

## Books & Electronic Media

### Immunization essentials: a practical field guide

Publisher: USAID, Washington, DC, USA; 2003  
ISBN: 0-97 42291-2-X; 271 pages; not for sale  
Free PDF version available from: [http://www.dec.org/pdf\\_docs/PNACU960.pdf](http://www.dec.org/pdf_docs/PNACU960.pdf)  
Free print copies can be ordered from USAID

This book, the revised version of *EPI essentials*, which was published in 1988 and has long been out of print, is a welcome reference tool for national and subnational immunization managers in developing countries. It provides practical information for improving the delivery of immunization services. The book is available free, either by downloading a PDF file or in print format, the latter being compact enough to fit into the bags of immunization officers in the field. The language is clear and simple for readers whose first language is not English. Colourful pictures, small boxes, tables and diagrams are used effectively to supplement and explain the text. References at the end of every section provide the reader with sources for more in-depth information. The large number of technical reviewers of the text is impressive and a wide breadth of immunization expertise is represented.

Sections are included on current relevant immunization issues: The Global Alliance for Vaccines and Immunization and its support for strengthening immunization services; introduction of new vaccines and technologies; costs and financing of immunization services; and the work of national Inter-agency Coordination Committees.

The roles of different levels of the health system in immunization service delivery and the impact of reforms of the health sector are well described. Key contributors to immunization programme management are also covered; the public and private sectors, (nongovernmental organizations and for-profit providers). However, the overview of immunization essentials, which appears at the end of the first chapter, would have been better placed at the beginning

of this chapter for easier reference. Inclusion of a brief description of how to use programme information for drafting annual plans of action and multi-year plans would also have improved the book.

The key areas of immunization service delivery, vaccine supply and quality, cold chain and logistics, injection safety, information management, disease surveillance and communication for the expanded programme on immunization (EPI) are well covered and in enough detail for managers. Vaccine-preventable diseases appear as the final chapter, which makes this information easily accessible for readers. A brief description of service delivery strategies is included. In the chapter on delivery of immunization services, practical tips are offered on how to increase the use of routine services, including reaching the unreached — although the poor (who have been identified as a major unreached subgroup) are not mentioned.

Analysis and use of routine data is one of the challenges faced by developing countries. *Immunization essentials* describes a variety of approaches for using such data at various levels of the health system, including the facility level. Detailed information is provided on how to manage records and monitor and evaluate programmes; and practical tips are given on how to manage challenges such as drop-outs and inconsistent data. The chapters on vaccine supply and cold chain outline how to order supplies and manage stocks. Practical suggestions are offered on how to reduce vaccine wastage, a relevant area that needs to be addressed with the introduction of newer, more expensive vaccines.

Although disease surveillance and immunization service delivery are often located in different departments in ministries of health, the inclusion of disease surveillance in this manual is a useful reminder to managers about the link between service provision and its impact on disease prevalence. The descriptions of the different types of surveillance and of laboratory services as well as how to handle outbreaks at the local level offer useful insights on preventing disease outbreaks.

The print version of the manual has a wire binding, which makes it easier to fold the book in the field without destroying it. Health workers on long, supervisory field trips will find it a compulsory companion. The fact that this book is free ensures that cost is not a barrier to its availability in developing countries. Overall, the book is well written and I would recommend its use to national, provincial, and district directors of health services as well as other public health officers in the field who are involved in immunization activities. It is a welcome addition to the immunization literature available to developing countries. ■

Mercy Ahun<sup>1</sup>

### The vaccine book

Editors: Barry Bloom, Paul-Henri Lambert  
Publisher: Academic Press (Elsevier Press), New York; 2002  
ISBN: 0-12-107258-4; hardback; 436 pages; price US\$ 59.95

As pointed out by John D. Clemens & Hye-Won Koop in their chapter of this book entitled “Phase 3 studies of vaccines”, the *National Institutes of Health Jordan Report 2000: Accelerated Development of Vaccines* documented approximately 350 vaccine candidates at some stage of research and development in 2000. A similar enumeration carried out a decade earlier came up with a total of about 170 candidates. Thus in 10 years we have seen a doubling in the number of possible new vaccines that could be introduced to control infectious diseases, cancers, allergies, and other human maladies.

This comprehensive book, consisting of 10 chapters written by leading experts in almost all facets of the vaccine research and development enterprise, should be a standard reference work for anyone from student to senior professional interested in the current challenges in and prospects for the science of vaccines. What becomes acutely clear

<sup>1</sup> GAVI Secretariat, c/o UNICEF, United Nations, Geneva, Switzerland (email: [mahun@unicef.org](mailto:mahun@unicef.org)).

from reading this volume edited by two of the world's most influential experts, Barry Bloom & Paul-Henri Lambert, is that the rate of progress in bringing new vaccines to the marketplace is frustratingly slow. Vaccines represent some of the most cost-effective interventions to improve human health on a global scale. Some of the most desperately needed vaccines such as those against human immunodeficiency virus (HIV), tuberculosis, and malaria seem yet distant hopes. Bloom & Lambert address this frustration directly in their closing chapter entitled "Future challenges for vaccines and immunization." They identify ten high priority challenges ranging from dealing with antigen diversity to public acceptance of vaccination. This book should be seen as a challenge to those concerned with public health, both in their own countries and worldwide, to increase the intensity of effort in vaccine research and development.

