

The 10/90 Report on Health Research 2000

Overview of the Global Forum

Complementary approaches for priority setting

Progress in methodological issues

Priority areas in health research

Advances in selected priority areas

Progress in initiatives

Capacity development

This report was prepared by the Secretariat of the Global Forum for Health Research on the basis of the presentations and discussions at Forum 3, held in June 1999 in Geneva, and on the basis of the work of the Global Forum and its partners during 1999. The Secretariat alone is responsible for the views expressed.

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Global Forum for Health Research

Global spending on health research by both the public and private sectors amounts to about US\$56 billion per year (1992 estimate). However, less than 10% of this is devoted to diseases or conditions that account for 90% of the global disease burden. The human and economic costs of such misallocation of resources are enormous. The central objective of the Global Forum for Health Research is to help correct the 10/90 gap and focus research efforts on the health problems of the poor by improving the allocation of research funds and by facilitating collaboration among partners in both the public and private sectors.

The Global Forum for Health Research is an international foundation managed by a Foundation Council, representing the partners of the Global Forum, assisted by a Strategic and Technical Advisory Committee (see the Statutes, Annex 1).

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In particular, the Report builds upon the papers and discussions of Forum 3 of the Global Forum for Health Research held in Geneva in June 1999. A list of these papers and their authors appears in Annex 2 (Agenda for Forum 3, 8-10 June 1999). We at the Secretariat of the Global Forum take this opportunity to thank all the authors and all the participants in Forum 3 for their valuable contributions to making progress on the road to improving the 10/90 gap.

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Contents

Global Forum for Health Research: Foundation Council, Strategic and Technical Advisory Committee, Secretariat.....	iii
Acknowledgements	iv
List of Inserts	vii
Glossary	ix
Abbreviations and acronyms.....	xi
Executive Summary	xiii
Chapter 1 <i>The Global Forum for Health Research: an overview</i>	1
Section 1 The central problem in health research: the 10/90 gap	3
Section 2 Creation, objectives and strategies of the Global Forum for Health Research.....	5
Section 3 Review of the main Global Forum activities in 1998-99 and prospects for 2000-2001.....	7
Section 4 Global Forum policies on cross-sectoral issues.....	11
Section 5 The role of the Global Forum in overall health research governance.....	12
Chapter 2 <i>Complementary approaches for priority setting in health research: review and perspectives</i>.....	17
Section 1 Deficiencies in priority setting.....	19
Section 2 The approach of the Commission on Health Research for Development: Essential National Health Research (ENHR).....	20
Section 3 The approach of the Ad Hoc Committee on Health Research: the Five-Step Process.....	28
Section 4 The approach of the Advisory Committee on Health Research (ACHR): the Visual Health Information Profile.....	30
Section 5 Comparison of the ENHR, Ad Hoc Committee and ACHR approaches.....	32
Section 6 The Combined Approach proposed by the Global Forum.....	37
Section 7 Perspectives for 2000-2001.....	39
Chapter 3 <i>Progress in methodological issues</i>.....	43
Section 1 Monitoring resource flows and priorities for health R&D.....	46
Section 2 Burden of disease and analysis of health determinants.....	51
Section 3 Cost-effectiveness analysis and methods to assist resource allocation.....	60

