

Challenging inequities in health: from ethics to action

Edited by Timothy Evans, Margaret Whitehead, Finn Diderichsen, Abbas Bhuiya, & Meg Wirth
Oxford University Press, New York, USA, 2002.
Hb ISBN 0-19-513739-6 price £47.50
Pb ISBN 0-19-513740-X price £29.50

By presenting this collection of timely and interesting papers in a single volume, Evans et al. make a valuable contribution to the growing literature on social inequalities in health. The volume includes work from and about countries on all the continents, and a wide range of conceptual, methodological, and empirical approaches. Anyone concerned with achieving greater equity in health and development will appreciate its strong orientation to policy. Students and researchers will find the book a treasure chest of overviews and syntheses.

The work starts with conceptual issues, and a framework for analysis and the consideration of policy options. The model calls attention to diverse pathways leading to social differentiation in health, suggesting multiple entry points for policies that can change them, for example, by diminishing harmful exposures or vulnerability to them. Elements of this model are used effectively in many of the chapters, contributing to the coherence of the collection as a whole.

In the second part, on measurement, Anand et al. provide a useful review of the issues that arise in measuring social disparities in health. They emphasize that conclusions about the magnitude and nature of health disparities can vary according to the health indicator and social groups examined and the analytical technique chosen. Their discussion contrasting absolute and relative measures of inequality is particularly strong. Amartya Sen then presents several daunting challenges for assessing health equity. For example, while health should be assessed on the basis of "internal" (i.e. subjective) as well as "external" perceptions, lower expectations among worse-off people can make self-reported health assessments unacceptably biased. Furthermore, it may be a fundamental property of indicators reflecting quality of life that they cannot be meaningfully quantified.

In subsequent chapters of this section, various techniques are used to measure social inequalities in health in different countries. Liu et al. use secondary data sources to examine gender, geographic and socioeconomic disparities in health in the context of massive economic changes in China over the previous two decades. One of their conclusions is that the one-child family policy has probably exacerbated gender disparities in health. Dramatic declines in mortality in Japan since the 1920s appear to be more related to wealth in the case of men and education in the case of women. Premature mortality and disability in the USA vary according to income in all social groups, but the variation is greatly increased by racial/ethnic and gender differences. Socioeconomic and health disparities in Chile, though marked and widening, have probably been significantly reduced, particularly for women, by public investment in education. In Russia, Shkolnikov et al. find, contrary to expectations, that mortality differentials associated with education and occupation around 1989 were no smaller than those in Western countries. Analysing the sharp rise in mortality during the 1990s, the authors conclude that sex role differences may affect the way in which men and women cope with stress caused by unemployment and the transition from a command to a market economy. The section ends with an analysis of the painful situation of poor adolescents in the United Republic of Tanzania, and an exploration of the policy implications.

Under the broad rubric of "tackling root causes", the third section ranges from a conceptual essay on gender, equity and health to country-specific analyses of selected health equity issues. These include road traffic accidents in Kenya which disproportionately victimize the poor; the effects of interventions on rural development, family planning, and gender equity in Bangladesh; and a fascinating analysis by Gilson & McIntyre of legal and policy mechanisms by which apartheid produced and maintained social stratification in health in South Africa. This is followed by a critical assessment of post-apartheid policy attempts to achieve greater equity. A study of Sweden and the United Kingdom then concludes that social policies can significantly alter

the extent of the health disparities which accompany poverty and unemployment.

Questions of health financing are examined in the last group of studies. Here Hsiao & Liu present a useful conceptual framework and a clear, concise review of methods for quantifying equity in relation to various aspects of health care financing, using examples of measurement challenges in diverse countries. Lozano et al. use county-level data to demonstrate inequitable patterns of resource allocation for health in Mexico, and present a replicable methodology for monitoring them. Pham Manh Hung et al. conclude the section with a description of Viet Nam's efforts to achieve equity-oriented health care financing, which have considerable generalizability.

The conclusion, or at least the premise on which the conclusion is based, is that health inequities can indeed be reduced in the current global context. Recommendations include building consensus on values; setting targets for health equity; and monitoring progress towards those targets. Monitoring should also include the impact on equity of all policies that affect health, not just those of the health sector. The authors discuss the policy responses needed both internationally and nationally and call for a global mobilization of efforts to improve and safeguard equity by means of both advocacy and monitoring.

