

# Social Reinsurance

---

A New Approach to Sustainable Community  
Health Financing

Editors

**David M. Dror** and **Alexander S. Preker**



**THE WORLD BANK**  
Washington, D.C.



**INTERNATIONAL LABOUR OFFICE**  
Geneva

© 2002 The International Bank for Reconstruction  
and Development / The World Bank and the International Labour Organisation

All rights reserved.

1 2 3 4 05 04 03 02

World Bank  
1818 H Street, NW  
Washington, DC 20433  
Telephone: 202-473-1000  
Internet: [www.worldbank.org](http://www.worldbank.org)  
E-mail: [feedback@worldbank.org](mailto:feedback@worldbank.org)

International Labour Office  
4, route des Morillons  
CH-1211 Geneva 22  
Switzerland  
Fax: (+41 22) 799 6938  
Internet: [www.ilo.org/publns](http://www.ilo.org/publns)  
E-mail: [pubvente@ilo.org](mailto:pubvente@ilo.org)

The findings, interpretations, and conclusions expressed here are those of the author(s) and do not necessarily reflect the views of the Board of Executive Directors of the World Bank or the governments they represent, or the views of the International Labour Office.

The World Bank and the International Labour Office cannot guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply on the part of the World Bank or the International Labour Office any judgment of the legal status of any territory or the endorsement or acceptance of such boundaries.

### **Rights and Permissions**

The material in this work is copyrighted. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or inclusion in any information storage and retrieval system, without the prior written permission of the World Bank. The World Bank encourages dissemination of its work and will normally grant permission promptly.

For permission to photocopy or reprint, please send a request with complete information to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA, telephone 978-750-8400, fax 978-750-4470, [www.copyright.com](http://www.copyright.com).

All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, World Bank, 1818 H Street NW, Washington, DC 20433, USA, fax 202-522-2422, e-mail [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

ISBN 0-8213-5041-2  
ISBN 92-2-112711-7

### **Library of Congress Cataloging-in-Publication Data**

Social reinsurance : a new approach to sustainable community health financing / David M. Dror and Alexander S. Preker, editors.

p.cm.

ISBN 0-8213-5041-2

1. Community health services--Developing countries--Finance. 2. Medical economics--Developing countries. 3. Reinsurance--Developing countries. I. Dror, David M. II. Preker, Alexander S., 1951-

RA410.5.S63 2002  
362.1'2'091724--dc21

2002025883

# Contents

Foreword	xiii
Acknowledgments	xv
Abbreviations and Acronyms	xix
<b>Introduction</b>	<b>1</b>
Definition of Community-Based Health Financing	2
Objective and Scope of this Volume	3
Target Audience	3
Background to Research	4
Roadmap for Volume	4
Conclusions	16
<b>PART 1 DEVELOPMENT CHALLENGES IN HEALTH CARE FINANCING</b>	<b>19</b>
<b>1. Rich-Poor Differences in Health Care Financing</b>	<b>21</b>
<i>Alexander S. Preker, Jack Langenbrunner, and Melitta Jakab</i>	
Achieving Financial Protection against the Cost of Illness	21
Exclusion of Low-Income Rural Populations and Informal Workers	22
Understanding the Origins of Rich-Poor Differences in Health Care Financing	23
Key Obstacles in Extending Financial Protection through Formal Arrangements	26
<b>2. The Role of Communities in Combating Social Exclusion</b>	<b>37</b>
<i>David M. Dror, Alexander S. Preker, and Melitta Jakab</i>	
Origins of Social Exclusion from Formal Health Care Financing	37
Role of Communities in Providing Financial Protection against Illness	44
Recent Evidence of Communities' Role in Combating Social Exclusion	49
Conclusions	51