Chapter 4	<i>Priority areas in health research</i>	63
Section 1	Burden of disease 1998 in low- and middle-income and in high-income countries	66
Section 2	Recommendation of priority research areas from various approaches.....	70
Section 3	Poverty and health research	71
Chapter 5	<i>Advances in selected priority areas</i>	75
Section 1	Child health, communicable diseases and perinatal conditions.....	77
Section 2	Reproductive health: the burden and challenges	81
Section 3	Noncommunicable conditions: mental health and neurological disorders in developing countries	87
Section 4	Road traffic injuries and childhood injuries in developing countries.....	89
Chapter 6	<i>Progress in initiatives</i>	93
Section 1	Alliance for Health Policy and Systems Research.....	95
Section 2	Global Tuberculosis Research Initiative.....	98
Section 3	Initiative on Cardiovascular Health in Developing Countries.....	101
Section 4	Medicines for Malaria Venture.....	109
Section 5	Violence against Women	116
Section 6	Child Health and Nutrition Research Initiative.....	120
Section 7	The availability and accessibility of drugs and vaccines for the poor: the role of the Public/Private Partnerships Initiative	122
Chapter 7	<i>Capacity development for health research</i>	131
Section 1	What is research capacity development?	134
Section 2	Pre-conditions for success.....	135
Section 3	Progress made in 1999.....	136
Section 4	The rationale for research capacity building.....	142
Section 5	Research capacity for what?.....	142
Section 6	Research capacity for whom?	143
Section 7	Assessing the outcomes of research capacity development.....	143
Section 8	The future	146
Annex 1	<i>Statutes of the Global Forum for Health Research</i>	147
Annex 2	<i>Agenda of Forum 3 (June 1999): Attacking the 10/90 Disequilibrium in Health Research</i>	151

List of Inserts

- Insert 1.1 Global estimates of disease burden for major diseases in 1998 and 2020
- Insert 1.2 Burden of disease due to selected risk factors, 1995
- Insert 1.3 A possible framework for overall health research governance
- Insert 2.1 ENHR: the case of Tanzania, 1999
- Insert 2.2 ENHR: the case of Indonesia, 2000-2005
- Insert 2.3 ENHR: the case of South Africa
- Insert 2.4 Analysing the burden of a health problem to identify research needs
- Insert 2.5 Visual Health Information Profile: Tunisia 1966-94
- Insert 2.6 Comparison of various priority-setting approaches
- Insert 2.7 The Combined Approach: a practical framework for setting priorities in health research

- Insert 3.1 Summary data fields for the database on health R&D expenditures
- Insert 3.2 The Latin American experience: a regional example of resource flows monitoring
- Insert 3.3 Country studies on burden of disease partially or wholly supported by the Global Forum for Health Research
- Insert 3.4 Cost-effectiveness study on health interventions to prevent work injuries in the metal-working industry, conducted by the Mexican Institute of Social Security

- Insert 4.1a Population and burden of disease by country income level in 1998
- Insert 4.1b Rate of burden of disease by disease group and by country income level in 1998
- Insert 4.2 Disease burden by country income level
- Insert 4.3 A comparison of the main diseases and conditions identified as research priorities by various approaches

- Insert 5.1 Recommendations for integrating pregnancy and HIV transmission research interventions
- Insert 5.2 Epilepsy – risks, obstacles and opportunities for interventions: application of the five steps for priority setting
- Insert 5.3 Burden of road traffic injuries in Latin America and the Caribbean
- Insert 6.1 Members of the Alliance Board
- Insert 6.2 Contribution of CVD to DALY loss
- Insert 6.3 Global mortality by cause and sex: CVD estimates for 1998
- Insert 6.4 Mortality due to CVD in high-income and low- and middle-income countries: estimates for 1998

- Insert 6.5 Members of the CVD Partnership Council
- Insert 6.6 Tobacco control research
- Insert 6.7 Roll Back Malaria
- Insert 6.8 Multilateral Initiative for Malaria in Africa
- Insert 6.9 Consultation on child abuse prevention

- Insert 6.10** “Push” and “pull” interventions to promote the discovery/development of drugs and vaccines
- Insert 6.11** Public interventions addressing product quality, rational selection, appropriate supply and use of products by poorer populations
- Insert 6.12** Examples of existing public/private partnerships to improve access to drugs and vaccines by poorer populations
- Insert 7.1** Outcomes of research capacity development efforts
- Insert 7.2** Research capacity building in developing countries is cost effective and relevant to national needs: the experience of HRP
- Insert 7.3** Assessment of TDR’s research capability strengthening, 1990-97
- Insert 7.4** Evaluation criteria and potential indicators for research capability strengthening in disease-endemic developing countries

Glossary

10/90 GAP: less than 10% of global spending on health research is devoted to diseases or conditions that account for 90% of the global disease burden.