The recent new and greatly welcomed funding of vaccine research and development by the US National Institutes of Health, the Bill and Melinda Gates Foundation, and the European Union will help move the field forward more aggressively. But these new funds represent only a valuable down payment on the full investment that is required. For example, a proposal to establish an HIV vaccine enterprise with annual funding in the order of hundreds of millions of dollars is already on the table.

These are the kinds of funds that are both needed and justified by the opportunities described so well in *The vaccine book*. The book itself could serve as a potent tool to help justify substantial increases in funding for vaccine research and development. However, the vaccine community, itself, as pointed out in the chapters by Amie Batson, Sarah Glass & Erica Seiguer and by Kim Mulholland & Bjarn Bjorvatn, needs to effectively address a fundamental issue: the challenges to introducing a large number of additional vaccines to immunization programmes. The efforts of scientists and industrialists to bring vaccines through the research and development process and obtain licensure will require heroic efforts. However, the success of those efforts would represent only a portion of the monumental work that will be required. There will be the continuing

need to buy and distribute those vaccines in both developed in developing countries to those individuals who need them. Particularly with respect to developing countries, there is a need to invest substantial resources now to develop comprehensive plans for the introduction and sustainable procurement and use of vaccines, especially those needed by the poor. In addition, an urgent challenge is to ensure the continued support for the Global Fund for Children's Vaccines. By sustaining the Global Fund, the world will be meeting a wonderful opportunity to improve human health. On the other hand, failure in this effort could very well substantially delay long-term success in the vaccine enterprise resulting in unnecessary death and disease. We should all agree that failure is not an option. ■

Richard T. Mahoney<sup>1</sup>

### Immunization financing in developing countries and the international vaccine market: trends and issues

Publisher: Asian Development Bank, Manila; 2001

ISBN: 971-561-349-7; 53 pages; price (hardcopy): US\$ 10.00; on-line edition: free (available from: [http://www.adb.org/Documents/Books/Immunization\\_Financing/immunization\\_financing.pdf](http://www.adb.org/Documents/Books/Immunization_Financing/immunization_financing.pdf))

Immunization is often cited as the exemplary public health good. Many immunizations are highly efficacious and relatively low cost. They are truly preventative of disease. Immunization is also associated with strong arguments for public action. There are often large associated externalities in benefits. In poor countries, where many potential beneficiaries may be too poor to use immunization sufficiently or lack sufficient appreciation of its benefits, governments have an important role to play in assuring coverage and use of vaccines.

Yet immunization is not a "pure public good" in the sense that economists' use the term. There is ample evidence of private demand for immunization and it is likely that this is increasing over time as incomes and awareness rise. Poverty and low knowl-

edge and awareness in many developing countries will, however, keep immunization levels below desired levels, over and above the effect of markets to fail to adequately capture externality-related benefits. Governments and the international community have a key role to play in supporting immunization. But precisely what role, to what extent, and for how long, are difficult questions to answer.

Immunizations are produced through a combination of labour and other inputs, including vaccines. While labour and other inputs are generally not tradable, vaccines certainly are. Many vaccines are sold in a global market in which ability to pay varies greatly. There are relatively few producers and those that can, do so on a large scale (lowering costs) and sell at whatever price the different markets will bear in order to make profits.

This useful book, produced by the Asian Development Bank, sheds light on a number of important issues from the perspective of an international organization financing immunization programmes and vaccine procurement for developing countries. As such, it gives more attention to some questions, less to others, and ignores yet others altogether.

As far as immunization financing is concerned, the book reports on the trends in the 1990s. This is described as a period of "declining donor funding" accompanied by the development of new public financing instruments and funding sources, such as the Bill and Melinda Gates Foundation support for the Global Alliance for Vaccines and Immunizations (GAVI). It is certainly disturbing that after the big "child survival" push of the 1980s and early 1990s, during which record high levels of immunization were achieved worldwide, donor and government attention shifted to other priorities resulting in significant lost ground.

One issue that the book does not deal with as clearly as it could have done is the net effect of the changing pattern of financing overall. Grant financing by some of the major donors has declined and shifted over time. New donors have also appeared on the scene. And what about government funding?

<sup>1</sup> Arizona State University, PO Box 874501, Tempe, AZ 85287, USA (email: [richard.mahoney@asu.edu](mailto:richard.mahoney@asu.edu)).

