International Conference on Health Research for Development

Conference Report

Bangkok 10-13 October 2000

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Contents

PREFACE

As chair of the International Organizing Committee (IOC) of the International Conference on Health Research for Development (Bangkok, October 2000), it is my pleasure to present the *Conference Report*.

The Bangkok Conference comprised three and a half days of key-note speeches, stimulating debates, focused group work sessions and broad-ranging technical discussions. It would be difficult, if not impossible, for any report to cover in detail all the facts, opinions, controversies and ideas put forward in the various sessions. However, the rapporteur of the Conference, Marian Jacobs, has captured, not only the main conclusions of the Conference, but also the motivation of the organizers, the 'flavour' of the meeting, and the positive spirit in which it took place.

The report moves in chronological order: from summaries of pre-conference activities such as the consultative processes in six regions, the consultations held with international donors and other stakeholders in health research, and the global consultative meeting, to the discussion document, and the resulting key challenges used as a basis for group discussion at the Conference. It then presents highlights from the Conference itself: participants, organization, major features; and moves on to a discussion of the strategies adopted by the International Organizing Committee to ensure that everything that happened prior to, during, and after the Conference was documented.

I should like to express the IOC's gratitude to our Thai hosts for their hospitality, and for their efficient and professional approach in the local arrangements for this Conference. We also note with sadness the passing away of Prof Ramalingaswami in May 2001. He was a doyen of the global health research movement and a key contributor to the Conference.

Finally, on behalf of the four main organizers (COHRED, the Global Forum for Health Research, the World Bank and WHO), I thank the following agencies for their financial contributions: The Rockefeller Foundation, Swedish International Development Cooperation Agency (Department for Research Cooperation, SIDA/SAREC), Danish Ministry of Foreign Affairs (DANIDA), International Development Research Centre (IDRC, Canada), Norwegian Agency for Development Cooperation (NORAD), the Government of the Netherlands, Canadian International Development Agency (CIDA), Swiss Agency for Development and Cooperation (SDC), and the European Commission.

Julio Frenk
Chair
International Organizing Committee

BANGKOK DECLARATION ON HEALTH RESEARCH FOR DEVELOPMENT

The International Conference on Health research for development brought together more than 800 participants representing a wide range of stakeholders in health research from developing and developed countries. Conference participants from over one hundred countries welcomed the interactive and participatory nature of the discussions.

Having reviewed the reports from the various regional and country consultations, and taking into account both the in-depth analysis of progress in health research over the past decade and the discussions before and during the meeting, We the participants make the following Declaration.

The Conference reaffirms that health is a basic human right. Health research is essential for improvements not only in health but also in social and economic development. Rapid globalization, new understanding of human biology, and the information technology revolution pose new challenges and opportunities. Social and health disparities, both within and between countries, are growing. Given these global trends, a focus on social and gender equity should be central to health research. In addition, health research, including the institutional arrangements, should be based on common underlying values. There should be:

- A clear and strong ethical basis governing the design, conduct and use of research;
- The inclusion of a gender perspective;
- A commitment that knowledge derived from publicly funded research should be available and accessible to all;
- An understanding that research is an investment in human development; and
- A recognition that research should be inclusive, involving all stakeholders including civil society in partnerships at local, national, regional, and global levels.

An effective health research system requires:

- Coherent and coordinated health research strategies and actions that are based on mutually beneficial partnerships between and within countries;
- An effective governance system; and
- A revitalized effort from all involved in health research to generate new knowledge related to the problems of the world's disadvantaged, and to increase the use of high quality, relevant evidence in decision-making.

It is the responsibility of active civil societies through their governments and other channels to set the direction for the health research system, nurture and support health research, and ensure that the outcomes of research are used to benefit all their peoples and the global community.

We the participants commit ourselves to ensuring that health research improves the health and quality of life of all peoples.

The work carried out in preparation for, and during, the Conference should continue, through a process that will allow all stakeholders to contribute to debate and decisions on the key issues for the future of health research for development.

A. Health Research for Development – Background and Context

1. Health for All – A Continued Challenge

At the turn of the century, more than two decades after the 1978 Declaration of Alma Ata, concerns about the state of the world's health have replaced the euphoria which followed the promise of "Health for All by the Year 2000". Since that landmark commitment by the global health and development community to implement a range of strategies to fulfil the goal of health equity, the world has witnessed progressive physical and social deterioration of communities, countries, and the environment, with increasing polarization of wealth distribution. In the wake of this situation, there has been a decline in the health of the world's poor, characterized by a high burden of disease, death and disability associated with a number of new and re-emerging conditions including AIDS, drug-resistant malaria and tuberculosis. For the majority of people, this has been accompanied by lack of access to quality affordable health care, and limited opportunities to participate in decisions which affect their lives.

