

Chapter 5

Initiatives in Health Research

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Summary

Initiatives are one of the key strategies of the Global Forum for encouraging multiple partners to join in concerted efforts to find solutions to key health problems. By definition, these problems are 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. By acting together, the probability of finding solutions increases markedly.

This chapter reviews the progress made over the past year in Initiatives currently directly supported by the Global Forum. These include the following:

- Alliance for Health Policy and Systems Research
- Global Tuberculosis Research Initiative
- Initiative on Control of Cardiovascular Diseases in Developing Countries
- Initiative on Health and Societies
- Initiative on Prevention of Violence and Injury
- Initiative on Domestic Violence Against Women
- Public/Private Partnership against Malaria: New Medicines for Malaria Venture (MMV)

It also reviews progress in the following Initiatives which have received funding from the World Bank through the Global Forum:

- Multilateral Initiative on Malaria in Africa (MIM)
- International AIDS Vaccine Initiative (IAVI)

Introduction

In reviewing the major health challenges at the end of the twentieth century, lack of information was identified as one of the major barriers to progress. There is an unmet need for clear scientific evidence based on systematic analysis of key health problems, which can be used as the basis for decision-making. One of the goals of the Global Forum for Health Research is to support analytic work on some of the major problems responsible for the high disease burden, to analyse the cost-effectiveness of alternative intervention methods, and to analyse resources flowing into health research and development (R&D). However, while analytic studies are necessary, they are insufficient to solve the very complex problems at hand. In the first place, analytic studies do not always provide enough evidence to ensure informed decision-making on these problems in very different circumstances. For example, while analytic studies may show cardiovascular diseases (CVD) to be major health problems in both developing and developed countries, further exploration will be needed by

multiple partners to determine both the extent of the problem and the most appropriate cost-effective intervention for societies in different phases of development, particularly in the middle- and low-income countries. Secondly, the magnitude of the problem goes beyond the capacity of any single institution to deal with it adequately, and requires concerted action by all the partners involved.

In order to accommodate this need for concerted action, the Global Forum for Health Research has supported the launch of a series of Initiatives – each involving a wide range of partners with a common interest in working together to find solutions to key health problems through further studies, consultation, and concerted actions. The current list of Initiatives supported by the Forum, together with information on the criteria for selection of the Initiatives can be found in Chapter 1. The present chapter provides more detail about the different Initiatives supported by the Global Forum, particularly those presented at Forum 2.

Section 1:

Alliance for Health Policy and Systems Research

1. Rationale for the Alliance

The report of the Ad Hoc Committee on Health Research concluded that health policy and systems research has been neglected in middle- and low-income countries. The report points out that health care systems vary greatly in their ability to improve health conditions, extend access, and curb expenditure growth. It underlines the fact that there is an urgent need to provide scientifically sound, socially relevant, and ethically acceptable guidance for more effective and sustainable health policies. At present, countries are undertaking health system reforms without having adequate information on those policies and structures which work and those which do not. There is a surprising lack of information on the performance of health systems and on how policies have affected performance.

The report recommended that efforts should be deployed to strengthen health policy and health systems research (HPSR). Much research in this area has been *for* policy – focusing on the development and assessment of products, technologies, and approaches of immediate use for curative or preventive services. The research has thus been micro- and disease-oriented. Research *on* policy – covering areas such as what influences policy, who decides on policy, how policy is communicated and implemented, for example

– has received much less attention. An international consultative meeting was held in Lejonadal, Sweden in April 1997 for senior scientists, policy-makers, and representatives of various agencies and programmes with an interest in promoting health policy and systems research. The meeting recommended the creation of an Alliance for Health Policy and Systems Research to further develop this area of work. The Alliance has a 15-member Interim Board, chaired by Professor Anne Mills, and is currently supported by the Governments of Norway and Sweden.

2. Purpose of the Alliance

Since its creation in May 1997, the Alliance has been working towards drawing up a coherent set of activities and clear and workable organizational arrangements.¹ Its objectives are to:

- promote national capacity for HPSR with a particular emphasis on countries with limited capacity to participate in HPSR
- develop essential information for policy decisions in the health sector as a basis for concerted action at national, regional, and global levels
- stimulate the generation of knowledge which facilitates policy analysis
- strengthen international research collaboration and structures for shared learning among countries

¹ Anne Mills, Chair of Interim Board of the Alliance on Health Policy and System Research in a presentation at the Second Annual Meeting of the Global Forum, 25-26 June 1998, Geneva.

- identify global influences on health systems and promote appropriate and responsive policy research.

3. Implementation of the Alliance plan of action

Implementation of the Alliance plan of action must take into account three main concerns:

- research and capacity development priorities must reflect the priorities of developing countries themselves and not priorities imposed by external donors
- ongoing work in this area must be complemented and not duplicated by the Alliance – a strategy that will also help strengthen networking
- the Alliance should encourage research that meets the practical needs of policy-makers.

4. Issues to be addressed by the Alliance

The Alliance was created in response to concern about the neglect of key research areas that are of importance for the health of the poor. They include:

- general organization of the health system and how it can be modified to ensure greater equity
- how best to structure and allocate responsibility for the main functions of regulation, financing, organization, and delivery of health services
- ways of financing and organizing the components of the health care system so as to ensure that the needs of the poor are met
- encouraging countries to explore a particular issue in a comparable way, thus ensuring that they can exchange experiences and learn from each other.

5. Tasks of the Alliance

Over the next three years, the Alliance plans to:

- Monitor HPSR efforts to identify gaps and imbalances, liaise with those involved,

and identify issues that require HPSR. The Alliance will ensure that its work in this area will be complementary to that of the Forum at the global level and of COHRED at the country level.