The book is, of course, not perfect. An abstract for each chapter would have been helpful, particularly given the range of material covered in some chapters. The conclusions from some of the country studies go far beyond the evidence they present. Inevitably in a volume with many contributors, there is some unevenness in quality, but the overall quality is excellent, and every chapter has something of value to convey. The editors have succeeded admirably in making a largely coherent whole out of disparate material from numerous authors all over the globe. This is achieved in part through the use of similar formats for presentation and extensive cross-referencing between chapters. Striking photographs provide an additional eloquent touch. Newcomers and seasoned researchers alike will find this collection of studies invaluable. ■

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Ecosystem change and public health: a global perspective

Edited by JL Aron, & JA Patz

Johns Hopkins University Press, Baltimore, MD, USA, 2001.

Hb ISBN 0-8018-6581-6, price US\$ 82

Pb, ISBN 08018-6582-4, price US\$ 38.00

A decade ago one would not have expected to find a title like this on bookshop shelves. But much in the biophysical world around us has changed in the last 10 years, and much of that change is attributable to human interventions and pressures. The symptoms of planetary overload are becoming familiar to many readers of the *Bulletin*. They include global climate change, stratospheric ozone depletion, freshwater depletion, declines in agroecosystem productivity, losses of biodiversity, and the pervasive geo-atmospheric spread of persistent organic pollutants.

Public health scientists who recognized the potential importance of these large-scale environment changes early on had to improvise new types of research and data analysis, often muddling through with coarse-grained statistical correlations and imperfect models for forecasting future impacts. Such research induced uneasiness: many of the underlying causal processes were complex, non-linear, and riddled with uncertainties. But the clock could not be turned back: society at large was seeking answers to questions about the current and future health consequences of environmental change and ecosystem disruption.

As has happened many times before in the history of science, this branch of research has found its feet and is now maturing. The approaches to it that have proved useful are being mainstreamed. The methods of modelling it uses are becoming more robust. Ways of characterizing and communicating uncertainties have evolved. Research funding is beginning to flow. There is, also, a growing literacy about ecosystems among environmental epidemiologists. Interestingly, this trend has been accompanied by the rise of "social epidemiology", with its emphasis on community-level influences on health and disease. Stocks of social capital (such as civic institutions, shared levels of trust, and equity of income distribution) are major factors here, as well

as social, cultural and economic relations. Taken together, these shifts in emphasis bespeak a greater understanding of the ecological perspective, and recognition that much of the causation of states of health in populations derives from what happens in complex, multi-level systems.

The material presented here, mostly by US authors, is a product of these maturing ideas and methods. Pleasingly, it is much more than a compilation of disconnected chapters. The two editors have had experience in teaching graduate students about these issues, and have sought to maximize the book's usefulness for master's-level courses as well as for self-instruction by those interested. Most of the chapters are about approaches, environmental changes, and case studies, but there is also thoughtful advice on how to use this book; a review of the evolving role of textbooks in an Internet age (and of models of learning and remembering); and an inventory of web-based data resources, classified by institutional type, geographical relevance, and environmental system. A glossary, a list of abbreviations and a good detailed index are included too.

The section on approaches comprises chapters that explore the dimensions of global change, define and illustrate epidemiological research, and review spatial analysis (geographical information systems (GIS)), the science/policy interface, and integrated assessment models (IAM). All are expertly written, although the IAM chapter lacks an adequate discussion of the potential use of models to forecast health impacts that are decades distant in time. There are, after all, several well-known early examples (by non-US scientists) of modelling the impacts of stratospheric ozone depletion on skin cancer rates, and of global climate change on the potential transmission of malaria. Much has been learnt from such studies, and simple illustrative critiques would have enhanced the chapter.

In the epidemiological research chapter, the conventional use of the "ecological study design" jars a little in a book about ecosystem change. That term was coopted from the social sciences half a century ago, and has long been misleadingly used by epidemiologists to describe any study that compares "exposures" and "disease rates" at the

supra-individual level. The time has come to confine the use of the word "ecological" to references to ecological systems and processes.

Several of the most important domains of global environmental change are covered in the second section. They include human impacts on the biosphere at large, atmospheric and climatic changes, disruption of the Earth's great natural cycles (carbon and other elements, energy, and the hydrological cycle), water resource management, and disturbances in infectious disease systems and patterns. These chapters are written by experts, and contain many clear and useful diagrams and examples.