The dismal state of the health of the poor takes place against a background of political uncertainty, social and economic upheavals and cultural change. The collapse of the communist bloc, the economic crisis in Asia, the numerous ethnic and territorial conflicts throughout the world, massive population movements as a result of migration, conflict or natural disaster – all these reflect a world that is in many ways less stable than the world of the 1980s. At the same time, rapidly increasing globalization, and the revolution in information and communications technology, mean that we are – more than ever before – a global village and that what happens in one country potentially affects every other.

Nowhere is this clearer than in health where the rapid spread of communicable diseases has emphasized once again our interdependence – and vulnerability – in the face of these global threats. At the same time, major scientific development and breakthroughs, such as the human genome project, innovative technologies that have accelerated drug and vaccine development, and the crucial evaluative frameworks now available to appraise health reform efforts and the performance of national health systems (WHO, 2000) hold the promise of more effective prevention, management and treatment for an array of critical health problems.

But the inherent danger in the powerful and inexorable forces of globalization, and similarly with the revolutionary applications now arising from new genetic understanding, is their potential to accentuate inequality. While their fruits are enjoyed by those nations and groups with the means of access, they are generally not available to the world's poor who, instead, progressively crowd the margins behind barriers that are ever more difficult to penetrate. This may prove a metaphor

for health in the twenty-first century: the choice between an inclusive world focused on health problems that afflict the vulnerable, or a growing marginalization of those with the greatest burden from the means to improve their situation.

This has compelled many heads of State to acknowledge that, because the good health of their nations is the key to human development and economic growth, health should have a central place in the development agenda (WHO, 1998). This poses a challenge to the health sector to pay greater attention to understanding the complex connections between health and human development in the pursuit of promoting equity.

Challenges identified by Dr Brundtland:

"Our first challenge is to reduce excess mortality, morbidity and disability, especially in poor and marginalized populations.

Our second challenge is to promote healthy lifestyles and reduce factors that pose risks to human health.

Our third challenge is to develop health systems that equitably improve health outcomes, respond to people's legitimate demands and which are financially fair. Knowledge and technologies have helped develop tools for tackling conditions of poverty.

Our fourth challenge is to promote an effective health dimension to social, economic, environmental and development policy.

We face a fifth, and different kind of challenge. How do we deal with knowledge that is relevant to the public's health? Is it a private good, to be traded in markets, closely guarded, tightly protected and used to enrich its owners? Or is it a global public good, openly available to all who need it and make good use of it? Currently there is an imbalance and under-provision of knowledge goods within poorer communities and countries.

Scientific knowledge is at the core of our collective effort to advance health - whether we work in communities nationally, regionally or globally. Knowledge improves health through three basic mechanisms:

- By leading to better technologies;
- By creating the basis for health-promoting life-styles; and
- By providing an evidence-base for policy-making.

They all need to be mobilized for us to meet the challenges we face today".

Dr Gro Harlem Brundtland, Director-General, WHO

Source: Dr Gro Harlem Brundtland, Opening speech at IOC2000, Bangkok, October 2000

New knowledge emerging from these efforts has demonstrated the economic impact on poor communities resulting from conditions such as HIV infection, malaria, and reproductive ill health. This has spurred renewed efforts by the health sector to address these problems, using the evidence generated by research in the fields of biomedicine, public health and the social and political sciences.

Dr Gro Harlem Brundtland, Director General of the World Health Organization, recognizes the growing consensus that equitable health outcomes are essential for global prosperity and the well-being of societies, and that better health is key to reducing poverty. She has identified several challenges on the path to redress for the health of the world's poor.

Against this background, the connections between development and health and the impact of health research on the promotion of equity have received much attention in recent years.

2. International Health Research Initiatives in the 1990s

In the twenty years since Alma Ata, many debates have been waged around the nexus between health research and its impact on the health of the poor. These debates culminated in the formation of a *Commission on Health Research for Development* in late 1987, with the aim of "improving the health of people in developing countries".

This interdisciplinary group comprised of twelve members (8 of whom were from developing countries), presented their findings and recommendations at an international conference held in Stockholm, Sweden in February 1990 (Karolinska Institute Nobel Conference - No 15, 1990).

Envisaging a pluralistic, worldwide health research system that would nurture productive national scientific groups linked together in transnational networks able to address both national and global health problems, and noting that only about 5% of the global investment in health research was devoted specifically to the health problems of developing countries, representing over 90% of the disease burden, the Commission proposed a series of recommendations through which the potential of research could be harnessed to accelerate health improvements and to overcome health inequities throughout the world (Commission on Health Research for Development, 1990).

These recommendations were:

1. Essential national health research

The Commission proposed that all countries should vigorously undertake essential national health research (ENHR) to accelerate health action in diverse national and community settings, and to ensure that resources available for the health sector achieve maximum results. Such research should not be limited to the health sector, and should examine both the health impact of development in other sectors, as well as the socioeconomic determinants of health which are so important to health promotion and disease prevention.

2. International partnerships

The second recommendation was for the national efforts of developing countries to be joined together with efforts in industrialized countries in international partnerships that could mobilize and focus the world's scientific capacity on the highest-priority health problems.