- Advocate for and collaborate in the establishment of sustainable country-level capacity for health policy/systems analysis and research. This activity will involve close collaboration with all partners and agencies active in this area. It should also include formal training activities and capacity building through research. The Alliance has prepared a paper that focuses on capacity building for health policy and systems research.
- Advocate for and collaborate in research on health policy and systems in order to address gaps and emerging issues, and translate results for policy- and decision-makers. The Alliance aims to mobilize funds and provide technical guidance for research in these neglected areas. It will also support the dissemination of research findings.
- Identify key methodologies and tools for comparative analysis of the different health service delivery methods used in individual countries, and promote the production and dissemination of methodologies and tools. This might mean, for example, bringing together a group of users and experts to review existing tools, recommend particular ones or commission the development of new ones.
- Facilitate the systematization, analysis, and sharing of information through a process of improved information exchange and tailoring information to the needs of different groups, including policy-makers and researchers.

Research *for* policy should meet the following conditions:

- The Initiative should be *inclusive*, with developing countries being genuine and active partners.

- The successful operation of health systems impacts strongly on outcomes and the application of the results of research. Collaboration between initiatives is strongly recommended to ensure consistency, avoid duplication, and ensure the appropriate use of research to inform policy decisions.
- Developing countries should be helped to develop adequate capacity as well as to generate, adapt, and use research outcomes optimally in their countries.
- Efforts should be made to ensure that priorities in developing countries are, as far as possible, driven by the needs of the countries and not donor driven.

Research on policy should take into account that:

- In developing countries, the policy context which governs the organization of the health system is highly country-specific. It is important to understand the health service delivery systems within which interventions will take place to improve health status. This involves complex relationships such as: relationships between health systems and the political environment, the organizational arrangements which affect programme implementation and management, the role of the private sector and interest groups, the role of NGOs and lobby groups, the advantages and constraints of legislative and regulatory considerations, and human behavioural dynamics as they cut across gender, race, and equity issues.
- Advocacy for use of any research product in developing countries should not only be

addressed to governments but to the wider body of informed leadership and scientific opinion in the country in order to achieve greater understanding of the relevance of the proposed changes.

6. The structure of the Alliance

There is broad agreement by partners of the Alliance on the following proposed structure:

- The Alliance will involve those showing a demonstrable interest in HPSR.
- The Board will comprise up to 18 members with an elected Chair and an executive group of 3-5 people which would be closely involved with the secretariat.
- The Alliance will have a small secretariat.
- The Alliance will have close relations with WHO, the Global Forum for Health Research, and COHRED.

Capacity strengthening for HPSR is a major focus of the work of the Alliance. The aim is to enable developing countries to acquire the expertise for research in this area. Lack of capacity in this area has been one of the main reasons for its neglect in low-income countries. However, the Alliance also needs to recognize that capacity development is a long-term activity. The main focus of capacity development in the Alliance will be on specific country needs and priorities.²

7. The way forward

A proposed detailed three-year workplan and budget for the Alliance will be discussed among interested parties in the first part of 1999.

² Makubalo, L..E., *Discussant for the paper on the Alliance for Health Policy and Systems Research presented by Anne Mills at the Second Annual Meeting of the Global Forum, 25-26 June 1998, Geneva.*

Section 2:

Global Tuberculosis Research Initiative (GTRI)

1. The TB burden

Tuberculosis (TB) is the largest single cause of adult deaths. At any one time, over 20 million people are sick with the disease. It accounts for almost 3% of total disease burden worldwide and ranks sixth among all causes of disease burden in the world. TB is often described as a disease of the poor since it is more commonly found among the under-nourished and in people living in areas of poor housing and overcrowding. It is now a leading cause of death among those with HIV infection.

The burden of TB in Africa is about 3.4% of the region's total DALYs and is projected to reach 7% by year 2020. In India, TB accounts for nearly 5% of the burden. Countries with the highest TB burden also include Bangladesh, China, Indonesia, Nigeria, Pakistan, and the Philippines. The Ad Hoc Committee Report pointed out that, despite the magnitude of the problem, TB research has been neglected. In 1992, spending on R&D for TB amounted to about 0.1% of the total spent on health research that year. The rapid increase in cases throughout the world today has been aided by the rapid upsurge in the HIV/AIDS pandemic and exacerbated by the increasing resistance of the bacterium to known remedies. Unfortunately, the increasing prevalence of TB has not been matched by an increase in funds for research. WHO has developed a treatment strategy – the Directly Observed Treatment Short Course (DOTS) strategy – which is a package of measures for the management of TB. DOTS is

now accepted as current best practice for TB control and is in place in about 96 countries. However, coverage is grossly inadequate, with only 17% of the world's TB patients currently being treated with the DOTS approach. Although under optimal conditions cure rates are as high as 90%, this rate varies with the capacity of health systems in different countries. In many low-income countries, the rate is probably less than 30%. In addition, the spread of drug-resistant microorganisms necessitates the development of new drugs and new and effective diagnostic tests to monitor the spread of resistance.

2. Why the TB burden persists

Recent indications suggest that the wide prevalence of the disease today is due to:

- Failure to use existing tools properly. The prime tool for combating TB is the DOTS strategy. However, many health systems in low-income countries do not yet use DOTS. To make matters worse, many countries are still using inappropriate TB regimes.
- Lack of additional tools to support DOTS and prevent or treat the disease. Questions to be answered include whether DOTS alone can eliminate TB, even under optimal conditions. Are the present formulations of DOTS the most appropriate? Is there a need for new tools other than DOTS? Is there a need for a more effective childhood vaccine, for example? Are the reasons for the continuing high prevalence of TB fully known? Is it possible to come up with

a more focused intervention strategy that will reverse the high prevalence of TB?

- Resistance to current TB drugs and the impact of the current pandemic of HIV/AIDS infection.
- The long-term neglect of strategic research.

3. Progress so far

WHO has taken the lead in establishing the Global TB Research Initiative (GTRI).³ This initiative brings together the world's TB control and research experts to devise a multi-pronged strategy for TB control in which research would play an important role and have a real impact. A meeting was held in March 1998 which brought together the major stakeholders in TB research. It was recommended that action should be taken to:

- promote operational research in TB control to improve the efficiency and availability of TB therapy at district and family level
- establish a process to develop and sustain a focused and prioritized global research agenda, taking into account the needs of populations at greatest risk
- set up a framework of analysis and discussion of TB research, which will be required to support this agenda
- develop strategies to enable countries with a high burden of TB to develop and enhance their own operational research capacities to deal with this growing problem.