ANALYTICAL WORK: studies of narrow or broad dimension designed to enlighten an issue in the field of priority setting. The Global Forum currently focuses on burden of disease and health determinants, cost-effectiveness analyses, analysis of resource flows, priority-setting methods and monitoring progress in correcting the 10/90 gap.

BURDEN OF DISEASE: an indicator that quantifies the loss of healthy life from disease and injury.

COST-EFFECTIVENESS (of a health research intervention): analysis of the net gain in health or reduction in disease burden resulting from a health intervention in relation to the cost of the research which permitted the discovery and development of that intervention. Cost-effectiveness analysis helps identify interventions that are likely to produce the greatest improvements in health status for the available resources.

DALY: Disability-Adjusted Life Year, an indicator developed for the calculation of disease burden which quantifies, in a single indicator, time lost due to premature death with time lived with a disability.

DOUBLE BURDEN: an epidemic of noncommunicable diseases coupled with the continuing problem of infectious diseases, malnutrition and maternal mortality.

EXTERNALITY: a factor that is not taken into account in the decision-making process of any institution or individual but that has important positive or negative effects on the community as a whole.

FIVE-STEP PROCESS: a practical framework for priority setting developed by the Ad Hoc Committee on Health Research (see Chapter 2, section 3).

FORUM: the annual meeting of the Global Forum for Health Research. Forum 4 is incorporated into the International Conference on Health Research for Development, Bangkok, October 2000. Forum 5 will be held in Geneva on 9-12 October 2001.

GLOBAL PUBLIC GOOD: a public good with benefits that are strongly universal in terms of countries (covering more than one group of countries), people (accruing to several, preferably all, population groups) and generations (extending to both current and future generations without foreclosing development options for future generations).

INITIATIVES: projects that bring together a wide range of partners, both institutionally and geographically, in a concerted effort to find solutions to key health problems of such magnitude that they are beyond the capacity of any single institution to resolve and require the concerted efforts of a coalition of partners.

LIFE-CYCLE APPROACH: examination of adult disease through the study of maternal and childhood risk factors (biological, social and environmental).

ORPHAN DISEASE: disease accounting for high burden, for which interventions are limited and not commensurate with the disease burden.

PRIORITY SETTING: process by which policy-makers rank health problems and research topics by order of priority and hence the allocation of funds.

RESEARCH CAPACITY DEVELOPMENT: the process by which individuals, organizations, institutions and societies develop abilities (individually and collectively) to perform functions effectively, efficiently and in a sustainable manner to solve problems.

RESOURCE FLOWS: total funds invested in health research by public or private sources.

UNFINISHED AGENDA: the remaining burden of childhood infectious diseases, poor maternal and perinatal health and malnutrition that has been targeted for completion.



Abbreviations and acronyms

ACHR	Advisory Committee on Health Research
CIOMS	Council for International Organizations of Medical Sciences
COHRED	Council on Health Research for Development
CVD	Cardiovascular disease
DALE	Disability-adjusted life expectancy
DALY	Disability-adjusted life year
DOTS	Directly observed treatment short course (TB)
EIP	Evidence and Information for Policy (Cluster within WHO)
ENHR	Essential National Health Research
EPI	Expanded Programme on Immunization (immunization against diphtheria, pertussis, tetanus, poliomyelitis, measles and tuberculosis)
GAVI	Global Alliance for Vaccines and Immunization
GBD	Global Burden of Disease
GTRI	Global Tuberculosis Research Initiative
HALE	Health-adjusted life expectancy
HEALY	Healthy life year
HPSR	Health policy and systems research
HRP	UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction
HSSR	Health systems and services research
IAVI	International AIDS Vaccine Initiative
IBDN	International Burden of Disease Network
IDRC	International Development Research Centre, Canada
IFPMA	International Federation of Pharmaceutical Manufacturers' Associations
INCLEN	International Clinical Epidemiology Network
MIM	Multilateral Initiative for Malaria in Africa
MMV	Medicines for Malaria Venture
NCD	Noncommunicable disease
NGO	Non-governmental organization
NIH	National Institutes of Health
OECD	Organization for Economic Cooperation and Development
PAHO	Pan American Health Organization
PPP	Public/private partnership
R&D	Research and development
RCS	Research capability strengthening
SHARED	Scientists for Health and Research for Development
SIDA/SAREC	Swedish International Development Cooperation Agency/ Swedish Agency for Research Cooperation with Developing Countries
STD	Sexually transmitted disease
STRATEC	Strategic and Technical Advisory Committee of the Global Forum for Health Research
TDR	UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases
TFI	The WHO-led Tobacco Free Initiative