<b>PART 2 INSURANCE, MICROINSURANCE, AND REINSURANCE</b>	<b>57</b>
<b>3. Introduction to Insurance and Reinsurance Coverage</b>	<b>59</b>
<i>J. François Outreville</i>	
What Does Reinsurance Do?	59
What Are the Traditional Reinsurance Methods?	61
What Is Nontraditional (Financial) Reinsurance?	65
What Principles Govern a Reinsurance Program?	66
What Do Community-Based Health Insurance Funds Need?	69
How Does a Reinsurance Program Work?	71
Summary	73
<b>4. From Microfinance to Micro Health Insurance</b>	<b>75</b>
<i>Bernd Balkenhol and Craig Churchill</i>	
The Evolution of Microfinance	75
Understanding Microfinance Today	79
Microfinance Subsidies	87
Microinsurance as Part of Microfinance	90
Some Lessons for Microinsurance	93
Conclusions	100
<b>5. Health Insurance and Reinsurance at the Community Level</b>	<b>103</b>
<i>David M. Dror</i>	
Insurance	103
Reinsurance of Health Insurance for the Informal Sector	108
<b>6. To Insure or Not to Insure? Reflections on the Limits of Insurability</b>	<b>125</b>
<i>Michel Vaté and David M. Dror</i>	
The Problem of Insurability	126
Multiplying Criteria or Dividing the Concept	127
Actuarial Limits	129
Economic Limits	132
Political Limits	140
A Practical Delimitation of the Scope of Insurance	141
Conclusions	146
Annex 6A Dual Theory of Risk and the Safety Coefficient	148
<b>7. A Model of Microinsurance and Reinsurance</b>	<b>153</b>
<i>Stéphane Bonnevey, David M. Dror, Gérard Duru, and Michel Lamure</i>	
The Problem	153
The Principles Underlying the Reinsurance Model	156
Formulation of the Model	156
Simulation of the Relationship between Microinsurers and Reinsurer	159
Simulation Results	160
Conclusions	173
Annex 7A A Mathematical Model	174
Annex 7B Calculating the Reinsurance Premium	178

Annex 7C Calculating the Mean Benefit Expenditure and Its Variance	179
Annex 7D Calculating the Effects of Reinsurance	183
<b>8. Local Consensus and Estimates of Medical Risk</b>	<b>187</b>
<i>Jean P. Auray and Robert Fonteneau</i>	
Local Consensus at the Community Level	187
From Consensus to Methodical Estimates	188
Estimating the Probability $p$ of an Unknown Event	189
Estimates Based on Consensual Expert Opinions: NGT or Delphi Methods	192
Estimates Based on Nonconsensual Expert Opinions: “Maximum Likelihood” and Bayesian Methods	195
Conclusions	197
Annex 8A	199
<b>9. Insurance and Market Failure at the Microinsurance Level</b>	<b>203</b>
<i>Axel Weber</i>	
Typical Challenges of Microinsurers	203
Solutions to Typical Challenges of Microinsurers	210
Conclusions	217
Annex 9A Insurance Problem Solving, Selected Countries	218
<b>PART 3 IMPLEMENTATION ISSUES</b>	<b>223</b>
<b>10. Building Capacity and Strengthening Implementation at the Community Level</b>	<b>225</b>
<i>Sara Bennett and George Gotsadze</i>	
Capacity Concepts	226
Experience Designing and Implementing Microinsurance	227
Learning from Experience	233
Building Capacity for Microinsurance Schemes—The Role of Reinsurance	238
Conclusions	240
<b>11. Role of Central Governments in Furthering Social Goals through Microinsurance Units</b>	<b>245</b>
<i>M. Kent Ranson and Sara Bennett</i>	
Conceptual Framework	246
Potential and Actual Mechanisms for Influencing Microinsurance Schemes	250
Summary, Discussion, and Conclusions	259
Annex 11A Five Case Studies	261
<b>12. Regulatory Environment for Microinsurance and Reinsurance</b>	<b>267</b>
<i>Frank G. Feeley</i>	
Basic Regulations that May Apply	268
Additional Regulations that May Apply	272