This meeting paved the way for the creation by WHO of the Global TB Research Initiative, currently managed by Dr Paul Nunn of the Global Tuberculosis Programme.

4. The way forward

In October 1998, a top-level meeting on tuberculosis was held at the White House, at the invitation of the US First Lady. The meeting was attended by the US Secretary of Health, the Administrator of the US Agency for International Development (USAID), the Director-General of WHO, the President of the World Bank, and the President of the George Soros Foundation. The aim was to discuss possible new initiatives for TB control and to prevent the emergence of drug-resistant strains, and to mobilize new funds to accelerate international control efforts.

At a meeting in Geneva in October 1998, the Coordination and Advisory Review Group of WHO's Global Programme for Tuberculosis drew up a strategy to slow down the spread of drug-resistant forms of TB and increase operational research to enhance the use of DOTS.

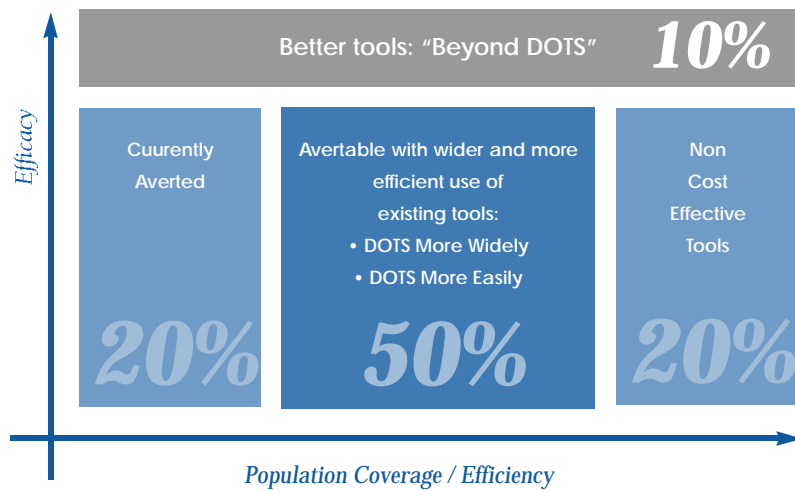
The Global Forum will focus on monitoring progress in the activities of the GTRI, which is part of the Stop TB initiative recently launched by WHO. The next step in the development of GTRI is to bring together the main interested parties to draw up a work-plan for the coming years. Research upstream – health policy and systems research – is needed to keep ahead of the threats posed by the resurgence of TB, particularly in relation to the problem of drug resistance.⁴ However, research downstream is also needed to enhance research capacities in endemic countries. Ultimately, the onus is on researchers in endemic countries to participate in research for their own national needs (Insert5.1).

³ Nunn, P., *Presentation on the Global Tuberculosis Research Initiative made at the Second Meeting of the Global Forum for Health Research 25-26 June 1998, Geneva.*

⁴ Heymann, D., *Discussant to the paper presented by Paul Nunn on the Global Tuberculosis Research Initiative at the Second Annual Meeting of the Global Forum for Health Research, 25-26 June 1998, Geneva.*

Insert 5.1

TB Research Needs; 1990 – 38 Million DALYs



(Source: Paul Nunn,WHO)

Section 3:

Control of Cardiovascular Diseases in Developing Countries

1. Disease burden

Noncommunicable diseases (NCD), though less frequently associated with the developing world, are expected to transform its health needs over the next two decades. Today, these diseases loom as major public health problems in developing countries. The report of the Ad Hoc Committee referred to NCD as "emerging epidemics". While populations in all countries are ageing, the population of the middle- and low-income countries are aging faster as their life expectancy rises. Population aging in turn increases the burden of NCD in the population, most notably the burden of cardiovascular diseases (CVD). The principal forms of CVD are ischaemic heart disease and cerebrovascular disease.

In established market economies, CVD already accounts for a high burden and so any subsequent increase in burden will be small. By contrast, in middle- and low-income countries, the increase is expected to be very steep. CVD in developing countries account for nearly 10% of the global burden of disease from both death and disability and are likely to increase to nearly 15% by the year 2020. The burden of CVD on developing countries is likely to be enormous. Projections show that by the year 2020, it will be greater than the burden of communicable diseases. Although there is little data on the economic costs of CVD in developing countries, a considerable body of evidence suggests that

risk factor prevention programmes and low-cost case management offer a feasible cost-effective means of reducing CVD mortality and disability in these countries. However, in most developing countries, implementation of disease prevention and control programmes is hampered by lack of awareness of cost-effective CVD control options and by the misapprehension that this will detract from investment in communicable diseases control as well as preventive action in childhood, maternal, and reproductive health. It is therefore necessary to promote policy dialogue on CVD, based on informed knowledge of opportunities for R&D which offer effective and affordable responses that can be applied throughout developing countries.

2. Reasons for the increasing burden of CVD

The World Bank-funded study, *Control of Cardiovascular Diseases in Developing Countries*, carried out by the Institute of Medicine (IOM),⁵ highlighted some of the possible causes of the global epidemic of CVD, including:

- increasing life expectancy, particularly among the middle and older age groups that are likely to develop CVD
- economic development, leading to higher income and changes in lifestyle (possibly including a high fat and high salt diet)

⁵ Reddy, S., Presentation on the IOM report at the Second Annual Meeting of the Global Forum, 25-26 June 1998, Geneva.

- interactions between different risk factors, including increased tobacco use and dietary changes resulting in obesity.

These factors need confirmation through research and inter-country studies that will generate new information on risk factors for CVD in developing countries. Policy-makers in developing countries need a strong knowledge and evidence base in order to devise the best strategies for dealing with this emerging epidemic.

The IOM report used four main criteria to establish priorities for R&D investment to control CVD in developing countries:

- Investments with a large impact on populations regardless of gender, socio-economic status or location.
- Investments in processes (not necessarily results) that are broadly transferable to other low- and middle-income countries.
- Investments in research that yield results in a measurable time-frame of 5-10 years.
- Investments with a focus on measurable data. The data collection should follow established methodologies in epidemiology, health policy, economics, and social behaviour.