3. Financial support

The Commission also suggested that larger and more sustained financial support for research should be mobilized from both international and national sources. Countries themselves should be encouraged to invest at least 2 percent of their national health expenditures to support ENHR, which would include a long-term strategy of building and sustaining research capacity. Development aid agencies should earmark at least 5 percent of health project and program aid for ENHR and research capacity building. Such support should offer more program aid, rather than exclusive project assistance, and should involve long-term commitments to institutional capacity building for at least 10 years. They also proposed that specialized research support agencies and foundations should continue to pioneer in health research, and that industry should be encouraged to support health research that is relevant both to its own mandate and to the interests of developing countries.

4. *International monitoring*

Their last recommendation was for the establishment of an international mechanism to monitor progress, and to promote financial and technical support for research on health problems of developing countries.

> *Essential National Health Research (ENHR)* was the term used by the Commission to describe the health research – and the health research capacity – on which all countries, including developing countries, should concentrate.
>
> It encompasses two research approaches: (1) research on country-specific health problems, needed to formulate sound policies and plans for field action; and (2) contributions to global health research aimed at developing new knowledge and technologies to solve health problems of general significance but also relevant to the population of the country.
>
> *Source: Commission on Health Research for Development (1990).*

Members of the Commission argued that implementation of these four key recommendations would mobilize the power of research to enable developing countries to strengthen health action and to discover new and more effective means to deal with unsolved health problems.

The Commission report was followed by several global initiatives.

Three months after the report was presented in 1990, the World Health Assembly convened a discussion of the role of health research in the strategy of Health for All by the Year 2000. Participants at the Health Assembly in 1990 agreed that health research should be an integral component of national strategies for Health for All, and called on WHO to take a more active leadership role in monitoring changing disease patterns, advances in research, and resource flows; informing a global research agenda; coordinating the health research policies of various international players; and promoting selected directions in health research. The resolution which was adopted (WHA43.19) also included a call to WHO Member States to undertake national health research as appropriate to national needs.

A significant outcome of the Commission report was the establishment of an interim Task Force on Health Research for Development under the joint sponsorship of the International Development Research Centre (IDRC), Canada, and the Swedish Agency for Research Cooperation with Developing Countries (SAREC). This Task Force defined the main elements of the essential national health research approach (Task Force on Health Research for Development, 1991), and its work with countries culminated, in 1993, in the establishment of the *Council on Health Research for Development*, the goal of which was to "promote, facilitate, support and evaluate the ENHR strategy and other health issues of international priority" (COHRED, 1993).

Other United Nations agencies (including the World Bank), sharing the concerns expressed in the Commission's report, also initiated special programmes to address these.

In 1993, the World Bank, in collaboration with WHO, produced *Investing in Health* (World Bank, 1993). A follow-up conference in Ottawa, co-sponsored by IDRC, WHO and the World Bank, resulted in three major new initiatives: an ad hoc review of health research priorities, for which WHO provided the secretariat; a research effort to test the development of nationally defined health intervention

packages; and an examination of issues related to increasing and redirecting investment in equity-oriented health development, led by the World Bank.

The Ad Hoc Committee on Health Research Relating to Future Intervention options outlines a five-step systematic approach to resource allocation for strategic health research:

1. Calculate the burden attributable to the disease, condition or risk factor (how big is the health problem?)
2. Identify the reasons for the persistence of the burden of the disease or condition in a population (why does the disease burden persist?)
3. Judge the adequacy of the current knowledge base (is enough known about the problem now to consider possible interventions?)
4. Assess the promise of the research and intervention efforts (How cost-effective will these be? Can they be developed soon and for a reasonable outlay?)
5. Assess the current level of effort (how much is already being done about the problem?)

Source: WHO (1996).

The first initiative resulted in the *Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options* (WHO, 1996), which outlines a five-step process for deciding on allocation of health research funds. In addition to recommending specific areas as key investments for health research, the Ad Hoc Committee also recommended the formation of a mechanism to review needs and opportunities for global health research and development, with the aim of focusing resources on the highest priority tasks to correct the imbalance in allocation of research funds. This mechanism was given substance through the *Global Forum for Health Research*, established in 1998.

More recently, with the restructuring of the WHO, the organizations', commitment to placing evidence at the centre of its efforts and to promoting and fostering health research, has been strongly reiterated (WHO, 1999).[1]

Ten years after the Stockholm Nobel conference, there was a recognition that the recommendations underpinning the movement of health research for development needed review and renewal.

3. The Current Situation

The major players

Over the last 10 - 20 years, growing numbers of international programmes and networks concerned with strengthening developing country health research were established. By working with scientific groups, many based in developing countries, they sought to strengthen disciplinary expertise, develop a "critical mass" of researchers, provide support and cross-national connections and link national groups to the international research and policy community.

1 While WHO itself is not primarily a research agency, one of its constitutional functions is "to promote and conduct research in the field of health" (WHO, 1989). Research is incorporated in a number of its programmes and the Organization facilitates and supports research through collaborative special programmes such as those focused on human reproduction and tropical diseases.