<b>13. Role of Subsidies in Microinsurance: Closing the “Recovery Gap”</b>	<b>277</b>
<i>Reinhard Busse</i>	
Whence the Recovery Gap?	277
Closing the Recovery Gap: A Model	281
Closing the Recovery Gap: Europe’s Experience	285
Do More Subsidies Mean More Equity?	288
Conclusions	289
<b>14. Linking Ability and Willingness to Contribute to Microinsurance</b>	<b>293</b>
<i>Logan Brenzel and William Newbrander</i>	
The Application of Willingness to Pay to Microinsurance Units	294
The Affordability of Microinsurance Units	297
Willingness to Pay and Reinsurance	298
Conclusions	299
<b>15. Creating a Favorable Market Environment for Microinsurance at the Community Level</b>	<b>303</b>
<i>William Newbrander and Logan Brenzel</i>	
Link between Market Factors and Development of Microinsurance Units	303
Creating a Favorable Environment for Growth in Microinsurance	305
Protection against Financial Insolvency	307
The Need for Reinsurance for Microinsurers	307
Reinsurance Options for Microinsurance Units	307
Possible Formats for Reinsurance for Microinsurance Units	309
Factors Facilitating Reinsurance for Microinsurers	310
<b>16. Minimum Accounting and Statistical Framework</b>	<b>313</b>
<i>David M. Dror</i>	
Data Needs	313
Identification of the Benefit Package and Its Cost	313
Establishing the Income Side	316
Balance between Income and Expenditure	318
Other Information Needed to Calculate Variance	322
General Management Information	322
Data Template	323
Conclusions	324
<b>PART 4 TOWARD A REINSURANCE PILOT IN THE PHILIPPINES</b>	<b>327</b>
<b>17. Social Health Insurance in the Philippines: A Review of the Context</b>	<b>329</b>
<i>Jonathan Flavier, M.D., Elmer S. Soriano, M.D., and Anne Nicolay</i>	
Health Care Delivery	330
Health Services Financing and Spending	333

Health Insurance	335
Household Income, Ability to Pay, and Health Expenditures	336
The Community-Based Health Care Organization Market	338
CBHCOs: What Type of Partnership in Health Care Financing and Delivery?	338
Selected Survey Results	340
Risks and Opportunities	346
Conclusions	348
<b>18. Epidemiological Data on Health Risks in the Philippines</b>	<b>353</b>
<i>Jeannie Haggerty and Tracey Reid</i>	
The Contribution of Epidemiology	353
First Impressions: Demographics	356
Profiling Health Needs: The Epidemiological Snapshot	358
Profiling Future Health Needs: Health Risk Factors	370
Predicting Health Care Demand at the Local Level	371
Conclusions	373
<b>19. Attitudes toward Solidarity, Risk, and Insurance in the Rural Philippines</b>	<b>377</b>
<i>Elmer S. Soriano, M.D., David M. Dror, Erwin Alampay, and Yolanda Bayugo</i>	
A Brief Overview of Philippine Social History	379
Salient Cultural Traits	380
Perspectives on Organizational Behavior in Microinsurance Units	381
Evidence from Philippine Rural Microinsurers	385
Spiral Evolution of Microinsurers	387
Sectoral Cultures and Risk	388
Stakeholder Interest and Risk	388
Conclusions	390
<b>20. Structuring Demand and Supply in Community Health in Philippine Insurance</b>	<b>395</b>
<i>Avi Kupferman and Aviva Ron</i>	
Environment Conducive to Microinsurance Development	396
Demand Issues Linked to the Target Population	401
Demand Issues Linked to Scheme Design	404
Supply Factors	406
Conclusions	408
<b>21. Actuarial Assessment of the ORT Health Plus Scheme in the Philippines</b>	<b>413</b>
<i>Hiroshi Yamabana</i>	
Coverage	413
Medical Facilities and Personnel	413
Benefits	414
Financing	414

Economic and Demographic Context	415
Financial and Actuarial Assessment of the Scheme	416
Conclusions	420
<b>22. Assessment of Piloting Social Reinsurance in the Philippines</b>	<b>423</b>
<i>Frank G. Feeley, Donato J. Gasparro, and Katherine Snowden</i>	
<i>Social Re: The Concept, the Questions, the Assumptions</i>	423
Method of Analysis	424
Assessing the Market in the Philippines	426
Structuring the Pilot	427
Implementation Plan	429
The Financial Model	431
Scenarios Tested	435
Results	437
Critical Uncertainties and Risks	439
Annex 22A	441
<b>APPENDIXES</b>	
<b>A. <i>Data Template: A Framework for Accounting and Statistics</i></b>	<b>447</b>
<i>David M. Dror and Rakesh Rathi</i>	
The <i>Social Re</i> Project	447
Overview of the <i>Data Template: Options and Navigation</i>	448
How the <i>Data Template</i> Works	456
Platform	457
<b>B. <i>Toolkit Users' Manual</i></b>	<b>459</b>
<i>Stéphane Bonnevey, Gérard Duru, and Michel Lamure</i>	
How to Launch a Simulation	459
Displaying the Results	461
An Interactive Window	462
<b>C. <i>Glossary of Terms</i></b>	<b>465</b>
Glossary of Terms, General	465
Glossary of Terms, <i>Data Template</i>	481
Sources	484
<b>About the Coeditors and Contributors</b>	<b>487</b>
The Coeditors	487
The Contributors	487
<b>INDEX</b>	<b>495</b>