3. Possible interventions

The IOM report makes the following recommendations on possibilities for R&D investments for the control of CVD in developing countries:

- Determine the size of the CVD burden in developing countries. Since the nature and form of CVD varies between developing and developed countries and even between the developing countries themselves, it is necessary to create standardized protocols for CVD surveys in individual countries

under different socio-economic, ethnic, epidemiological, and ecological conditions. This study would also entail studying the range and magnitude of different risk factors for CVD. After the initial study, sentinel sites may be set up for monitoring CVD trends over time. The studies should also be designed to enable quantification of the strength of association of a CVD risk factor with the eventual development of disease. Studies are under way at the University of Newcastle Human Diabetes and Metabolic Research Centre in the UK⁶ in collaboration with developing country partners and funded by the Department for International Development (DFID), UK. The group has developed rapid evaluation methods to determine the quality of CVD care as well as survey research protocols for peri-urban and rural settings in three low/middle-income countries. The group has also developed and implemented treatment guidelines within the study areas.

- Use case control studies to develop targeted and effective prevention methods. Although prospective studies are known to be more robust methodologically because exposure to risk factors demonstrably precedes disease, retrospective case control studies can usually generate data faster and at lower cost. The study designs in the different countries should be set up so that both methods can be used.
- Reduce tobacco use. This major undertaking, which is needed in most middle- and low-income countries, should be preceded by a survey of regular tobacco use by sex and age group. Different intervention measures should be tried, including the evaluation of the cost-effectiveness of community-based interventions that promote abstinence from tobacco, and of interventions that encourage smokers to stop smoking. There is also a need to

⁶ Professor Alberti, current President of the Royal College of Physicians, UK, and former Manager of the project.

evaluate the economic impact of tobacco control on developing countries that grow, manufacture, and export tobacco and tobacco products, in order to encourage a change to alternative crops. The global issue of tobacco use has been taken up by WHO with the establishment of the Tobacco Free Initiative and the work of the CVD initiative will be done in close collaboration with this WHO initiative.

- Detect and treat high blood pressure. This should include, as a first step, estimation of the level and distribution of high blood pressure and prevalence of hypertension in population samples among different ethnic groups in selected middle- and low-income countries. The cost-effectiveness of different detection and intervention measures should be determined with a view to improving awareness, treatment initiation and adherence, and control of the disease. Some low-cost combination therapies may be initiated after appropriate trials.
- Initiate pilot studies to test essential, low cost drugs. This will involve evaluating the responses of different ethnic populations in middle- and low-income countries to the use of cardiovascular drugs and different interventions.
- Develop and assess algorithms of affordable clinical care for CVD. This is important for middle- and low-income countries. The algorithms should cover the wide spectrum of cardiovascular diseases and include risk management and rehabilitation.
- Strengthen R&D capacity in developing countries. This is critical for the sustainability of CVD control in middle- and low-income countries. Capacity

development should focus on two key areas. The first is to train health workers in cardiovascular epidemiology, clinical research methodology, health policy research, and health economics. The second is to develop institutional capacity for undertaking integrated research relevant to CVD control in developing countries.

4. The way forward

The recommendations of the IOM study, together with results from other studies in developing countries, have provided a firm foundation for future activities. Institutional mechanisms are now being developed to carry out the above activities in order to facilitate CVD prevention and control, with a particular emphasis on the middle- and low-income countries. A broad-based steering group of CVD experts from high-, middle-, and low-income countries has been set up and a meeting convened in February 1999 in Cape Town, South Africa, for interested parties to plan future action to take these recommendations forward. At present, this group comprises: WHO, NIH, the Wellcome Trust, the World Bank, Medical Research Councils in developing countries such as India and South Africa, and university scientists. The group has ample representation from the middle- and low-income countries where CVD is now a significant emerging health problem. The steering group will discuss all the recommendations of the IOM study and other relevant data and select some of these for priority action. It will also draw up a strategic plan of action, with suggestions on possible sources of funding.

Section 4:

Initiative on Health and Societies

1. The problem

In recent years there has been a significant increase in research on the impact of social determinants, social environments, and social processes on health. It is known that many factors/determinants outside the health sector have a major influence on health. These factors include poverty and income level, education (particularly of girls and women), food, water, sanitation, culture, and behaviour. With growing evidence that health and disease follow a social gradient, the knowledge base on social interventions has widened. However the associations between social variables and health outcomes remain largely disconnected from mainstream health policy, interventions, and research.

Over the past decade, these factors have been further complicated by new threats and opportunities to health such as rapid social and cultural change, globalization of trade and communications, rapid urbanization and rural exodus, and aging of the population. This has led to increasing recognition of the need for a broader agenda for health action. This Initiative will address two categories of factors:⁷

- Factors that moderate the interface between social determinants and health: for example, education, poverty, and social interactions within households.
- Factors that determine the success and

failure of interventions designed to improve and promote health. These may be the result of failure to adequately monitor changes in social and political systems.

2. Why the problem persists

Many middle- and low-income countries have tended to invest less of their GNP on health. Moreover, a large part of this is spent on disease control – especially control of communicable diseases and epidemics. However, public health services are often not sufficiently well organized to take on a leadership role in drawing attention to the key social determinants of health. In addition, governments are not always aware of people's health needs, and rarely organize consultations to determine these needs. Meanwhile, the impact on the health sector of the development programmes in other sectors are often poorly understood. Although it is recognized that sustainable development will only occur if health is built into it, few countries have incorporated health goals into their economic development plans. Similarly, health goals are unlikely to be successful unless they are built into the development programmes of other sectors such as education, agriculture, and community development. For this reason, a growing number of bodies and institutions have identified intersectoral policies and technologies as key steps to achieving better health.

⁷ Kickbusch, I., *Presentation on the Initiative on Health and Societies at the Second Annual Meeting of the Global Forum, 25-26 June 1998, Geneva.*

3. The way forward

A group of interested parties met in Bellagio to discuss this issue in detail and initiate the development of the Initiative on Health and Societies. The Initiative is being managed by Dr Ilona Kickbusch, formerly of WHO and

now Professor of International Health at Yale University School of Medicine in the United States. When the report of the Bellagio meeting has been finalized, a meeting will be held to carry this Initiative forward.