UNAIDS	United Nations Joint Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Fund for Population Activities
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
VHIP	Visual Health Information Profile
VINEDE	Virtual Network on Descriptive Epidemiology
WHO	World Health Organization

Executive Summary

Background

Global spending on health research by both the public and private sectors amounts to about US\$56 billion per year (1992 estimate). However, less than 10% of this is devoted to 90% of the world's health problems – a misallocation often referred to as “the 10/90 gap”. For example, it is estimated that pneumonia, diarrhoea, tuberculosis and malaria, which together account for more than 20% of the disease burden in the world, receive less than 1% of the total public and private funds devoted to health research. The human and economic costs of such misallocation of resources are enormous.

The need for global prioritization in health research was first raised in the 1990 Report of the Commission on Health Research for Development, *Health Research: Essential Link to Equity for Development*. This led to the creation in 1994 of the Ad Hoc Committee on Health Research Relating to Future Intervention Options, which published its Report under the auspices of the World Health Organization (WHO) in September 1996. Among the 17 recommendations made by the Committee to help correct the 10/90 gap was the creation of the Global Forum for Health Research.

This took place in June 1997 (Forum 1) with the participation of about 100 institutions, including government policy-makers, WHO, the World Bank, the Rockefeller Foundation, multilateral and bilateral development institutions, research institutions, NGOs involved in health research, women's organizations and private-sector companies. The Secretariat of the Global Forum for Health Research, located at the headquarters of WHO, started its operations in January 1998. In June 1998, the Global Forum for Health Research was registered as a

Foundation, governed by a Foundation Council of 20 members representing the main partners in the Forum.

The 10/90 Report on Health Research 2000 is the second annual report of the Global Forum for Health Research. It describes the progress made by the partners in the Global Forum in the past year to help correct the 10/90 gap by focusing on research activities and initiatives that address health problems of middle and lower income countries and generating funds to support these initiatives. It also describes priorities for the years ahead. Its audience is all those who can help change, in whatever way, the imbalance in the allocation of health research funding: those who fund research, those who set priorities, those who influence decision-making, those who provide information and evidence.

What is new in this year's report, as compared to last year's, is summarized below for each chapter.

Chapter 1: The Global Forum for Health Research: an overview

In its first four sections, chapter 1 summarizes the efforts undertaken in 1998-99 by the Global Forum and its partners and the prospects for 2000-2001 under each of the five strategies adopted by the Global Forum to help correct the 10/90 gap, i.e.:

1. Organization of an annual Forum in which the main actors in the public and private sector interested in improving the allocation of health research funds can discuss past achievements and future actions; Forum 2 and Forum 3 were held respectively in June 1998 and June 1999; Forum 4 is integrated into the International Conference on Health

Research for Development (Bangkok, October 2000); Forum 5 will take place in October 2001 in Geneva.

2. Analytical work in priority setting: the objective is to contribute to the definition of a practical framework for priority setting in health research which could be used at both the global and country level.
3. Launching initiatives bringing together a wide range of partners in a concerted effort to find solutions to priority health problems, thus attracting new financing to these areas.
4. Strengthening communication among Global Forum partners and disseminating information regarding the 10/90 gap.
5. Measuring the results of the actions undertaken: progress will be measured in terms of the contribution of the Global Forum to a more widespread knowledge of the gaps in health research, the priority-setting efforts and the development of initiatives bringing together partners in key areas of health research.

Section 5 attempts to describe the overall health research governance in the world and the role that the Global Forum could play in this context.