Then we come to the case studies, of which there are just four, though the editors are well aware that this topic area is rich with large and complex examples. The four are: changes in the occurrence of cholera in relation to a range of ecosystem processes and changes; malaria in the same context of change; the interplay between climate change and air pollution; and how water supplies influence population health. These are well-presented and well-referenced chapters, with interesting historical dimensions, and they help to consolidate in the reader's mind the concepts and methods emphasized in earlier chapters.

This book has been well produced, particularly for the purpose of expanding and enlightening the teaching curricula in environmental health. Each of the main chapters ends with an unobtrusive but useful section of study projects for students, briefly outlined. The editors suggest how the book's contents can be used for differently structured courses. Strategies for enhancing communication among course participants are proposed. In short, it is an innovative and timely textbook which will influence the evolution of teaching and research in this topic area, whose international importance continues to grow rapidly.

Pedagogical considerations aside, it is a book that non-students can very comfortably and usefully go through — or even read in bed. I know; I did. ■

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Food safety and international competitiveness — the case of beef

John Spriggs & Grant Isaac

CABI publishing, Wallingford, England, 2001.
ISBN 0-85199-518-7 price £40, US\$ 75

Food safety has become perhaps the most challenging food issue of the developed world. The bovine spongiform encephalopathy (BSE) crisis, along with other recent food scares in industrialized countries, has helped to make this clear. These events have also been a lightning conductor for change around the world in the attitudes of government, industry and consumers towards food safety. The exploration of this changing situation by John Spriggs and Grant Isaac has resulted in a readable book. From their vantage points of a school of agriculture in Wagga Wagga, Australia, and a school of commerce in Saskatchewan, Canada, they command a wide view of the field and use it to provide information which is valuable for specialists and generalists alike.

With beef as a case example, the authors study the existing food safety arrangements and procedures in four countries: Australia, Canada, the UK and the USA. They focus in particular on the rules that constrain behaviour, the drivers of change, and the link between food safety and international competition. On the basis of their observations on the four national food safety systems, the authors present a conceptual framework for improvement. They recommend: strengthening the drivers of change; choosing the right public and private decision-making systems (meta-rules); and building up robust, realistic institutional arrangements for food safety. Not surprisingly, they find that international institutional arrangements, such as the Codex Alimentarius within the UN system, and the World Trade Organization's Agreement on Sanitary and Phyto-Sanitary Standards and Agreement on Technical Barriers to Trade, have had an important influence on how the food safety systems have developed in the countries studied.

A basic question the book tries to answer is: "What roles should government

and industry play in providing for an optimal food safety system?" The authors believe that the Hazard Analysis Critical Control Point (HACCP) approach is the most revolutionary institutional innovation to ensure food safety in the 20th century. They argue that the best way for a country to make its food safe is to move towards a coregulated system based on the HACCP principles. Coregulation means that auditing is performed by an accredited independent third party company. The authors also think that with the right institutional arrangements in place internationally, competitive firms will be both willing and able to ensure food safety.

Spriggs and Isaac say they see themselves more as film critics than as scientists in this account of what is going on. They accordingly review the various forces that interact in forming a food safety system, show how the relevant institutions work to control the process, and draw their conclusions about the strengths and weaknesses of the system in each of the four countries concerned. They also make suggestions on how food safety systems in general can be improved.

The reader may well not agree with all their descriptions, explanations, opinions, statements, and conclusions. For instance, the social objective they favour is debatable. It is: "maximizing the food industry's international competitiveness, subject to achieving some generally agreed, scientifically based minimum standards on food safety". That sounds good for business but perhaps not so good for health and welfare. Is some minimum enough? And what happens when science and general agreement contradict each other? Many related questions arise. Should the primary

objective be limited to food safety only? Even if it is, what level of food safety is satisfactory? Furthermore, one may find that the authors' review of risk analysis does not fully comply with the framework accepted by the Codex Alimentarius.

Nevertheless, the book gives us a good guided tour of what needs to be considered in a food safety system, as exemplified by beef. It also provides the many different parties concerned — from farmers to consumers and everyone in between — with plenty to think about. ■

Hilde Kruse¹

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Authors should give their current appointments and full addresses, with a telephone or fax number or email address for the corresponding author. We ask authors to declare any conflict of interest.

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Ref. No. 02-0052