Section 5:

Initiative on Prevention of Violence and Injury

1. The Health problem

There has been an extraordinary and continuing rise in the burden of death and disability from injury and violence in recent years. The report of the Ad Hoc Committee revealed that in 1990, 15% of disease burden in developing countries was due to injuries. Projections indicate that this figure may increase to 20% by the year 2020. However, this predicted increase has not yet been matched by research efforts to find solutions to the problem.

The Ad Hoc Committee report classified injuries into two broad categories that also corresponded to the classification of WHO:

- Unintentional injuries, such as traffic accidents, burns, falls, drowning, and poisoning.
- Intentional injuries, such as suicide, homicide, child abuse, war-related injuries, and other forms of organized violence.⁸

The consequences of injuries and violence extend far beyond the immediate physical injuries as they can also have a psychological impact on the victims. The trends in unintentional and intentional injuries in 1990 and projected to 2020 are shown in Insert 5.2.

⁸ Romer, C., *Presentation on Initiative against Injury and Violence at the Second Annual Meeting of the Global Forum, 25-26 June 1998, Geneva.*

Insert 5.2

Trends in Unintentional and Intentional Injuries, 1990 and 2020

Injuries	% Global Burden	
	1990	2020
Road-traffic accidents	2.5	5.1
Other unintentional injuries	8.5	7.9
Total unintentional	11.0	13.0
Self-inflicted	1.4	1.9
Violence	1.3	2.3
War	1.5	3.0
Total intentional	4.1	7.1
Total Injuries	15.1	20.1

Note: Numbers in this table have been rounded to one decimal place. This leads to rounding errors that prevent the totals for individual conditions from exactly matching the group sub-totals.

(Source: Ad Hoc Committee Report)

2. Why the problem persists

The rapid increase in the burden of violence and injuries is the result of a combination of factors:

- A spectacular demographic explosion in low- and middle-income countries, together with an equally dramatic rise in car ownership. However, this has not always been matched by the development of appropriate road networks to cope with this increase. In many of the crowded cities, pedestrians, cyclists, and road carts vie with cars for space in the narrow streets.
- Alcohol abuse and rising consumption of drugs by drivers – an additional cause of the increase in road accidents in both developed and developing countries.
- Poverty, an apparent risk factor for unintentional injuries. Poor people appear to be more vulnerable to injuries, occupational fatality in agriculture and industry, and pedestrian fatalities.
- Ongoing conflicts in many countries, particularly in Africa, Asia, and Eastern Europe. Conflicts have devastating effects on a country's economy, on its infrastructure (including schools and hospitals), on industry and agriculture, and on the people themselves (through displacement, malnutrition, risk of epidemics, rape, and the use of landmines, for example).
- The rapid increase in the number of criminal homicides in urban areas. This is aggravated by the poor economic situation, rising unemployment, and by the rapid growth in the illicit drug trade.

3. The response

WHO has taken the lead in drawing up workplans on violence and health, which have been approved by the World Health Assembly. These workplans have also involved collaboration with NGOs working in the area. WHO is currently consulting the International Committee of the Red Cross (ICRC) and bilateral agencies on the issue of landmines. Meanwhile, countries including South Africa, Brazil, and Colombia have intensified national efforts to deal with the problem of violence and injuries. Elsewhere, in Burundi, a situation analysis was carried out on violence against women in conflict situations, now a significant global problem.⁹ The analysis, requested by the Burundi Government and funded through the Italian Government, covered the period 1993-1997. It revealed a high prevalence of many of the usual health consequences of conflicts such as physical and psychological trauma, often resulting in death, malnutrition, and epidemics of communicable diseases. Women were more severely affected by malnutrition because many of them had the additional burden of caring for young babies and children. In addition, they were targets of sexual violence and rape, resulting in unwanted pregnancies and sexually transmitted diseases (STDs). While the situation in Burundi is no different from many other conflict situations around the world, the analysis helped to underline the gravity of the situation and the need for concerted action.

Although a range of initiatives have been launched to deal with the problem of violence and injuries, many of these have been fragmentary and piecemeal. As a result, statistics on global incidence remain unreliably low and financing has been inadequate. The Initiative on Injuries and Violence has been established in order to provide a coordinated global response to this

problem and develop a consensus on the way forward. The public health approach to the problem is based on the approach used successfully for the control of communicable diseases. The Initiative is being coordinated by Dr Claude Romer of WHO. Its objectives are to:

- develop a science-based public health response to the problem
- identify partners willing to invest in priority research
- support a process that will develop the capacity of countries to develop a sustainable response to the high burden of violence and injuries.

4. The way forward

The next stage involves broadening the base of this Initiative through the involvement of multiple partners. In addition to WHO, these are expected to include: bilateral partners such as Switzerland and Belgium; the ICRC; international organizations such as UNESCO, UNICEF, and the United Nations Department of Peace Keeping Operations (UNDPKO); NGOs such as Handicap International, International Society for Burn Injuries (ISBI), International Pediatric Association (IPA) and the International Campaign to Ban Landmines (ICBL); ministries of health in countries most interested in the problem, such as Brazil, Colombia, and South Africa; and universities. A small steering group of interested parties will be convened to identify a few of the key issues for which research is needed. A research agenda will be drawn up, outlining priority areas for possible action. This will be followed by the development of a strategic plan of action for the next few years. At the outset, activities will focus on four main areas:

- surveillance, to define the magnitude of the problem

⁹ Djeddah, C., *Presentation of a case study in Burundi on violence against women in forced displacement, made at the Second Annual Meeting of the Global Forum, 25-26 June 1998, Geneva.*

- identification of risk factors
- interventions, to determine what really works
- implementation.