The book does not help the reader understand the net effect of these changes, which is really the critical question. This may reflect the lack of adequate information on national sources of financing for immunization programmes. Without this evidence, however, global planning takes place with only a partial view of the resources available.

Another lacuna in the book's coverage is the absence of a discussion of private financing of immunization. This includes both formal private organizations, also those that are non-profit, as well as household financing. It would have been helpful to have some discussion of non-government financing. Although this is likely to be small in lower income countries overall, it may be significant in some countries, or for some groups such as urban populations. What can we learn about medium-term trends in immunization financing in lower-middle and middle-income countries? What is the role for the state and for international donors in the future?

The second part of the book focuses on the mechanisms for vaccine procurement and financing, including the new initiatives sponsored by different international organizations. It is argued persuasively that such organizations can play a critical role in assuring dependable access to vaccines and commodities through well-managed and relatively inexpensive mechanisms. This intermediary role of the international community is certainly valuable and should be sustained.

Several initiatives that emerged in the 1990s to help maintain the funding and supply of vaccines and other inputs are described and compared. These include GAVI itself, a new type of public-private partnership that brings together governments in developing and industrialized countries, established and emerging vaccine manufacturers, non-governmental organizations (NGOs), research institutes, UNICEF, WHO, the Bill and Melinda Gates Foundation and the World Bank. The pros and cons of these different approaches are clearly laid out in useful comparative tables. Unfortunately, however, the reader is left with somewhat uncertain conclusions about the impact of these different initiatives. There is some evidence that

international support for vaccine supply can help sustain or even increase immunization levels, but other factors at the national level also matter a great deal.

There follows an analysis of the international vaccine market – one of few sellers and few large buyers, and a high degree of market segmentation and differential pricing. A valuable summary is provided of the issues from the perspective of both producers and organizational consumers. In addition to the specific insights about vaccines, there is also a useful case study of some of the issues that are getting attention in the wider international pharmaceutical market. In contrast to other sectors, however, a few large institutional buyers have managed to find some creative ways to achieve lower prices for poor countries without overly threatening the producers' concerns about their markets in wealthier countries. In many cases, vaccine prices have fallen or remained stable in real terms and some differential pricing strategies have been implemented, segmenting countries according to their ability to pay. The book provides an edifying comparison of two strategies: planned tiered pricing and bulk purchasing with uniform prices.

These approaches are also relevant to the longer-term question of how to assure markets for vaccines in the future, including vaccines that are not yet developed, and indeed, how to provide the incentives for that development. Unfortunately, this book does not address adequately these issues. The potential global market for possible new vaccines, for example for malaria

or HIV/AIDS, is immense in terms of people count. But how that will translate into future financial flows is a major question and a likely key determinant of investment in new vaccine development. Recent efforts to assure future vaccine demand (that is, financing) as a means to stimulate investment are not given coverage.

The final chapter of the book consists of a case study of the price of hepatitis B vaccines (plasma-derived and recombinant DNA) over time. The cost per dose of these vaccines declined from an initial level of over US\$ 30 in 1981 to US\$ 0.45-0.69 by 1999, with the decline being earlier and faster for the plasma-derived than for the recombinant DNA version. This difference is attributed to the plasma-derived vaccine's simpler, less costly production methods and much wider global market competition. It is concluded that this experience underlines the advantages of simpler production processes, more rapid technology transfer to producers outside the US and Europe, more effective international purchasing, and creative strategies to relax the monopolistic effects of intellectual property rights as strategies to pursue in future cases.

Overall, readers will find this book a useful guide to a number of complex technical issues that have increasing global relevance, not only for vaccines but for other health commodities. It is clearly presented and has a useful bibliography. All in all it is a worthwhile read in a key area of global health. ■

Peter Berman<sup>1</sup>

### Call for papers on Maternal and Child Health

The *Bulletin of the World Health Organization* is seeking Research and Policy and Practice papers dealing with maternal and child health for a projected issue on this topic to be published in the first half of 2005. We are particularly interested in papers that deal with the following areas: why it is important to invest in the health of women and children; how care for women and children has been affected by global policy change; assessment of the public health challenge; how to meet the needs for effective care of women and children; human resources aspects of maternal and child health; economic aspects of maternal and child health; and countries' responsibilities towards the health of mothers and children. We will also consider relevant submissions on this topic to the other sections of the *Bulletin*: Perspectives, Round Tables, and Public Health Reviews. Manuscripts should be submitted to <http://submit.bwho.org> by 1 November 2004, respecting the Guidelines for Contributors, and accompanied by a cover letter mentioning this call for papers.

<sup>1</sup> Professor of Population and International Health Economics; and Director, International Health Systems Program, Harvard School of Public Health, Boston, MA 02115, USA (email: pberman@hsph.harvard.edu).