This guidebook is an important contribution to the literature on mutual health organizations (MHOs), sometimes referred to as micro-insurance or community health insurance organizations. Evidence is growing about the positive impact of such organizations on access to care among low-income population groups in developing countries. Although understanding about the concept and key design issues of MHOs has been increasing, no detailed account of “how” to implement and manage an MHO has been available. This book now fills this important gap.

The book is divided into seven parts. Part I presents an introductory description of the key characteristics of an MHO: risk-sharing among members, calculation of members’ contributions and how these are linked to the level of protection offered, and methods of paying the providers that are contracted by the MHO. Basic issues of management, including financial management and bookkeeping, are also addressed.

Organization of an MHO is discussed in Part II: which actors are involved (e.g., the members, the general assembly, and the management committee); what they are responsible for; and which organizational set-up is required for the MHO to function properly. Highlighted also is the need to include the responsibility of the various actors in the MHO’s statutes. The example of such statutes that is provided is particularly helpful for those involved in establishing a MHO.

Part III focuses on the management of membership, contributions, and payments to providers. Examples are given of essential documents, such as the membership card for the insured member, the membership register of the MHO, the contribution card for individual members, and the MHO contribution register, as well as the bill submitted by providers to the MHO. Stressed also is the importance of monitoring the costs of health care services covered or reimbursed by the MHO.

The short course on bookkeeping given in Part IV underlines how useful this activity is and that it is essential if an MHO is to succeed. Numerous examples are given which link the MHO’s day-to-day operations to the revenue–expenditure and assets–liabilities accounts.

Part V covers the essential elements of budgeting and deals with the financial implications of the planned activities of an MHO, in particular reimbursement of health-care costs, investments, and other items such as marketing and training. Budgeting is essential since an MHO itself is exposed to a number of risks that are linked to the behaviour of its members (e.g., overdose and adverse selection) and the providers (e.g., over-prescription). An MHO may also be confronted with the financial consequences of sudden events such as an epidemic, for example.

The risks that confront an MHO are addressed in Part VI, where an overview is also given of methods to shield itself from such risks. These include family membership and the establishment of a waiting period (to reduce adverse selection), the introduction of a gate-keeper role for certain health-care providers (to reduce members’ direct access to higher levels of health care), and the introduction of treatment guidelines (to reduce over-prescription). In addition, attention is paid to special mechanisms to protect an MHO from risks such as reinsurance and risk-sharing among mutual health organizations.

Monitoring and evaluation of MHOs are analysed in detail in Part VII.

The examples given, in combination with a series of tie-in graphical aids, will be of considerable help to users of this manual. In general, the voluntary membership of MHOs makes such organizations quite vulnerable to changes in the economic environment (e.g., reductions in the economic capacity of households due to crop failure) or to disagreements with their members over their design (e.g., the level of the contribution or the contents of the benefit packages). A practical tool for MHO management to address the issue of change is described: a yearly “synthesis-form” that traces in graphical format the evolution of crucial indicators such as MHO membership, contributions, utilization of health services, and cash receipts and outlays. This synthesis-form also covers net revenue and assets and liabilities. Use of such a form in discussions between the membership and MHO management is also explained.

One issue that would have deserved much broader attention, however, is the interaction between government and MHOs. Government can play a role in co-financing MHOs (for instance to support membership by the poorest), in promoting and monitoring them, and even in providing technical advice on the design of MHOs. The last-mentioned role is increasingly recognized in both practice (for instance the Senegalese Ministry of Health now has a special unit to support MHO development) and in the literature.

On balance, though, the overall merit of this book remains. It clearly addresses many practical concerns in the development of MHOs and will answer numerous queries by those who play a role in their management. It is currently available only in French but it is to be hoped that it will soon be translated into other UN official languages.

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The editors claim that their book is the first to provide a comprehensive overview of the developments, current concepts, areas of consensus and disagreement, techniques and theories of HIA. This claim is justified by the array of applications that it presents, including HIA of projects (e.g., development and expansion of commercial European airports), of programmes (e.g., campaign to eliminate a non-endemic insect species in New Zealand), and of policies (e.g., proposal to increase the numbers of medical students in the United Kingdom). Hence, the book holds the promise of filling an important gap in the literature. The book’s 36 chapters cover a wide range of applications of HIA, some written by the editors, but most prepared by 52 other contributors. All chapters are concise and referenced.

The book has several strengths. First, it is comprehensive and has merit as a stand-alone work; hence, it serves as a most welcome and significant contribution to the growing body of HIA literature. Second, it provides a succinct history of HIA, stresses its conceptual roots either in environmental impact assessment or the promotion of healthy public policies, and emphasizes its values; namely, democracy, equity, ethical use of evidence and sustainable development. Third, it provides a good snapshot of progress made since HIA’s inception approximately 10 years ago, which is illustrated using a host of applications that underscore its thinking from various disciplines. Fourth, it clearly articulates the fundamental characteristics of HIA: it must be – by necessity – carried out prospectively, i.e., before implementing a project, programme or policy; and the results must feed into the decision-making process, so that interventions can readily be modified in order to avoid/mitigate negative health impacts and to enhance positive ones.