Three features have characterized the emerging major players in international health research: accelerated growth in numbers; variations in the strategies applied; and increased significance of the private sector, especially industry and philanthropic foundations. The result has been the creation of a complex global health research system, which includes the totality of actors in health research, encompassing both the *international* (including regional) institutions that focus on transnational or inter-country problems and the *national* institutions that address country, inter-country and global issues.

In 1996, the Ad Hoc Committee (WHO, 1996) classified the global contributors to Health Research & Development (HRD) into four groups: investors, R&D networks, R&D institutions and health care providers. In the year 2000, in light of the rapid growth in numbers of major players, the growing significance of the private sector and public/private initiatives, and increasing contributions of national and regional players to the global scene, there is a strong case for acknowledging a broader range of players to more accurately reflect the current situation.

One approach which emerged from consultations with a number of global constituencies suggests the inclusion of the following groups:

- International health organizations
- Development banks
- Development agencies
- Foundations
- Global programme or disease-based networks
- Thematic initiatives
- International research centers and university-based institutes
- Pharmaceutical industry
- Regional networks
- National bodies

This list is far from exhaustive, nor does it reflect the complexity of the arrangements between these different players, exemplified by the burgeoning of new initiatives, networks, groups and coalitions. Within these, there has been rapid growth in those involving collaboration between the public and private sectors. Developed initially to draw the pharmaceutical industry into neglected areas of health research, particularly vaccine and drug development for infectious and tropical diseases, the net now includes large philanthropic foundations, thus providing a larger pool of support available for health research for development.

The response of these players to the challenge of health research for development may be captured in the extent to which they have fulfilled the letter and spirit of the recommendations of the Commission. There is, nevertheless, a concern that many of the recent initiatives are vertical programmes which are not fully integrated in the national health research picture. They may therefore not contribute optimally to the development of strong and self-reliant national health research systems.

Furthermore, if these players do not develop effective linkages and communicate among themselves, the growth in the number of players at international level could

result in a number of weakly aligned initiatives competing for limited resources, with consequent weakening and fragmentation of the international health research effort.

The achievements

Much has been achieved in support of health research in developing countries over the past decade.

By the year 2000, the ENHR strategy had been adopted by some 55 countries, facilitated by a "horizontal" systems approach to research capacity development.

The mushrooming of international partnerships has resulted from the efforts of a few agencies and foundations, thus meeting – in part – the Commission's call for "the steady growth of collaborative international research networks".

Many more resources are now available to developing country researchers, and in some countries there have been successful efforts to establish national coordinating and monitoring mechanisms for health research.

A Participant's Comment

"The Report of the Commission on Health Research followed by advocacy activities by COHRED and the Global Forum for Health Research, and by WHO on health research promotion, has really drawn the attention of the national governments, the international community, and donor agencies, towards the urgent need to promote health research to support health development in the country. COHRED's advocacy to focus health research on the country, on equity and on parities means that the national government will have to act sooner or later. It is up to us to convince our governments to act sooner. We have got to work hard on that area." Gopal Acharya, Nepal Health Research Council, Nepal

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

4. The Unfinished Agenda

Despite the achievements noted, the 1990 recommendations of the Commission on Health Research for Development have not been fully realized, and the past decade has provided further challenges for health research for development.

The first recommendation of the Commission was that "all countries should vigorously undertake **essential national health research** (ENHR)". Unfortunately, within countries, ENHR has often been seen, or developed as, another vertical programme, to the detriment of the effective organization of the research *system* as a whole.

The partial success of the second recommendation, that **international partnerships** be forged to address high priority health problems, is reflected in the explosion of public-private initiatives directed at specific problems. However, a review of these initiatives shows an overwhelming bias in favor of a disease/programme focus (the vertical approach) rather than a systems (horizontal) orientation, with concern for the effect of this approach on integration of capacity-building efforts at country level.

Mobilization of financial resources (the third recommendation) achieved less encouraging results. A review of resource flows (Global Forum for Health

Research, 2000) has shown that the proposed commitment of 5% of health project development aid and 2% of national health expenditures for health research did not materialize. Financing of health research therefore remains the greatest challenge to future development efforts.

> "The complex worldwide system for promoting health research on health and development lacks an effective overview mechanism. ... There is no independent, informal voice to speak frankly and critically on the policies and practices of agencies. ... Overview arrangements for assessing progress in research on developing-country health problems, identifying neglected areas, and promoting necessary action are needed to ensure that resources are effectively deployed in a pluralistic worldwide health research system." (Commission on Health Research for Development, 1990, pp. 67-69).

Finally, the proposal to create an **international mechanism** "to monitor progress and to promote financial and technical support for research on health problems of developing countries" has been partly addressed by some international initiatives.

The challenges presented by the Commission 10 years ago thus remain partially unfulfilled, demanding an assessment on which to base planning for health research for development for the next decade.