The experience from activities carried out so far will be useful in drawing up a realistic plan of operations focusing on some key studies:

- social epidemiological studies to better understand how patterns, causes, and levels of violence are related to socio-economic development
- epidemiological studies to provide better data sets on incidence of injuries, their

external causes, and the cost-effectiveness of existing interventions

- epidemiological studies to quantify the links between alcohol abuse and interpersonal violence in different settings
- epidemiological studies to measure the risks attached to firearms in different socio-economic groups
- health policy research to identify the gaps between current capacity and projected needs for the provision of cost-effective emergency medical services in rural and urban areas.

Section 6:

Initiative on Domestic Violence against Women

1. Background

Domestic violence against women occurs in all societies throughout the world. It often goes unreported or unrecognized and tends to be accepted as the norm. The extent of the problem is largely unknown. Several groups are involved in the issue of violence against women and numerous studies have documented the problem in different settings

and socioeconomic environments. While there is extensive literature on the subject, including some by WHO,¹⁰ there has been no holistic approach to the problem. In addition, there has been no research to define the broad public health dimensions of the problem nor any attempt to clarify the legal and economic issues involved. As a result, there is a limited

¹⁰ WHO/FRH/WHO/97.8

information base on which to plan future action.

There is a strong body of opinion in favour of a more evidence-based, comprehensive approach to dealing with domestic violence against women as a specific issue, independent of the broader issue of prevention of injuries and violence. This initiative will bring together a wide range of stakeholders and groups interested in the subject. The focus of the Initiative is to understand the burden of the problem, why it persists, what actions have been taken so far, and with what results.

This approach was strongly supported by the Fourth World Conference on Women in Beijing, in September 1995, where it was recommended that research and data collection should be undertaken on the prevalence of different forms of violence against women, especially domestic violence, and research into the causes, nature, and consequences of violence against women.

WHO has decided to take the lead in dealing with this problem. As a first step, a multi-country study is being proposed that would provide data on prevalence in some selected countries, document the health consequences, the risks and protective factors, and suggest possible approaches to the problem based on experience in the selected countries.¹¹ Countries will be selected to reflect a range of different cultures and levels of socioeconomic development, and the studies will involve the use of reasonably large sample sizes and common protocols to ensure that the results are comparable. The following countries have been selected for the initial studies: Brazil, Namibia, Peru, and Thailand. Some of the partners presently collaborating with WHO

on this Initiative, particularly in the multi-country studies are: women's organizations, UNFPA, INCLEN, and the Governments of France, Ghana, Holland, and the UK.

2. Why the problem persists

Although the issue of violence against women appears to have surfaced only recently as a serious problem, it has existed for many years. The problem occurs in both developed and developing countries. It has cultural overtones and has remained hidden and taboo in many countries. Social norms, fear, shame, and social constraints in different countries and cultures have often precluded women from articulating the problem or even discussing it. Its persistence is closely linked to historical male dominance within societies and the unequal position of women, who have hitherto accepted domestic violence without complaint. It often appears as if this kind of violence is tolerated by societies. However, the exact extent of the problem is unknown and poorly documented. The legal and judicial systems have been unsympathetic towards victims of rape and other forms of violence against women. As a result, cases have largely gone unreported. Rape and child abuse, more recently complicated by paedophile activities, is another form of this problem.

The problem of domestic violence against women can also have intergenerational repercussions – often leading to traumatic reactions among child witnesses in later life. Meanwhile, all forms of violence against women have serious consequences for a woman's physical and mental health.

3. The way forward

What this Initiative plans to do is to broaden its base by involving a range of different

¹¹ Garcia Moreno, Claudia. *Presentation on Domestic Violence Against Women at the Second Meeting of the Global Forum for Health Research, 25-26 June 1998, Geneva.*

partners and stakeholders. The studies to be undertaken should have an epidemiological focus and include the following:

- social epidemiological studies to better understand and quantify the patterns, causes, and levels of domestic violence against women and child abuse
- epidemiological and intervention studies to provide better data sets in all countries on the incidence of domestic violence against women, and possible cost-effective interventions
- epidemiological and social studies to quantify the links between alcohol abuse, poverty, and unemployment in domestic violence against women.

The lead, contacts, and activities planned by WHO on this issue will form a suitable starting point. A meeting is being planned which will bring together different stakeholders to define a common way forward – establishing a shared agenda, strategies, and plan of action. The synergy of this approach, involving multiple partners, should yield more dividends than any single agency acting alone.

A meeting of a core group of interested parties will take place in the first part of 1999 to plan future activities.

Section 7:

Public/Private Partnership against Malaria: New Medicines for Malaria Venture (MMV)

This new Initiative supported by the Global Forum for Health Research is a public/private sector collaborative effort to discover and develop new antimalarial drugs. It is being launched amid growing awareness among the private and public sectors that they will have to find new ways of collaborating to ensure that the fruits of scientific and pharmaceutical discoveries reach as broad a population as possible. This issue is particularly acute in the area of tropical diseases such as malaria, which accounts for 1.7-2.5 million deaths

a year and contributes to the poverty and underdevelopment of many countries, especially those in sub-Saharan Africa.

The malaria control situation is worsening, due to a variety of clinical, economic, and environmental factors, most notably the spread of drug resistance.¹² New drugs are desperately needed but the increased costs of developing and registering new drug products, coupled with the prospect of inadequate commercial returns, has led to

the almost complete withdrawal of the pharmaceutical industry from investing in drug discovery and development in this area. The public sector has increased basic science funding, but lacks the expertise and the mechanisms to discover, develop, register, and market products. If this status quo continues into the next century, the outlook for the control of one of the world's major diseases looks bleak.

The MMV not-for-profit initiative aims to address this problem through a partnership between the pharmaceutical industry and the public sector. The initiative will operate under the umbrella of the WHO Roll Back Malaria Initiative. Other international agencies backing this scheme include the World Bank and several foundations, including the Rockefeller Foundation. There has been a significant input from the pharmaceutical industry in the development of the MMV Initiative, notably from the International Federation of Pharmaceutical Manufacturers Associations (IFPMA) and the Association of British Pharmaceutical Industries (ABPI).