Chapter 2: Complementary approaches for priority setting

Chapter 2 draws attention to the fact that, with the same resources, we could achieve a much higher level of health in the world, were we able to reallocate some health research funds from lower to higher priority projects, from projects benefitting the few to those benefitting the large majority of people. Attempts have been made to systematize the approach to setting priorities in health research with the objective of making the

process more transparent and helping decision-makers allocate limited research funds in the most productive way.

The chapter reviews the main efforts undertaken in the past decade to systematize the approach to priority setting in health research:

- “Essential National Health Research (ENHR)” of the Commission on Health Research for Development (1990) and the Task Force on Health Research for Development (1991)
- “Five-Step Process” of the Ad Hoc Committee on Health Research (1996)
- “Visual Health Information Profile” of the Advisory Committee on Health Research (1997).

In particular, it makes a comparison of these methods, indicating their common denominators and main differences with respect to their objective, strategies/principles, criteria used for setting priorities, priority research areas selected and implementation tools.

It concludes that these attempts are not contradictory but complementary and proposes a “combined approach” which is undergoing piloting and testing.

Chapter 3: Progress in methodological issues: resource flows, burden of disease and cost-effectiveness of health research

In order to keep the debate on priority-setting strategies well informed, it is critical to develop and improve the tools to collect information, particularly with respect to resource flows, burden of disease and cost-effectiveness of health research. The Global Forum and its partners work towards improving and continuously developing methods to capture and evaluate information required for setting priorities.

Chapter 3 focuses on progress made in the past year. Given the lack of a standardized method to track global spending on health research, the Global Forum and its partners have started to develop such a system. The chapter reviews progress achieved this year in the design and implementation of a categorization system to link resource flows with disease groups, determinants of health, research on health systems and capacity building.

With respect to burden of disease, the chapter reviews activities by the Global Forum and its partners to help access and capture information from groups working in developing countries on their burden of disease. This activity is considered relevant for helping to improve estimates for the Global Burden of Disease 2000 project and for helping build capacity in developing countries to produce their own standardized data. Issues of measurement of burden of disease are also discussed.

A further area of work described is the progress by partners in the Global Forum in the search for standardized methodologies to study the cost-effectiveness of health interventions in developing countries. This area of work is critical to help compare potential interventions and investments in health research across a wide array of conditions, in view of the lack of information available in developing countries.

Chapter 4: Priority areas in health research

Chapter 4 argues that, in view of the competing priorities for scarce resources, priority setting in health research is as critical as conducting the research itself. A review of figures calculated from WHO's *World Health Report 1999* is presented to depict the impressive differences in health status between high-income and low/middle-

income countries. It concludes that low/middle-income countries account for 85% of the world population but 92% of the global disease burden. By comparison, high-income countries account for 15% of the world population and 8% of the global disease burden.

A second conclusion, based on a comparison of the rates of burden (DALYs per 100,000 population), is equally striking: the rate for noncommunicable diseases is very similar in high- and low/middle-income countries; but the rates for communicable diseases (including maternal, perinatal and nutritional conditions) and injuries are, respectively, thirteen and three times higher in low/middle-income countries than in high-income countries.

In a second section, the chapter focuses on the identification of health research priorities based on the conclusions of the four approaches to priority setting described in Chapter 2. The priority research areas most often mentioned are the following:

- child health and nutrition (including diarrhoea, pneumonia, HIV, TB, malaria, other vaccine-preventable diseases, and malnutrition)
- maternal and reproductive health (including mortality, nutrition, STDs, HIV, family planning)
- noncommunicable diseases (including cardiovascular, mental health and disorders of the nervous system)
- injuries
- health systems and health policy research.

The third section of the chapter identifies poverty as a key determinant of health. The section argues that relevant research areas applicable to poor and non-poor segments of the population should include communicable diseases, noncommunicable diseases and injuries, with priority given to research

projects with the lowest estimated cost per healthy life-year saved.

Chapter 5: Advances in selected priority areas

The Global Forum recommends routine monitoring of progress in priority areas over time. Chapter 5 reviews progress achieved this year in selected areas of research and presents research recommendations for these areas.

The chapter focuses on 'life cycle' issues, including issues of child health, nutrition and reproduction, and on mental health and disorders of the nervous system. Also presented is an example of the application to epilepsy of the priority-setting matrix proposed in Chapter 2.