**BOXES**

1.1	Flow of Funds through the Health System	26
1.2	Different Approaches to Sharing Risks	31
1.3	What To Buy Using Public Funds, in Which Form, How Much to Buy, and How to Pay for It?	33
3.1	The World Reinsurance Market	73
4.1	Why Don't Commercial Insurers Serve the Low-Income Market?	76
4.2	Charging the Poor High Interest Rates?	79
4.3	The Role of Donors in Expanding Microinsurance	87
4.4	Micro Care: Using a Partner-Agent Model to Deliver Health Insurance	91
4.5	Cambodia: Should Microfinance Institutions Offer Health Insurance?	95
4.6	Lessons for Reinsurance from Microfinance Guarantee Schemes	96
4.7	Integrating Insurance with Other Financial Services	97
8.1	Getting a Confidence Interval When $k = 0$	192
8.2	NGT or Delphi Methods	195
8.3	Nonconsensual Methods	196
8.4	Beta Distribution	198
9.1	How Do Microinsurers Deal with Classical Insurance Problems?	211
10.1	Georgia: Situational Analyses for Rural Schemes	228
10.2	Rwanda: Monitoring and Evaluation in a Pilot Microinsurance Scheme	235
11.1	Guinea-Bissau: Participant Responsibilities	253
13.1	Calculating a Microinsurer's Premium or Contribution Rate	278
16.1	Finding the Most Suitable Composition for the Benefit Package	320
17.1	The Value of the Philippine Peso	330
17.2	Need versus Demand for Hospitals	332
17.3	Doctors per Capita—Income Related?	332
17.4	Insuring Prevalent Risks	335
17.5	Group Size Affects Benefit Package	340
17.6	Information: (Almost) as Important as Money	346
22.1	Regulatory Considerations	433

**FIGURES**

1.1	Spending and Risk-Sharing Arrangements	23
1.2	Determinants of Outcome: Health and Financial Protection	25
1.3	Low-Income Countries Have Weak Capacity to Raise Revenues	28
1.4	Revenue Pooling Equalizes Inequities	30
1.5	Cost-Risk Concentration Curve	32
2.1	Schematic Description: Interaction of Needs, Demand, and Supply	38
2.2	Subsidizing Supply	40
2.3	Subsidizing Demand	40
2.4	Enhancing Overlap	40

2.5	Pro-Rich Bias of Public Subsidies	41
4.1	NHHP/FINCA Uganda Health Financing Product	92
5.1	Group Size Affects Distribution	111
5.2	Variance of Claim and Group Size	112
5.3	Distribution of Unit Costs	113
5.4	Impact of Error in Estimating Risk	114
5.5	Reinsurance Compared with Higher Contributions	116
6.1	Insurability Analysis Grid	128
6.2	Safety Coefficient $\beta$ and Number of Insureds	134
6.3	Safety Loading Rate $\alpha$ and Number of Insureds	135
6.4	Cost/Benefit of Insurance	136
6.5	Truncated Elasticity and Other Cases	138
6.6	Factors Contributing to Insurability	142
6.7	Dual Theory of Risk	149
7.1	The Dual Advantage of Reinsurance	155
7.2	Risk of Insolvency as a Function of Available Resources	160
7.3A	Failure Rate of Microinsurance Units	162
7.3B	Bankruptcy Rate of Microinsurance Units with and without Reinsurance	162
7.4	Levels of Reinsurance Premium Securing 95 Percent Survival of Reinsurer	163
7.5	Effect of Group Size on Premium	164
7.6	Reinsurance Premiums for a Heterogeneous Pool of Microinsurers	166
7.7	Comparison of the Premium to the Safety Margin	167
7.8	Discretionary Budget	168
7.9A	Reinsurer's Balance, Pool of Five Microinsurers	170
7.9B	Reinsurer's Balance, Pool of 20 Microinsurers	170
7.10	Reinsurer's Solvency	171
7.11	Subsidy Needed to Limit the Premium to $\Omega = 0.5$	172
10.1	Key Steps in Designing and Implementing Microinsurance Schemes	226
11.1	Government Goals for Microinsurers, Obstacles to Achieving Them, and Corrective Mechanisms	247
13.1	Tax Subsidies in Dutch Social Health Insurance, 1980–2000	282
13.2	Role of Taxes and Tax-Financed Subsidies in Financial Flows under Social Health Insurance or in Community-Financed Microinsurance Units	283
14.1	Factors Affecting Contributions to Microinsurance Units	294
16.1	Average and Specific Risk Profiles	315
16.2	Inpatient Admission, 1997–2000	315
16.3	ORT Membership Information	317
16.4	Contributions and Expenditure	319
16.5	Alternative Composition of Benefit Package	321
17.1A	Correlating Physicians and Income (without CAR and NCR)	333
17.1B	Correlating Physicians and Income (Provinces and Manila)	333