The goal of the MMV project is to achieve a sustainable portfolio of drug discovery and development projects that would result in the registration of one new affordable antimalarial every five years. It will be a "virtual" R&D venture. Under its guidance and support, drug

discovery partnerships between academic groups and industry will be established and funded at a level guaranteed to offer a real chance of success (i.e. several million US dollars per project). Development candidates will be passed on to a virtual development unit which will take projects through to registration and seek industrial partners for manufacture and marketing. Any royalty income obtained through out-licensing will go to MMV to provide a degree of financial sustainability.

Several pharmaceutical companies have agreed to partner drug discovery projects, primarily through providing gifts in kind, such as access to their chemical libraries and high throughput screening facilities, as well as access to more general expertise in this area, a commitment worth several million dollars a year. In addition, a funding commitment of US\$ 15 million a year is being sought, primarily from the public sector.

Sufficient funding has been obtained through WHO/Roll Back Malaria and other agencies to allow the initiative to start in 1999 through the funding of the first one or two research projects. Efforts are now under way to acquire additional funds to ensure the full establishment of MMV and establish the legal framework for its operation.

¹² *Health Horizons* No 34, Spring 1998.

Section 8:

Multilateral Initiative for Malaria in Africa (MIM)

1. Background

The Multilateral Initiative for Malaria in Africa (MIM) is a global collaborative effort by funding agencies, industry, and research scientists to address the serious problem of malaria, with a particular emphasis on Africa where the disease has its largest impact. MIM was conceptualized at a meeting in Dakar, Senegal, in January 1997. At a follow-up meeting in The Hague in July 1997, it became evident that the differing funding mechanisms of the various organizations funding malaria research presented a considerable barrier to the establishment of a common fund for MIM-related research activities. It was acknowledged that any joint activities must allow individual agencies to operate within the constraints of their particular mandate. During the subsequent meeting in London in November 1997, an eight-point list of priorities was adopted to address priority research areas.

MIM has therefore developed as a loose coalition of organizations and individuals concerned with malaria research and control. It has no formalized administrative structure, and the list of activities prioritized by MIM are intended to be supported through the existing mechanisms of participating organizations. This is to avoid the unnecessary creation of new levels of administration and to make full use of existing funding mechanisms. The Wellcome Trust was nominated coordinator of MIM activities for the current year.¹³

2. MIM objectives

The objectives of MIM are:

- To raise international public awareness of the problem of malaria in order to mobilize the resources needed for action.
- To promote global communication and cooperation between organizations and individuals concerned with malaria.
- To develop sustainable research capacity in Africa through international research partnerships and thereby enhance the capacity of African countries to address local health problems.
- To ensure that research findings are suitably applied in malaria control.

3. Progress so far

The immediate priorities of MIM and some of the activities carried out so far are:

- Communication and advocacy: Malaria Foundation International has been nominated to handle MIM public relations and communication issues. The organization runs a web page and has been involved in generating publicity material for broader malaria issues. MIM plans to use the databases of Scientists for Health and Research for Development (SHARED), and the publications of articles in *Science*, *Nature*, and *The Lancet* as the media for communications and advocacy.
- Improved electronic communication systems for African researchers: the US

¹³ Davies, C., *Presentation of the Multilateral Initiative on Malaria in Africa at the Second Meeting of the Global Forum for Health Research, 25-26 June, 1998, Geneva.*

National Library of Medicine is leading the effort to improve access for African scientists to electronic communications facilities and the Internet. They have already carried out connectivity in Mali as a test case and have set up a technical group to study the feasibility of connectivity in three other African countries.

- Capacity-building in Africa: MIM plans to develop a compendium of existing capacity for malaria in Africa with a strong focus on indigenous capacity. In addition, a Task Force for Malaria Research Capability Strengthening in Africa, coordinated by TDR, was set up to administer US\$ 2.9 million of funds made available to TDR by a number of partners. The Task Force – comprising an international panel of 10 experts chaired by an African scientist – awarded 15 out of 63 fully developed research proposals that were submitted in response to a call for applications. There has been another call for applications for research funding and further awards will be made at a meeting in March 1999.
- Strategic and operational aspects of malaria control: One of the main criteria for the research proposals is that they address key strategic and operational aspects of malaria control. The Task Force for Malaria Research Capability Strengthening in Africa is helping to promote high quality science among African scientists and is an important mechanism for research sustainability in Africa.
- Information and communication technology: Fogarty International, NIH, and the National Library of Medicine have established a training programme in information and communication technology. Meanwhile, the launch this year of Wellcome Training Fellowships is also a step in capacity strengthening as is the

development by the Wellcome Trust of a CD-ROM interactive tutorial in malaria for researchers and public health workers.

- Antimalarial drug resistance and surveillance: a meeting was held in Geneva in May 1998 attended by 20 organizations encompassing the full spectrum of activities: malaria control programmes, policy formulation, clinical and epidemiological research, and strategic research. The aim was to define the roles and responsibilities of different organizations and develop plans for concerted action to address gaps in current programmes.¹⁴
- Malaria in Africa: the MIM African Malaria Conference is planned for 15-19 March 1999 in Durban, South Africa, to build upon the Southern African Malaria Conference. It aims to promote dialogue at the research-implementation interface throughout Africa and strengthen malaria research capacity in Africa by promoting scientific collaboration both within Africa and internationally. This may be the beginning of an annual MIM Pan African Malaria conference. It will be an important venue for African scientists to meet, possibly for the first time, with their African colleagues and partners from outside Africa to discuss research findings.
- Interaction between research and implementation: MIM is committed to WHO's recently launched Roll Back Malaria campaign with which it will work closely.
- The *falciparum* genome sequencing project: a coordinated approach is being taken to this project, including the establishment of networks for sharing information and resources.
- Targets for reducing malaria morbidity and mortality: this is currently carried out through WHO/TDR reorganized product and development programmes.

¹⁴ MIM Newsletter, Issue 1, June 1998.

4. The future of MIM

MIM partners are gradually taking common action to deal with priority research issues, such as anti-malarial drug resistance. The ultimate goal is to generate sufficient resources to invest in priority malaria research in developing countries – thereby helping to correct the 10/90 Disequilibrium. Some of the

activities involve collaborative research with African researchers and will benefit the poor. Meanwhile, African institutions are benefiting from research capacity developments, an indispensable requirement for doing research. Together, these efforts are making a positive contribution towards correction of the 10/90 Disequilibrium.

