

Book Reviews

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Meningococcal Vaccines: Methods and Protocols. Eds. A. J. Pollard and M. C. J. Maiden. Humana Press, 2001. Pp. 416. \$120.00.

The meningococcus, causing meningitis and septicaemia, is a leading infectious cause of childhood death in industrialized countries and results in major epidemics in the countries of the 'Meningitis Belt' of sub-Saharan Africa. Meningococcal outbreaks in Northern Europe, some areas of the United States and more recently New Zealand have heightened the sense of alarm expressed by both the public, the press and the healthcare professions. This undercurrent has resulted in considerable pressure on national immunization agencies to implement a meningococcal vaccine programme.

The development of polysaccharide-conjugate vaccines for some serogroups such as C, A, Y and W-135 is likely to have a dramatic impact on the incidence of the disease. Nonetheless, these vaccines may require further modification, we will need the necessary tools to monitor the long-term immunological response to these vaccines, and it will be necessary to conduct surveillance to ensure that serogroup replacement by a non-vaccine strain does not take place. A vaccine that provides widespread protection against the serogroup B meningococcus remains remarkably elusive. With the completion of several of the meningococcal genome sequencing projects, many new candidate serogroup B vaccines will require pre-clinical and clinical testing, and again we will need the necessary tools to assess them.

Although the burden of meningitis and septicaemia in the world has attracted considerable research effort in defining the epidemiology, cellular and molecular pathogenesis and vaccinology of these diseases, to date there has been no text where the technical aspects have been addressed. In *Meningococcal Vaccines*, the first of two companion volumes, Andrew Pollard and Martin Maiden have gathered together an outstanding group of clinical and laboratory scientists to provide a comprehensive set of protocols for the development and evaluation of meningococcal vaccines. In 28 chapters, the book covers everything from the immune response to vaccine implementation, and from capsular polysaccharide or outer membrane vesicle purification to T-cell epitope mapping.

The strength of this text is that it provides a key reference source, enabling researchers in the field to avoid re-inventing the wheel. The text also provides the basis for the

development of new ideas. Each chapter takes a step-by-step approach with clearly set out notes highlighting the problem areas. All the chapters have comprehensive bibliographies, and are well structured. The text is easily accessible and is recommended to those who are seeking to critically appraise the field of meningococcal vaccines.

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ABC of AIDS, 5th edn. Ed. M. W. Adler. BMJ 2001. Pp. 118.

This is the fifth edition of this popular book, based on a series of the same name originally published almost 15 years ago in the *British Medical Journal*. It is aimed at non-specialist doctors and medical students working in the UK, and provides a clear, readable and authoritative account of the clinical aspects of HIV disease and their management. It is well illustrated and attractively produced, making good use of boxes in which key points can be identified at a glance. It does not fit in the pocket, being of A4 size, but is concise (110 pages), and as up to date as a textbook can be in this fast-moving field. It covers the epidemiology, virology and immunology of HIV infection, and contains chapters on prevention and counselling; but it is primarily a clinical book, with chapters on HIV related tumours, HIV and the lung, gut and nervous system; natural history and treatment; and HIV in children, injecting drug users and the developing world. The chapters are all written by well respected authorities in their fields, mostly in the United Kingdom. This new edition is the first since 1997, and will no doubt ensure that the ABC of AIDS remains as popular and useful as ever.

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Public Health Systems and the Emerging Infections – Assessing the Capabilities of the Public and Private Sectors. Eds. J. R. Davis and X. Lederberg. National Academy Press 2001. £16.45.

This volume gives a timely and disturbing account of front line public health facilities in the USA. It reports on the

discussions of the fourth workshop of the Forum on Emerging Infections that was founded in 1996 in response to a request from the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health. The Forum attempts to provide and exchange information and to bring neglected issues to the attention of policy makers. The themes raised have a resonance in other systems and reinforce some of our fears about possible weaknesses that may result from current trends and structural developments in the health sector. With the exception of the inclusion of Canada (in the context of Toronto's participation in FoodNet), however, this is a totally parochial account of public health in the USA and there are no comparisons with other countries many of which would have provided good exemplars; maybe this will be remedied by the fifth workshop on international aspects.

The first theme concentrates upon the ways in which traditional public health concerns with infectious disease and its control was supplanted in developed countries with concerns about chronic illnesses and preventive measures that involve life style modifications. At the same time the population expected a high quality of personal health care. Delivery of health care through managed care developments such as health maintenance organisations (HMO's) became the preoccupation of health policy analysts who seemed not to take on board the erosion of public health facilities and the increasingly complex health care structures that needed to be coordinated if adequate surveillance systems were to be maintained. The public health laboratory service in the USA has faced reorganisation and privatisation. The high-volume low-cost tests have increasingly become the task of the private sector whilst more complex, costly tests remain with the public sector. At the same time the impression, not born out by surveys of managed care institutions, was that competitive pressures on health services was leading to fewer tests and more empiric treatment of disease and in consequence less accurate and complete infectious disease reporting.