5. Planning the Conference

In 1999, four major global players in health research proposed the convening of an international conference on health research for development. A number of factors led to this proposal:

- To guide its future activities, COHRED had planned a review of its progress with the recommendations made by the Commission on Health Research for Development a decade earlier, which would include an assessment of the organization's global impact with regard to ENHR to guide future action. COHRED suggested that this review should take the form of an international conference marking the tenth anniversary of the Commission.
- This intention dove-tailed with the annual forum convened by the Global Forum for Health Research to review progress with the 10:90 disequilibrium in health research funding, and convening international partnerships around major global research priorities.
- The two agencies agreed to a collaborative effort, which would include the World Health Organization and the World Bank, to convene an international conference.

The resultant four-partner alliance of COHRED, the Global Forum for Health Research, WHO and the World Bank constituted the International Organizing Committee, which was the executive arm of a much larger International Steering Committee, comprised of thirty-five organizations from the international health research arena. From the outset, every effort was made to be as inclusive as possible in the process of organizing the Conference as wide representation would not only 'reflect the growing pluralism of the international health research arena, but would also bring a wealth of participatory energy" (Frenk, Annex 2).

It was envisaged that through a process of consultation and analysis, participants in both the planning process and the actual conference would make a serious effort to examine current challenges, and debate future options for health research for promotion of equity in development. Thus over a two-year period, which culminated in the conference in Bangkok in October 2000, three convergent lines of work were carried out:

- Extensive consultations were held on a regional basis in Africa, Asia, the Eastern Mediterranean, Latin America, the Caribbean and Central & Eastern Europe & the Newly Independent States.
- Analysis of the factors affecting progress with the movement for health research for development was based on a process of document review, interviews with key informants and roundtable discussions.
- Consultations were also held with some of the major investors in research.

These strands were brought together in a conference discussion paper which was used as one of the key references during discussions at the conference (Health Research for Development: The Continuing Challenge, 2000).

The Opportunity

"The conference sets the stage for another landmark event in the annals of health research. It is an important stage in an on-going process to define and implement an action plan for the next decade, to which all stakeholders are committed and which will transform health research into policies and practices that improve health and quality of life for all, with a focus on the most disadvantaged. It will afford the international community an opportunity to...

- Review health research over the past decade and to draw lessons for the future
- Focus on the highest health research priorities;
- Develop a new vision, a responsive agenda and an action plan to translate health research over the next ten years into policies and practices that improve health and the quality of life, particularly in developing countries
- Agree on a common strategy for health research for the coming years

Agree on a framework for improved international co-operation in health research for international, regional and country institutions and networks to endorse the principles of an action plan in support of a truly global partnership serving a rapidly changing world."

Source: www.conference2000.ch

B. Pre-Conference Consultations and Analyses

A review of progress with international cooperation in health research was conducted in preparation for the conference. The process, which targeted developing country scientists and policy makers; representatives of development agencies and philanthropic foundations; and selected key informants, aimed to delineate roles, functions, relationships and arrangements between major players in international health research cooperation.

The process included a number of consultations and meetings, of which the following were crucial:

- A series of consultations with countries and regions, in which researchers, research managers, and representatives of government and non-governmental organizations were asked to provide information on their experiences in health research and give their ideas on critical issues for the coming years and how to address them.
- A series of consultations with donor organizations and development agencies, focusing particularly on the structural aspects of international governance for health research for development.
- A "synthesis" meeting, held in Prangins, Switzerland, at which the preliminary conclusions of a review of the major research initiatives of the last decade, based on the regional consultations and analyses (conducted through interviews, round table discussions and examination of available documents) were presented and discussed.

1. The Regional Perspective

The regional perspective was obtained through consultations conducted in Africa, Asia, the Caribbean, Central and Eastern Europe and the Newly Independent States, the Eastern Mediterranean, and Latin America. Each regional consultation was based on a vision of health research, driven by equity and focused on country needs and priorities, and examined current concerns, experiences, and future plans for health research in the regions.

Although there was a common goal in mind, each regional approach to the consultations was very different to the next.[2]

2 Please note that hardcopy versions of the regional consultative reports are available from the COHRED Secretariat (please email **cohred@cohred.ch** to order). Electronic copies of the reports can also be downloaded from the Conference website at: www.conference2000.ch

The **African regional consultation** included in-depth analysis in 15 countries, and an abridged analysis in a number of other countries. Methodologies used include interviews, country workshops and extensive literature reviews. A regional synthesis meeting took place in Cape Town and a sub-regional synthesis meeting in Bamako. A long list of messages for African governments and the international community were delivered at the International Conference on Health Research for Development, and constituted the "African Voice" at the conference.

The identified three Key Challenges facing health research in the region are:

1. The need to build appropriate capacities for undertaking health research
2. The need to develop effective national mechanisms for health research
3. The need to create an enabling environment for health research.

In the **Asian region**, the coordinator of the consultative process established a mechanism whereby over 1000 stakeholders in health research from across the region were able to participate "virtually" via an electronic dialogue tool. The electronic dialogue was sustained for at least 12 months before approximately 100 participants met face to face in Manilla to synthesize the deliberations from the extended dialogue, and arrive at what became known as the "Asian Voice". Four major challenges for health research in the Asian region were identified as a result.