Section 9:

International AIDS Vaccine Initiative (IAVI)

1. The problem

The HIV/AIDS pandemic, which started in the late 1970s, has left no country untouched. The response to this has been a multiplicity of efforts, funds, and organizations to deal with the issue. Much of the global effort is directed at disease containment, promotion of healthy lifestyles, and prevention of the disease.

The International AIDS Vaccine Initiative (IAVI) was established with a single aim: to ensure the development of safe, effective, and accessible HIV vaccines for use worldwide. The rationale is that large sums of money are currently being spent on a range of preventive measures and on the use of chemotherapy involving expensive drugs of limited efficacy.

However, the use of these methods alone is unlikely to stop the increasing prevalence of the disease. An added factor is the high cost of available drugs for treating the disease, which are beyond the resources of developing countries. The approach being taken by IAVI is to complement and not compete with existing HIV/AIDS vaccine programmes that have increasingly emphasized basic research. The addition of a vaccine would make a difference to the course of the pandemic and could result in the elimination of the disease. About US\$18 billion is currently being spent on research, preventive measures, and treatment of HIV/AIDS, but less than 1% of these resources have been for vaccine

research. Yet the potential impact of an effective HIV/AIDS vaccine may be greater than for any other intervention.

The development costs of an HIV/AIDS vaccine are high – making it a risky undertaking for any industrial developer.¹⁵ This risk is confounded by the fact that about 90% of the potential vaccine market will probably be in developing countries. To make matters worse, the vaccines may have to be country-specific since the virus strains circulating in most developing countries differ from those in developed countries.

It is clear that development of an AIDS vaccine by the pharmaceutical industry will be seriously constrained by commercial prospects. As a result, public sector intervention is strongly indicated. Even where a vaccine is eventually developed in an industrialized setting, the example of other vaccines – hepatitis B and *Haemophilus influenzae* type b, for example – suggests that vaccines would not be readily available in developing countries.

2. IAVI objectives

The objectives of the Initiative are to:

- mobilize public and governmental support for accelerated vaccine development
- identify scientific gaps in progress towards a vaccine, work to fill them, and advance promising candidate vaccines
- provide incentives for accelerated private investment.

One of the important characteristics of IAVI is its unique strategy of accelerated product development and human testing through international collaboration. The

IAVI's *Scientific Blueprint for AIDS Vaccine Development*, issued in June 1998, outlines clear time-lines and milestones to maximize the likelihood of success within the next decade. Deadlines for the activities listed have to be met by both the IAVI and their industrial partners, venture capitalists, international agencies, and developing nations. There would be rapid and definitive testing of safe, promising vaccine candidates in humans by a process described as "thoughtful empiricism".¹⁶ This is an accelerated process for testing candidate HIV/AIDS vaccines, developed in response to the rapid spread of HIV. In this process, all reasonable candidate vaccines undergo Phase I trials to evaluate safety and immunogenicity. Those that prove to be safe and induce protective immune responses are then advanced into Phase II trials, first in those with an elevated risk of HIV, and eventually in larger trials to determine their efficacy.

Developing country scientists are actively involved in this research. The vaccines produced will be appropriate for use in areas where the epidemic is spreading most rapidly. The blueprint also proposes the establishment of International Product Development Teams to foster genuine partnerships between industrialized and developing countries in vaccine research and development. IAVI has received unrestricted major grants to begin immediate implementation of the blueprint. These include a US\$1.5 million grant from the Gates Foundation and \$370 000 from DFID.

In its blueprint, IAVI points out that:

- Multiple efficacy trials of different vaccine approaches around the world must begin

¹⁵ Berkley, S., *Presenting the International AIDS vaccine Initiative at the Second Meeting of the Global Forum for Health Research*, 25-26 June 1998, Geneva.

¹⁶ IAVI Report, vol.3 no 3 July–September 1998.

within the next five years if an effective HIV/AIDS vaccine is to be developed within the decade.

- Very few manufacturers have been willing to commit to testing multiple vaccine concepts in human trials.
- Despite the need for a balanced approach to the research and development of multiple vaccine designs, support for basic research continues to dominate national AIDS programmes.
- Few novel designs are entering Phase I trials and fewer still that have been designed for testing and use in developing countries.
- It is essential to involve developing countries in all stages of vaccine development.

IAVI has a board of directors comprising scientists, policy-makers, and leaders from the pharmaceutical industry and other sectors of industry. Its extensive list of partners includes: the Rockefeller Foundation, the World Bank, UNAIDS, National AIDS Trust, Fondation Marcel Mérieux (France), and SANASO (South Africa). IAVI has received funding from the World Bank through the Global Forum and is now attracting additional funding for its work. However, these amounts are very small in relation to the amount currently spent on treatment.

3. Future activities

The following activities will continue into the year 2000:

- Advocacy for funding both in developed and developing countries.
- Publication of the IAVI newsletter and

maintenance of the Web site.

- Award of scientific grants for development of DNA vaccines for developing country use and for the preparation of isolates from developing countries so that companies can produce reagents for these strains.
- Development of a new product development strategy. This will involve the selection of 1-3 promising products and building an international HIV/AIDS Vaccine Product Development Team around each one.
- Discussions with leaders and scientists from all major vaccine companies to ensure a strong dialogue with developing country scientists.

It is likely to be a decade before a successful HIV vaccine is ready for distribution.

Conclusion

Initiatives are one of the important strategies of the Forum for encouraging multiple partners to collaborate and focus their energies on key health problems. By definition, the problem which is the focus of the initiative goes beyond the capacity of any single institution to deal with it adequately and requires the concerted efforts of all the partners involved. Initiatives carried out by multiple partners should be capable of making a difference in the area of their planned action. The principle of equality of all partners should be maintained, with no one partner being dominant. Participation by low- and middle-income countries is indispensable in all Initiatives – particularly since the health problems involved account for the highest burden in these countries.