Finally the chapter refers to road traffic accidents as an important component of injuries in developing countries and draws attention to the need for developing countries to conduct research on the so-called "double burden for the health services" to accommodate issues resulting from the epidemiological transition.

Chapter 6: Progress in initiatives

Global Forum support to initiatives is a key strategy for encouraging multiple partners to join in concerted research efforts to find solutions for priority health problems. These are generally of such magnitude and complexity that no single institution can resolve them alone. The driving force behind the creation of initiatives is the need to generate the necessary evidence base for action and to mobilize new resources for priority areas. The Global Forum has supported a number of initiatives over the past two years. Progress in the following initiatives is described:

Alliance for Health Policy and Systems Research

Health policy and systems research is a neglected area of research particularly in middle- and low-income countries. The manner in which decisions are taken and policies formulated needs further exploration. Similarly the organization of health systems varies considerably between countries. A 1997 conference brought together collaborating partners with interest in promoting health policy and systems research and recommended the creation of an Alliance to develop a knowledge base of policies and systems that work and those that do not as a basis for advocacy. The Global Forum has worked with many partners – particularly WHO, the World Bank, the governments of Norway and Sweden and the International Development Research Centre – to nurture the Alliance through an interim phase until the final location of its Secretariat within WHO in November 1999. The aim of the Alliance is to contribute to health systems development and the equity of health systems through research on and for policy, focusing on five principal tasks:

- mapping and monitoring health policy and systems research efforts worldwide
- contributing to and collaborating in efforts at building sustainable country-level capacity for health policy and systems research
- developing methodologies and tools for comparative analysis of country experiences
- establishing a competitive small grants programme for research on important and neglected areas to inform policy- and decision-makers
- dissemination and systematisation of information concerning results of research.

Global Tuberculosis Research Initiative

This initiative came into existence as a result of the limited impact of existing tools (DOTS) and the absence of alternative/additional tools in the face of increasing resistance to existing drugs. Health systems in countries with high TB prevalence are weak and incapable of supporting control efforts. Finally there was a limited political commitment on the part of these countries as well as funding agencies to control the disease.

The initiative, born in 1998, brought together partners willing to further the above points. The main partners and donors of WHO's Special Programme for Research and Training in Tropical Diseases (TDR) decided in June 1999 to integrate the research aspects of TB into TDR. The main research thrust is:

- operational research to support the day-to-day implementation of TB control
- development of new anti-TB drugs and exploration and definition of a TB vaccine programme in collaboration with other initiatives including public/private partnerships
- development of appropriate national capacity to support TB research and control efforts.

Initiative on Cardiovascular Health in Developing Countries

Cardiovascular disease has emerged as an important problem with an increasing burden in both developed and developing countries. This burden, along with the burden of communicable diseases, handicaps the middle- and low-income countries. In 1997, the Global Forum, using a World Bank grant, funded a study carried out by the Institute of Medicine of the American Academy of Sciences, focusing on the determinants of cardiovascular diseases and recommending possible R&D investments that would lead to

the development of cost-effective intervention tools and strategies. After a series of consultations involving scientists and experts from high, middle and low-income countries and discussions at Forum 3 in June 1999, six priority areas of research were identified for further exploration to inform policy-makers and field doctors:

- development of a global information network on CVD in developing countries
- establishment of sentinel surveillance systems for monitoring CVD risk factors and mortality, tracking evolving epidemics of CVD and their determinants and evaluating the impact of interventions
- population-based interventions to reduce CVD risks associated with high blood pressure
- evaluation of strategies for identifying individuals at risk
- evaluation of clinical algorithms for management of acute myocardial infarction and congestive heart failure based on the efficacy of existing methods
- assessing the existing capacity of developing countries for initiating and implementing CVD control programmes at different levels of health care.

The Initiative for Cardiovascular Health in Developing Countries was formed in November 1999 to take this forward. Its secretariat is located in the Indian Institute of Medical Sciences. A 12-member Partnership Council and International Scientific Committee have been formed to guide the work of the initiative.