17.2	Health Expenditure, by Use of Funds, 1999	334
17.3	Health Expenditure, by Source of Funding, 1999	335
18.1	Philippines: Population Pyramid, 1998	357
19.1	Stages and Alternatives in Development of Consciousness in Microinsurance Units	390
21.1	Income/Expenditure Balance and Reserves	419
22.1	Funding Needs of <i>Social Re</i>	439
A.1	Screen 1	448
A.2	Screen 2	449
A.3	Screen 3	450
A.4	Screen 4	453
A.5	Screen 5	454
A.6	Screen 6	455
B.1	Window 1	460
B.2	Window 2	460
B.3	Window 3	461
B.4	Window 4	463
B.5	Window 5	463

## TABLES

2.1	Conceptual Underpinnings of Community-Financing Schemes	46
3.1	The Functions of Reinsurance	67
3.2	Community Health Insurance and the Four Functions of Reinsurance	69
4.1	Typology of Microfinance Institutions	83
4.2	Performance Indicators for Microfinance Institutions, by Size and Region	84
6.1	“External” Risk Analysis	143
6.2	Public Interventions and Their Effect on Insurable Risks	145
7.1	Reinsurance Results under Two Scenarios	158
7.2	Microinsurers’ Characteristics in the Simulation	165
7.3	Distribution of the Benefit Cost	165
7.4	Premium and Discretionary Budget for Different Microinsurers	168
8A.1	Table of Critical Values $\pi(\alpha, n)$	199
10.1	Common Design Shortcomings and Their Results	229
10.2	Rwanda: Use of Management Tools and Systems Employed	231
10.3	Ghana: Proposed Indicators for Monitoring Mutual Health Organizations	236
10.4	Objectives and Methods Employed by Three “Typical” Evaluations	237
10.5	Financial Instability and Capacity Constraints	238
11.1	Government Mechanisms in Use	251
13.1	Tax Financing in West European Social Health Insurance Systems, 1999–2000	287
17.1	Household Income, 1998	337

**xii Contents**

17.2	Family Out-of-Pocket Health Expenditures, 1994	337
17.3	Benefit Packages	341
18.1	Philippines: Key Demographic Trends, 1970–99	358
18.2	Philippines: Deaths from and Cases of AIDS, 1996	359
18.3	Philippines: Trend of Five Leading Causes of Mortality, 1975–95	361
18.4	Philippines: Ten Leading Causes of Morbidity, 1999	365
18.5	Tarlac Health Maintenance Plan, Philippines: 13 Leading Causes of Morbidity, Outpatients and Inpatients, September to December 1999	367
18.6	Variables Commonly Used for Regression Modeling of Health Care Demand	372
19.1	Microinsurers' Spiral Learning Process	387
22A.1	Cost Factors Used on Financial Model	441
22A.2	Salary Schedule for Manila Office	444

## Foreword

**A**ction to improve health and facilitate access to health care is important for individual well-being and national economic performance. But paying for health care is problematic. Equally vital elements of well-being, such as food, are paid through out-of-pocket payments. But that approach does not work well for health care. Unlike food, it is needed unpredictably and can be very expensive. On the face of it, the solution is private insurance. But this approach, too, does not work well because major information problems make individually risk-rated private insurance inefficient, expensive, and unable to cover all medical risks. The U.S. system, substantially reliant on private medical insurance, faces problems that are entirely predicted by economic theory.

