humana Press, 1995. ISBN 0-89603-294-9.

This is one of a series of multi-author American texts which have covered various aspects of addictions, the subject here being the role of alcohol and drugs in causing accidents.

All chapters but one concern alcohol, and the main themes are the prevalence of alcohol use prior to car, air, or aquatic accidents, mechanisms of adverse effects of alcohol on performance, preventative strategies, and clinical treatment of offenders and at risk individuals. There is some consideration of the effectiveness of media campaigns, while drink driving is examined in various sections, from adolescent attitudes through to the effectiveness of clinical treatment and novel measures such as car ignition devices which can check blood alcohol levels. Other aspects right up to date include the issue of liability of barpersons who have served intoxicated individuals. There are the usual overwhelming statistics linking alcohol use to driving impairment, but much of the work reviewed here suggests some hopeful signs emerging from changing attitudes and behaviours. As in alcohol and drug abuse generally, prevention is clearly preferable to having to resort to clinical treatment. The problems of young people receive attention, ranging from situations such as having to ride home with an impaired driver, to the particularly reckless driving behaviours where alcohol abuse is associated with other deviant characteristics.

Given that only one drug is considered here, cocaine is a good choice. Crack cocaine is strongly associated with violence given the acutely psychotic effects, the nature of the withdrawal effects, and the high stakes in dealing and criminal activity. Its contribution to American murder rates and rates of accidental injuries is re-examined here along with some clinical aspects.

There is much interesting information on alcohol and accidents contained in this book, and anyone involved with the subject in advisory or other capacities is unlikely to find a better reference source.

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**Concern for Europe's Tomorrow. Health and the Environment in the WHO European Region.** WHO European Centre for Health and the Environment (ed). (Pp 537; DM/SFr 156) Stuttgart: Regional Office for Europe WHO, 1995. ISBN 3-8047-1406-4.

This book contains the findings of the major study undertaken by the WHO European Centre for Environment and Health. The centre was asked during the preparation for the Second European Conference on Environment and Health, held in June 1994, to assess all aspects of environmental health in the countries of the European Region. The outcome of this assessment is contained in this report, which is unique in that it presents for the first time a Europe-wide picture of environmental health, set out in a readily readable and accessible form within one volume.

The 19 chapters are divided into three parts. The first introduces and discusses the

factors influencing the state of the environment, such as economic activity and environmental management, as well as profiling the state of human health across Europe. The middle section presents and discusses the detail of the nature and extent of environmental exposure, with the final chapters concerned with analysis, discussion and the recommendations of the findings of the survey.

This publication merits more than a casual glance, it is a useful source of reference which will be of value to a range of personnel for a range of purposes. Whether your interest is in the extent of acid deposition in the European Region, or in obtaining data about the effects on health of environmental exposure then this publication will be of value.

As the foreword states "this report is intended to be of assistance in rational decision making, so that real priorities may be identified and limited resources efficiently utilised." I think it ably provides that assistance.

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**Human variability and plasticity.** CGN Mascie-Taylor and Barry Brogin (eds). (Pp 241; £35.00) Cambridge; Cambridge University, 1995. ISBN 0-521-45399-2.

This stimulating book reminds us how limiting can be the vision of even such an exciting construct as the human genome. Variability and plasticity are defined biologically as "evolutionary processes additional to natural selection by which organisms achieve long-term adaptation to their environments". As Garruto remarks, "it is one of the few remaining multi-disciplinary sciences in today's reductionist scientific world".

Rich sources for the investigation of plasticity have been the changes in anthropometrics and behaviour of populations, especially migrant populations. Most familiar to medical epidemiologists will be the changes in morbidity and mortality to be found in such communities as Japanese Americans. However, the concepts of variability and plasticity provide a richer substrate in which the work of such as Barker, on the transgenerational effects of maternal nutrition, may be seen.

In "reductionist" terms we are thus in the world of biological bias and confounding. As another author, Schell, observes, "barriers to use (of the adaptability paradigm) include non-standardised terminology . . .". Paradoxically, this confusion, looked at from "outside", may offer us the chance of developing a more sophisticated way of considering variables which create "noise" in our scientific studies. This is perhaps not the intention of the book but may nevertheless give it a wider readership!

Whilst the ideas are stimulating, the language, as has already been remarked, has something of Lewis Carroll's Red Queen in it and also suffers at times from almost impenetrable denseness. This may in part explain why another theme running through the text is that of valedictory for the seeming demise of a subject which offered so much and yet appears to have influenced so little.

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