1. Population growth, old and new infectious diseases resulting from globalization and ecological changes
2. The increasing number of global actors and political influences
3. Cultural responses to the psychological, physical and social changes resulting from the massive influx of modern professional knowledge and their interaction with former lifestyle and value systems, and
4. Non-communicable diseases with the rapid growth of medical technology and their implication on the cost of health systems, contributing to economic instability and eventually to economic crisis of Asia.

In the **Caribbean region**, the organisers held a three-day retreat in St Lucia. Health research stakeholders reviewed the broad issues that are common to countries of the Caribbean region. It became clear that governments in the region need to make a more concerted commitment to invest in health research; and that stakeholders need to collaborate more. Capacity strengthening at all levels is required (funding, facilities, and in undertaking research), and the under utilization of research is a regional phenomena.

The **Central & Eastern European countries and the Newly Independent States (CEE/NIS)**, although not formally a region in the sense of many of the other global regions, have much in common in terms of their past: Soviet-style research systems, health services, public health systems; and also in terms of the socio-political change that's taken place in the last decade. Despite the commonalities, research collaboration and cooperation amongst the countries was almost unheard of.

However, the regional consultative process which took place in preparation for the International Conference changed this mindset forever, having apparently caused "a catalytic effect on relations within the region". Six countries were selected for case studies. A regional consultative meeting in Balatonlelle (Hungary) reviewed the analytical work and made a SWOT (strength, weaknesses, opportunities and threats) analysis for health research in the region.

The **Eastern Mediterranean region** held a three-day consultation in Cairo with participants from ten countries. Each of these countries had conducted a case study to review the national health research situation. A review of the regional health research situation revealed a number of commonalities: most countries had demonstrated a political commitment for health research and had existing health research policies, but relations between researchers and decision-makers were poor, and utilization of results was weak as a result. Many countries reported that priority setting was a standard undertaking prior to setting national plans. On the down side, most countries reported that the committed stakeholders for research were in general, limited to staff of universities and other research institutions, and capacity for undertaking health research was weak. A lack of functioning networks present in the region was a further common concern. The consultation arrived at a long list of recommendations: broken down into those aimed at country level, and those aimed at the global level.

The **Latin American** region held three country meetings (in Argentina, Cuba and Mexico) to begin its regional consultative process. The approach was one of fluidity: rather than forcing countries/stakeholders to define a finite set of specific challenges, the region arrived at a number of "consensus points" which would continue to evolve and be added to as the need required. In this way, the region was not tied to a set of challenges which were more than likely to change after the International Conference. The consensus points included commitments to: work towards better financing of health research to combat the "brain drain" of researchers; and improve donor/investor understanding of the region's diversity, so that funds are distributed more effectively.

A Participant's Comment

"The Ministers of Health, despite many constraints, realized the value of health research, especially on health systems, and have reached out to WHO AFRO to extend health research in their countries. While it is easy to say that countries of the (African) region have given low priority to health research, they have in fact not ignored the need for health research as an integral part of health development. It is our duty to continue investing in health research development in this region. The contributions of the donors that have been mentioned, who have given WHO and countries a free hand to design a model that meets the needs of the Member States, have not been wasted.

Finally, we hope that in partnership with the other international key players in the region, in the global health research community, WHO and the African countries can continue with this meaningful collaboration and receive further support for national health research development and capacity building from these donors." Isabel Aleta, WHO/AFRO (responsible for the Health Systems Research Programme)

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

2. Perspectives of Donors and Development Partners

In order to include the views of the various parties concerned with the support of, and funding for health research for development, consultative meetings were held with some of the major donors and development agencies based in North America and Europe. Their perspectives on the strategic issues related to international co-operation in health research were discussed, as well as issues related to the conference itself.

Issues of concern

Concern was expressed that the spirit of Alma Ata and PHC has become marginal to international health research. In this vein, development of health research capacity should be considered as the means to strengthen the role of research as a tool for development and promotion of health equity. Any work undertaken should be far more holistic and intersectoral.

Donors raised several questions regarding new global initiatives established in the 1990s, with special reference to their impact on funding for health research; achievements of their goals and targets; costs and benefits of consultations, international meetings; and the opportunities for better co-ordination, especially taking adequate cognisance of the new information technologies. The plea for rationalisation of global research efforts was tempered by concern about the disadvantages of a single organized system for research, and a plea that governance should accommodate pluralism.

Some contributors cited the following weak or missing functions in the global efforts to promote health research for development: advocacy for resource mobilization from a variety of sources; better links between national, regional and global initiatives, and with institutions of higher learning such as universities; capacity to monitor health systems; and mobilization of resources for research from sectors outside the aid agencies in donor countries (including exploration of public-private partnerships, where relevant). However, it was also noted that the mobilization of external aid should be considered against the possible problems associated with dependence on foreign funding, such as distortion of both priorities, and the balance between producing and applying knowledge.