All other advanced industrial countries finance health care out of a mixture of (limited) out-of-pocket payments, together with funding through social insurance, and taxation, or from a mixture of the two. Neither approach is perfect. Systems with taxpayer funding of publicly produced health care can be slow to innovate and to respond to consumer preferences; systems based on social insurance combined with private production face continual upward pressures on medical spending. Yet either is capable of delivering a reasonable combination of quality, access, and cost containment.

What, however, of poorer countries with limited (or minimal) fiscal and institutional capacity? Public budgets in such countries cannot afford more than minimal health care systems; and individually risk-rated insurance is likely to face even more problems than in the West because of the limited regulatory ability of government. As a result, when illness strikes, the poor—and especially the rural poor and people working in the informal economy—have to rely on private resources to pay for health care. For poorer people in low-income countries, out-of-pocket expenditure on health care can reach 80 percent of total medical spending, and a recent study of hospital visits in India showed that between one-third and one-half of patients needing inpatient care became impoverished because of inadequate risk management techniques.

Enter Dror, Preker, and their coauthors! This volume discusses community-based approaches to insuring people against medical risk—not based on individual risk rating like private insurance, but along the lines of decentralized social insurance based on the average risk. Recent studies of community savings, loans,

and financing schemes show how even the poor can insure themselves against unexpected events. Community-level health insurance programs improve access to essential drugs, primary care, and basic hospital care for rural populations and informal sector workers, offering at least some protection against the impoverishing effects of illness.

Tapping into experience from other sectors, the authors argue that subsidies can be used more effectively to expand insurance coverage, and that reinsurance can improve the financial viability of community-financed health schemes in settings where larger or more formal health financing mechanisms fail to reach large parts of the population. Reinsurance makes it possible to spread and transfer medical risks previously regarded as common shocks (and hence, uninsurable), such as environmental hazards (risks of pollution), earthquakes, meteorological and electrical storms, and retroactive coverage of asbestos damage.

The authors suggest that reinsurance techniques could also be used to improve the viability of small risk pools typical of community health financing schemes. This is an innovative application to the health sector and to poor populations of lessons learned from other sectors.

This book shows how the underlying idea of social insurance can be made operational in countries without the capacity to finance or organize large-scale systems, thus making it possible to improve access to health care for poor people in poor countries. There is no need to belabor the importance of the topic.

Nicholas Barr  
Professor of Public Economics  
London School of Economics  
June 2002

## Acknowledgments

**P**roduction of this book was supported by a World Bank Development Marketplace 2000 Award ([www.DevelopmentMarketplace.org/html/report118.html](http://www.DevelopmentMarketplace.org/html/report118.html)). The International Labour Office (ILO) provided additional funding.

The editors and authors are grateful to Eduardo Doryan (currently Special Representative of the World Bank to the United Nations in New York), who acted as sponsor for the Social Re Development Marketplace 2000 Project, and to Charlie Griffin (currently Director Human Development South Asia), who acted as adviser for the project. Valuable support was also provided by Assane Diop (Executive Director, Social Protection Sector, ILO), Christopher Lovelace (Director for Health, Nutrition and Population at the World Bank) and Michael Cichon (Chief, Financial, Actuarial and Statistical Branch, Social Protection Sector, ILO).