The second theme draws attention to the significant gaps in the information collected about infectious disease and disjunctions of flows of information between states and within states and between private and public sectors. The State rather than the Federal authorities have responsibility for public health and monitoring infectious disease. As a result incompatible information systems have evolved. The timely collection and transmission of comparable information between and to states, federal agencies and other relevant groups is desperately needed. This involves commitment and resources in educating clinicians, developing medical and laboratory record systems and training staff. In spite of the development of sentinel practices and the introduction of FoodNet, at the instigation of CDC, the public health infrastructure is patchy and communications poor. The 'laboratory reporting in most state health departments is still surface mail, with a measured 10–14 day time lag in some states' (page 23). The introduction of electronic communication systems is recommended.

The need for resources and trained staff in local public health agencies is another theme highlighted. A nurse, a sanitarian, a clerk, and a part-time health officer often staff these small local agencies. These workers appear to be

relatively untrained as they are said to need 'basic investigative skills, questionnaire design, interviewing techniques and collection of environmental and clinical specimens' (page 36). In addition the importance of computerization is stressed to ensure that 'Electronic communication systems need to be strengthened so that outbreaks can be shared and resources for use during the outbreak can be obtained' (page 36). Such basic inadequacies give cause for concern.

The writers recognize that public health surveillance systems need development and funds. This of course requires more attention to raising the profile of public health at Federal and State level. The State and Federal agencies are deemed to place a high value on public health activities but there is inevitable competition for scarce resources and these activities do not have a high profile. The hidden nature of many public health activities and its apparent success in controlling high profile outbreaks give the false impression that all is well. Ways of bringing the importance of public health to the attention of the public are examined including their role in emerging diseases and bioterrorism.

Unfortunately the profile and the improved functioning of the system have not proceeded at the pace that was probably needed to deal with the events that are currently unfolding, such as the anthrax attacks.

There are undoubted jewels in the public health system in the USA, such as the CDC, but these resources are not likely to be sufficient to deal with complex issues that may arise throughout the country. There is a need for well informed practitioners, comprehensive surveillance systems and rapid communication systems. The present fragmentation of services, duplication and incompatible systems of data collection has to be tackled. Other healthcare systems, such as those in the UK, currently going down the path of developing Primary Health Care Trusts (not dissimilar to the HMO's in the USA), need to be vigilant lest they also lead to the dislocation of traditional public health information systems and networks.

This is a lively piece of work although it would have benefited from a focused conclusion that brought together evidence from the various sessions and proposals for future developments. It would be easier to read if there were fewer split infinitives. Nevertheless it provides salutary reading for anyone interested in the ability of public health services to protect the public from infections and environmental hazards.

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New Challenges to Health: The Threat of Virus Infection. Eds. G. L. Smith, W. L. Irving, J. W. Mc Cauley and D. J. Rowlands. Cambridge University Press, 2001. Pp. 347. £70. ISBN 0 521 80614 3.

Epidemics of infectious disease can have extreme socio-economic impact and we are living through an age when emerging disease is very much in the public eye. It is fitting then that this book should have been produced from the proceedings of a meeting that focused on the impact on health of emerging viral diseases. It includes a discussion of

a number of important virus systems and, unusually, reviews both the molecular biology and epidemiology of a number of selected systems. The chapters, each written by an expert in the field, include: surveillance of emerging viruses; epidemiology of microparasites; bunyaviruses and hantaviruses; the impact and spread of calcivirus and myxoma virus in Australia; influenza A viruses; hepatitis viruses; HIV and AIDS; morbilliviruses; prion protein; xenotransplantation and endogenous viruses; herpesviruses and neoplasia; the proteins of Marburg and Ebola viruses; Dengue virus epidemiology; Borna disease virus and antiviral drug development.

This book is an excellent reference for students and researchers alike and scores well on topicality, authoritative-ness and accuracy. In addition it is presented in an easily accessible format that should encourage student attention.

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Essentials of Antimicrobial Pharmacology. Ed. P. H. Axelsen. Humana Press, 2001. Pp. 141. \$24.50 pb. ISBN 0 896 03842 4.

This book is intended as a guide to antibiotics rather than a textbook, a pocket volume for reference or an adjunct to

lectures. Certainly most of the topics that could fall under the title of antimicrobial chemotherapy are packed into the 121 pages of text. A background chapter on sensitivity testing, pharmacokinetics and resistance precedes more substantial chapters on antibacterials, antifungals, antiparasitics and antivirals (in that order). It ends with a short chapter on immunomodulators and vaccines. The aims are laudable, a succinct text that also includes lists of all drugs used including the generic and trade names, must be useful. The classes of compounds considered are comprehensive and includes the recently marketed oxazolidinones, the first novel class of antibacterials to appear for decades. It includes short sections on investigational drugs and, although without references, is up to date.

So it is a pity that the volume has editorial and factual errors large enough to make one re-examine every section and prevent any recommendation. There are too many errors to list – but they range from mis-spelling (*Shistosoma*, artemisinin), to loss of format (anthelmintic agents, p. 83) and inadequate explanation of mechanisms of action [amphotericin B binds to ergosterol in the cell membrane not the cell wall (p. 65), antifolate drugs inhibit pyrimidine synthesis and not purine synthesis (pp. 28–29)]. Attention to detail and replacement of the inadequate 12 pages on immunisation by more on the antimicrobials and drug resistance would greatly improve this volume.

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