Some recommendations

With regard to the conference:

Donors proposed that the focus should be on research efforts on developing countries, and should provide a voice for developing country NGOs, community groups, policymakers and health providers. However, several felt that inclusion of industrialized country researchers and the private sector could stimulate greater interest in the problems of development, and could possibly lead to new arrangements in health research partnerships, especially between the "north" and the "south".

With regard to the international agencies:

Attention should be paid to optimizing the roles of international agencies, such as WHO, and where feasible, to consideration of appropriate mergers between international initiatives.

The notion of "subsidiarity"[3] should be included as an operating principle for any global efforts.

With regard to national health research efforts in developing countries:

Resource flows at country level should be monitored, and funding structures should be developed to support regional and country research activities. A recommendation was also made for the establishment of national, regional and global strategies and mechanisms to strengthen national health research systems.

The efforts to relate research to policy and practice should be accelerated, accompanied by development of appropriate skills for each phase of this process. Some of these include leadership skills, and capacity for priority-setting directed at national needs. Attention should also be given to representation of national research councils in international health research cooperation.

3. Consultative ('Synthesis') Meeting

Findings from regional consultative processes and the preliminary conclusions of the global analysis of health research for development were presented and discussed at a global "synthesis" meeting, held in Prangins, Switzerland, on 5-7 July 2000.

This meeting brought together over 40 people including representatives of the six regions involved in the regional consultative process, international and development agencies, members of the International Organizing Committee (IOC) of the Bangkok Conference, and members of the analytical team.[4]

Participants assembled to collate the findings and recommendations of the various consultations and reviews that had been carried out to date; and to prepare background documentation and plan the methods of work for the Conference.

3 See page 24 for a more detailed description of the notion of "subsidiarity".

4 The members of the analytical team were: Joe Kasonde, Mary Ann Lansang, Stephen Tollman and Pat Butler. Their tasks were threefold:

- Analyze and extract the main messages from the regional consultative processes
- Analyze the major health research initiatives of the last decade
- Conduct a series of consultations with donor organizations and development agencies on various aspects of international governance of health research for development.

The work of the analytical team, in combination with input form the regional coordinators, resulted in the discussion paper prepared for the Conference.

A draft paper prepared by the analytical team formed the basis of discussion, and participants spent the three days debating issues related to the current challenges for health research in developing countries.

The meeting contributed to the further development of a discussion paper to be used by the conference participants, as well as ideas for both the form and content of the conference.

The discussion paper summarized the trends in international health research over the decade, and in particular, noted the perspectives from developing countries. The specific problems identified at country, regional and global levels were highlighted, and the case for a new paradigm for health research was made. This new approach would articulate the need for health research to be an integral part of development and harness the world community of scientists, policy-makers and other stakeholders to attain a higher level of collaborative effort, based on the health priorities of countries.

This would be the essence of the vision for a revitalized health research approach for development.

C. REVITALIZATION OF HEALTH RESEARCH

Many of the problems which emerged during the pre-conference discussions and consultations had been identified by the Commission on Health Research for Development in its 1990 report. While some progress has been made in the past ten years, the process of review at the end of the decade showed that there is still a long way to go if health research is to benefit all countries and contribute to health equity. A renewed drive and focus are thus needed to revitalize health research throughout the developing world.

A Participant's Comment

"After seven or eight years of operation, where does the 10/90 imbalance stand right now? I would like COHRED and the Global Forum to do some analysis and to give us an update on that.

Second, COHRED, Global Forum and the Alliance on Health Policy and Systems Research- I think it is time to devise ways to make them more representative of, and responsive to, regional voices, rather than being so Geneva-centered." Anwar Islam, Dept of Community Health Sciences, Aga Khan University Pakistan

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

A reconceptualization of health research should aim to reconnect health research to development, and identify more explicitly the tangible benefits for the broader development agenda. The Commission itself envisaged a "pluralistic, worldwide health research system" that would nurture national scientific groups linked together in transnational networks. The proposed reconceptualization would thus emphasize a systems approach and would affirm the inclusion of health research as an integral part of long-term health development aimed at reducing inequities. It would apply high ethical standards to research initiatives and, above all, it would focus on country priorities.

A Participant's Comment

"I feel, through my experience as a researcher, as a policy maker, as manager of health services in the South and in the North, that today health is not being considered really as a human right, it has not become central to the question of the agenda in this globalization process that has not only affected the South, but also the North. And therefore if you accept health as a concrete human right you will see that all our services, our work, our research capacities really transform themselves into a social right. Why do I say that? Because a social right is a question of giving the people empowerment. It is to give our research findings to the people and they themselves are the people who are using their political avenues, their economic avenues, whatever possibilities democracy gives to them today. These people and communities are the ones that are going to put our research findings into the policy agenda, and transform them into action. I have the feeling that, depending on the interest of participants, some of us probably, as researchers, could mislead people and transform ourselves into leaders of our research findings and that may be a problem to really achieve development." Carlos Ferreyra Nunez, Argentina Association of Public Health, Argentina

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

Taking existing global economic and political realities into account, agreement by all players on a set of *underlying values* and *operating principles* for health research could greatly enhance opportunities for better cooperation and collaboration at all levels, and thereby lead to improved effectiveness and efficiency, and reduced overlaps and fragmentation. These values and principles should inform any discussion of the functions and structure of a health research system.