The following individuals contributed directly to the book: *Erwin Alampay* (Institute of Public Health Management Manila, and professor at the University of the Philippines National College of Public Administration and Governance); *Jean-Paul Auray* (director of the Laboratoire d'Analyse des Systèmes de Santé, UMR-5823 of CNRS, University of Lyon 1 Claude-Bernard, France); *Bernd Balkenhol* (Director of Social Finance Programme, ILO); *Yolanda Bayugo* (Institute of Public Health Management Manila, and consultant on provincial health systems in Cambodia); *Sara Bennett* (senior research adviser, Partners for Health Reform, and lecturer on Health Economics and Financing, London School of Hygiene and Tropical Medicine); *Stéphane Bonnevey* (research fellow, MA2D Group, Laboratoire d'Analyse des Systèmes de Santé University of Lyon 1 Claude-Bernard, France); *Logan Brenzel* (senior program associate/health economist, Management Science for Health); *Reinhard Busse* (professor and department head for health care management at Technische Universität Berlin, and until April 2002, head of the Madrid hub of the European Observatory on Health Care Systems); *Craig Churchill* (Social Finance Programme, ILO, Geneva, and formerly director of research and policy at Calmeadow); *Gérard Duru* (professor of mathematics and econometrics at University of Lyon 1 Claude-Bernard, France); *Frank G. Feeley* (clinical associate professor, Boston University School of Public Health); *Jonathan Flavier*, (a community-based health specialist, Philippine Rural Reconstruction Movement); *Robert Fonteneau* (senior specialist, Caisse Nationale d'Assurance Maladie, Paris, detailed to the Social Protection Sector, ILO); *Donato J.*

*Gasparro* (president of NiiS/APEX Consulting Group, N.J.); *George Gotsadze* (director, Curatio International Foundation, Tbilisi, Georgia); *Jeannie Haggerty* (professor in the Départements de Médecine familiale and Médecine sociale et préventive at the Université de Montréal); *Melitta Jakab* (was a researcher, Human Development Network, the World Bank, Washington, D.C., currently completing a Ph.D. in health economics at Harvard University); *Avi Kupferma* (country director, then regional director, of ORT-Asia, a branch of the World ORT Union, an international nongovernmental organization); *Michel Lamure* (professor of computer sciences [informatics] and applied mathematics, University of Lyon 1 Claude-Bernard, France); *Jack Langenbrunner* (senior economist, the World Bank, Washington, D.C. ); *William Newbrander* (director, MSH's Center for Health Reform and Financing); *Anne Nicolay* (adviser of the "Social Health Insurance" component [formerly the SHINE Project] of the German Support to the Philippine Health Sector); *J. François Outreville* (Executive Secretary, United Nations Staff Mutual Insurance Society, Geneva, and previously with the United Nations Conference on Trade and Development (UNCTAD) and Associate Professor of Finance and Insurance at Laval University, Quebec); *M. Kent Ranson* (research consultant at SEWA Social Security in Ahmedabad, Gujarat); *Rakesh Rathi* (IT Systems Manager, World Health Organization [WHO], Geneva); *Tracey Reid* (epidemiological research specialist, University of Montreal); *Aviva Ron* (until July 2002, director, Health Sector Development, World Health Organization, Western Pacific Regional Office, Manila, and previously with the WHO International Cooperation Office, Geneva, and the ILO's South-East Asia and Pacific Multidisciplinary Advisory Team [SEAPAT], based in Manila); *Elmer S. Soriano* (Institute of Public Health Management, Manila); *Katherine Snowden* (senior consultant, Third Sector New England, Boston); *Michel Vaté* (professor of economics, IEP Lyon, Université Lumière Lyon 2, France); *Axel Weber* (social protection specialist, the Asian Development Bank, and previously an independent consultant in health insurance and social protection); *Hiroshi Yamabana* (actuary in the Financial, Actuarial, and Statistical Services Branch, ILO, Geneva). Our thanks go to all.

Valuable guidance on methodological issues was provided by Dyna Arhin, Cris Atim, Cristian Baeza, Clive Bailey, Alejandro Bonilla, Krzysztof Hagemeyer, Guido (Guy) Carrin, Michael Cichon, Lucy Firth, Robert Fonteneau, Wouter van Ginneken, Charles Griffin, Patrick Goergen, Soledad A. Hernando, Jürgen Hohmann, Christian Jacquier, Ruth Koren, Joe Kutzin, Ivan Lavallée, Volker Leienbach, Marilyn E. Lorenzo, Wendy K. Mariner, Michael McCord, Anne Mills, Christian Mumenthaler, Phillip A Musgrove, Nicolas Nicoloyannis, Manuel L. Ortega, Jean François Outreville, John W. Peabody, Dominique Peccoud, Joyce Pickering, Benito Reverente, Emmanuel Reynaud, George Schieber, Paul Siegel, Nicole Tapay, Nancy Turnbull, Daniel Tounissoux, Madeleine R. Valera and David Wilson