Medicines for Malaria Venture

The Medicines for Malaria Venture is the response of the public and private sectors to the growing crisis of malaria, after several years of preparation by the international development agencies and industry. Initial co-sponsors of MMV were WHO (Special Programme for Research and Training in

Tropical Diseases), International Federation of Pharmaceutical Manufacturers' Associations (IFPMA), World Bank, UK Department for International Development, Swiss Agency for Development and Cooperation, Global Forum for Health Research, Rockefeller Foundation and the global Roll Back Malaria Partnership. It was launched in November 1999 and established as an independent Foundation in Geneva.

MMV is a type of "public venture capital fund". Its objective is to finance and manage a portfolio of R&D projects for the discovery and development of affordable new antimalarial drugs. It has the following specific objectives:

- to register one new antimalarial drug every five years (starting in 2008-10), with the initial emphasis on oral drugs for treatment of uncomplicated malaria
- through partnerships, to ensure the commercialization of these products at affordable prices.

MMV is part of the Roll Back Malaria campaign, a global strategy to fight malaria worldwide launched in October 1998 by the World Health Organization, United Nations Development Fund, UNICEF and the World Bank, with the objective of halving morbidity and mortality due to malaria by 2010.

Violence against Women

Violence against women has been recognized as a serious problem for which insufficient data is available. Since work on the subject has been fragmentary and piecemeal, the Global Forum has supported efforts to bring together partners interested in the problem to discuss and define a common plan of action. A consultation in Melbourne in May 2000 brings together a body of informed persons to discuss the priorities, identify some of the health research issues and draw up a plan of

action. Discussions will focus on the health aspects, consequences and societal costs of sexual violence and make specific recommendations on interventions. The meeting will also discuss policy development and legal reform.

Initiative on Child Health and Nutrition Research

Studies on burden of disease in middle- and low-income countries have shown the important share of child health problems in the global burden of disease. Partners with an interest in improving the health of children through research came together during Forum 3 in June 1999. Their meeting recognized the need to have an initiative specifically focused on child health and nutrition, which would use the five-step process to study the magnitude of the problem, reasons for its persistence, availability of effective tools, their cost effectiveness and current levels of funding. Subsequent efforts would be made to support research activities in child health and nutrition, focusing on the interaction between health and nutrition.

A meeting of those interested in the initiative was held in February 2000 to explore the subject and draw up a workplan. The meeting recommended the creation of the following task forces: (i) criteria for priority setting in child health and nutrition research; (ii) international collaboration and mobilization of funds for research in child health and nutrition.

Initiative on Public/Private Partnerships

A number of major diseases in the developing world, including malaria, TB and HIV/AIDS, are potentially treatable in the longer term. However, scientific obstacles and economic disincentives have resulted in underinvestment in research for new vaccines and medicines targeted at these diseases. As a

result, the solution has to come from joint undertakings of the public and private sectors (together with reinforced “push” and “pull” interventions on the part of the public sector). Based on these considerations, the Global Forum and its partners decided to support a Public/Private Partnerships Initiative to gather information on existing partnerships and promote the development of new ones.

Chapter 7: Capacity development

Developing countries need to acquire the technical capacity to deal with their own health problems through research, as underlined by the current emphasis on evidence-based decision-making. Individuals and groups need appropriate training to enable them to acquire the knowledge, skills and competence to respond to national and local health problems. At present there is a mismatch between the burden of disease and the technical capacity of developing countries to make use of existing knowledge or to generate new knowledge.

Many partners have been involved in research capacity development in developing countries in the last three decades. Success has been found to depend on a number of key factors: careful selection of trainees, capable scientific leadership, continuity of research funding, good equipment and supplies in the institution including communication facilities and an enabling environment for good research. Funders of research capacity development are now anxious to assess the outcome of their funding in order to justify their investment and to develop the needed indicators.

Chapter 7 describes the progress made by a number of partners in assessing the outcome of capacity development. It presents a matrix framework for the evaluation of research capability strengthening projects based on criteria measuring the process, the outcome and the impact of these projects, distinguishing between the individual, institutional, national and global levels.



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