HIA therefore might become an important tool for building effective bridges between health and other sectors and policy-makers. Fifth, the book is not shy about discussing areas of controversy and campaigns for a more consistent use of terminology. For example, it eloquently argues against the use of “retrospective HIA” and “concurrent HIA”. Arguments for the correct use of other terms appear throughout the book and are tied together in the exceedingly good concluding chapter. Finally, the book provides a sound basis to predict progress, which might therefore stimulate people outside the HIA community to learn more about such assessments and to put them into practice.

The book, nevertheless, has several shortcomings. First, it is very much “Eurocentric”. Of the contributors, 89% work in Europe and the majority of case studies pertain to European settings. Second and even more irritating is that all of the 55 contributors live in countries with a high human development index (HDI). According to Human development report 2004, they work in countries ranked between position 1 (Norway) and 27 (Slovenia) on the HDI scale, with more than half of them based in the United Kingdom (HDI rank 12). Some of the authors argue that the lack of capacity for HIA is serious, particularly in the developing world. I would not dispute this claim, but I’m not convinced that not a single expert could be identified there. Hence the book missed an important opportunity to articulate coherently how HIA should build inroads into developing countries, where many large-scale infrastructure developments are under way.

Third, I am not sure about the utility of some of the chapters. For example, the important roles played by epidemiology and the social sciences in HIA are made repeatedly throughout the book, hence the two stand-alone chapters on these topics lack specificity.

In summary, this book fills a very important gap in the literature, serves as resource for training future assessors, and could become a standard text. Its utility would nevertheless have been improved had the contributors included also those from middle or low HDI countries. It is to be hoped that this shortcoming will be rectified in any second edition. The publication of this book bodes well for the further promulgation of HIA, with health functioning as a cross-cutting issue to build bridges between different sectors and policy-makers, a key factor for good governance, and equitable and sustainable development.

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**Advances in insect chemical ecology**

Editors: Ring T. Cardé, Jocelyn G. Millar
Publisher: Cambridge University Press, Cambridge; 2004
ISBN: 0521792754; 352 pages; price: £60.00 (hardback)

Why would a book containing chapters on why flowers smell and the sex lives of cockroaches be of interest to the readers of the *Bulletin of the World Health Organization*? A good guess would be the roles played by insects in human disease and in food sufficiency and insufficiency. However, very little to address overtly these issues will be found in *Advances in insect chemical ecology*. I have long been interested in chemical ecology, particularly from the perspectives of traditional herbal medicines and natural toxins. Therefore, I found the examples of mechanisms of synergy given in this book fascinating. At the great risk of over-interpreting, I shall attempt to put this collection of expert reviews into the broader perspective of its potential importance to human health.

On planet Earth all living things have evolved with the same basic biochemical mechanisms. While we humans primarily use vision, sound, and touch to sense the environment, organisms were communicating with chemical signals long before we appeared. Chemical ecology is the science of identifying these chemical signals (semiochemicals) and determining how they affect an organism and its interactions with other organisms. Semiochemicals play an important role in almost all aspects of the lives of insects. Plants also use chemical signals to defend themselves from pathogens, herbivores, and sometimes from competition from other plants. Many of these chemicals act through signal transduction mechanisms to induce resistance against insects and pathogens. And many of these same phytochemicals, such as salicylic acid and resveratrol, have been found to influence signal transduction pathways in humans.

*Advances in insect chemical ecology* consists of eight in-depth reviews of defined areas in the chemical ecology of insects and closely related arthropods.

The editors and authors, from seven different countries, are all internationally recognized experts. Individual chapters cover plant–insect herbivore interactions, including an incredibly interesting relationship between tiger moths and plants containing pyrrolizidine alkaloids; plant–herbivore–parasitoid interactions; mediation of insect pollination by floral odours; and pheromone communication in moths, spiders and cockroaches. The central focus is on the chemical and evolutionary perspectives. The chapters are generally very well written, although several may contain too many structural formulae for non-chemists. Overall, the individual chapters, although disparate, are complementary and taken together result in a well-balanced treatment of the subject area.

A key take-home message is that plants use multiple chemicals, often with different mechanisms of action, and not the silver-bullets, in their defensive strategies. Insects usually employ complex mixture of chemicals in their communications. Such multiple approaches are less susceptible to the development of resistance. Plants and insects have been practising and perfecting combinatorial chemistry on an evolutionary timescale; in contrast, this approach has only recently been introduced into pharmaceutical discovery programmes. Basic research in insect semiochemistry has resulted in advances in other fields; for example, in understanding human olfaction and taste. Also, studies of plants’ defences against insects can result in safer and more effective pesticides and repellents for disease vector control and plant protection. There is mounting evidence that many of the secondary metabolites used by plants for their defence also have beneficial effects in humans. The complexity of plant protection mechanisms, particularly the evolution of multiple pathways involving many chemicals, should not be lost in investigations of the roles of these chemicals in relationships between human diet and disease.

Much remains to be learned about and from insect chemical ecology. This volume presents an excellent collection of reviews that should be useful to those working within and outside this study area.

**Samuel W. Page**

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**Bulletin board: have your say.**

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