The authors of the book are grateful for the access provided to parallel and ongoing research on community financing by the World Bank, World Health Organization, and International Labour Office, with important inputs from Harvard University, London School of Hygiene and Tropical Medicine, London School of Economics and Political Science, Laboratoire d'Analyse des Systèmes de



Santé, University of Lyon 1 Claude-Bernard, France, Abt Associates Inc. (Partnerships for Health Reform USA), MSH, Institute for Public Health Management, Manila Philippines, University of Philippines-Manila, College of Public Health and National Institute of Health Policy (Manila), GTZ-SHINE project (Manila, Philippines), ORT Health Plus Scheme (La Union, Philippines), Tarlac HMO (Tarlac Philippines) and Kisiizi Mission Hospital (Kisiizi, Uganda).

Several participants in two meetings, one held in Geneva and the other in Washington, D.C., to review earlier drafts of this book have also provided insights and many pertinent questions. The editors are indebted to these anonymous contributors as well.

Kathleen A. Lynch provided valuable assistance in editing the manuscript. Mariko Ouchi provided research and administrative assistance. Catherine Atnony, Margaret Antosik, Dominique Blanvillain, Mary Hall, and Naz Mowlana provided essential and much appreciated secretarial and administrative support. Last but not least, Noam and Emma Braslavsky designed the book cover, the logo, and our website (<http://www.ilo.org/socialre>). Thanks to all.

David M. Dror and Alexander S. Preker,  
Editors



## Abbreviations and Acronyms

ACDECO	Angono Credit and Development Cooperative, the Philippines
ART	Alternative risk transfer
ASA	Association for Social Advancement
ATP	Ability to pay
BAHAO	Barangay Health Workers Aid Organization, the Philippines
BRAC	Bangladesh Rural Advancement Committee
BRI	Bank Rakyat Indonesia
BSMPC	Bagong Silang Multi-Purpose Cooperative, the Philippines
CBHCO	Community-based health care organization
CBO	Community-based organization
CGE	Cost-generating event
DALE	Disability-adjusted life expectancy
DfID	Department for International Development (United Kingdom)
DHS	Demographic health surveys
DOH	Department of health
FR	Finite-risk reinsurance
GDN	Global Development Network
GDP	Gross domestic product
GNP	Gross national product
GRDP	Gross regional domestic product
GTZ	German Technical Corporation
HDI	Human Development Index
HMO	Health maintenance organization
IEC	Information, education, and communication
ILC	International Labour Conference
ILO	International Labour Organization
IMR	Infant mortality rate
ITRMC	Illocos Training and Regional Medical Centre, the Philippines
LGU	Local government unit (the Philippines)
M&E	Monitoring and evaluation
MIU	Microinsurance unit
MFI	Microfinance institution
MGA	Mutual guarantee association

MLE	Maximum likelihood estimator
MMG	Medical Mission Group Hospital and Health Services Cooperative, the Philippines
MMR	Maternal mortality rate
MOH	Ministry of health
NATCCO	National Confederation of Cooperatives, the Philippines
NBFI	Nonbank financial institution
NCR	National capital region, the Philippines
NDHS	National Demographic and Health Survey
NESSS	National Epidemic Sentinel Surveillance System
NGO	Nongovernmental organization
NGT	Nominal group techniques
NHIP	National Health Insurance Program
NHS	National Health Services
OECD	Organisation for Economic Co-operation and Development
OHPS	ORT Health Plus Scheme, Philippines
ORT	Organization for Educational Resources and Training, the Philippines
PHIC	Philippines Health Insurance Corporation (PhilHealth)
PO	People's organization
PPC	Physicians per capita
ROSCA	Rotating savings and credit associations
RC	Risk characteristics
SEWA	Self-Employed Women's Association, India
SHINE	Social Health Insurance Networking and Empowerment, the Philippines
SSS	Social Security System, the Philippines
STEP	Strategies and Tools against Social Exclusion and Poverty, ILO
SU	Social utility
U.N.	United Nations
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
U5MR	Under-five mortality rate
WHO	World Health Organization
WTP	Willingness to pay