In light of these considerations, the discussion paper presented to conference participants articulated a **vision** for health research in the future, driven by equity as a fundamental concern, and focused on country needs and priorities within an interactive national, regional and global framework.

The following provides a summary of the main messages of the discussion paper.

1. Key Features of a Revitalized Health Research System

The health research agenda has to be driven by country needs and priorities, within an interactive regional and global framework

This requires countries to develop and retain the capacity to set their research priorities, and for research and development agencies, funding bodies and other international players to respect these priorities.

Efforts are needed to improve the work environment of health researchers in developing countries to build an effective health research system

Access to information, promoting a research culture and strengthening the various institutions and organizations involved in health research are critical.

Strategic networks, partnerships and alliances are needed to give voice to developing countries in the international arena

Such alliances could be geographical, based on common interests, and could include formal or informal networks.

Health research must be linked to the development agenda to impact on equity

This has implications for national health research systems, as well as for the strategies adopted by development and funding agencies.

2. Elements of an Effective Health Research System

An effective national health research system integrates the national, regional[5] and global levels of action into a common framework, focused on country needs and priorities.

The following elements were derived from the pre-conference consultations, and provided the basis for discussion at the conference.

The full text of the Discussion paper, as used by the Conference participants, can be accessed on the conference website at **www.conference2000.ch**

5 The term "regional" is used in this document to refer to groupings of countries based on geographical location. However, many of the desirable features and functions of regional networks also apply to strategic networks and alliances of countries or institutes, based on common interests. They are therefore incorporated here at the so-called regional level.

Goals of an effective health research system

At the *national level* the goals of the health research system are:

- to generate and communicate knowledge that informs the national health plan and its implementation;
- to adapt and apply knowledge generated elsewhere to national health development; and
- to contribute to the global knowledge base on issues relevant to the country.

thus contributing, directly or indirectly, to equitable health development in the country.

Regional health research networks, alliances, partnerships and institutions should evolve in response to national and regional needs and should aim to foster communication and collaboration; to provide support for their "members'" efforts; to identify common transnational issues and encourage development of mechanisms to address them; and to interact with other regions or networks, as well as funding partners.

The *global* health research system should actively support countries and regional and other networks/alliances in achieving their goals; and identify problems of global significance, develop the capabilities to address them and mobilize collective action tailored to regional/national diversity.

Underlying values

Equity was regarded as the most important value of health research for development. This implies a commitment to all citizens' having "equal capabilities for achieving good health outcomes, conditional on respect for human diversity and individual autonomy, and achieved through health action for the unfairly disadvantaged" (Tan-Torres Edejer, 2001). Such disadvantages may occur as a function of socioeconomic status, gender, ethnic affiliation, geographical location, or other factors.

All aspects of health research must have an *ethical basis*. Ethical considerations should govern the treatment of individuals, as well as institutional and other collaborative arrangements. This involves respect for human rights and socio-cultural norms, engagement of the communities involved, arrangements that ensure a fair flow of benefits in all North-South partnerships, and the right of everyone to enjoy the benefits of research.

Ownership: All stakeholders in the research process should have the right to participate at all stages, and should have access to the outcomes of the research.

The right of countries to *self-determination* regarding their priorities and research agendas, while acknowledging a global interdependence, is paramount, and should be respected and supported by development partners and funding agencies.

Countries and research institutions in the South can achieve much more by working together than separately. Such *solidarity* can build on diversity if based on agreed values and principles.

Research should not be seen only as a means of producing knowledge but as part of a process of *human development* and *individual empowerment.*

Health research is an *investment in development* and not merely an expenditure.

Health research needs to encompass a range of actors across a *variety of sectors*, including agriculture, finance, education, and more.

An effective response by health research to community needs must involve decision-makers, researchers, users and beneficiaries of research results in close *partnerships* at all stages of the research process, from planning to application.

Accountability in the use of resources, as well as for the way in which research is applied to action is essential in guiding the contribution of health research to equitable health development. Such accountability is incumbent on researchers, managers, and policy- and decision-makers at all levels, as well as on organizations and institutions at the global level.

Operating principles

The underlying values for a health research system lead to, and can be given effect through, a series of operating principles, relevant to all levels, from institutional through to global.

1. Health research policy and priorities

It is vital that each country has a clear national research policy and agenda, with identified priorities, based on considerations of social and gender equity, and determined in consultation with all stakeholders. The agenda should reflect national and sub-national needs, and should focus on priorities likely to optimize health benefits. Community involvement in the process is essential, particularly in problem identification, priority-setting, and implementation of results. There is thus a need to strengthen the "demand" for health research by making the processes more explicit and fostering the involvement of all parties concerned, including communities, policy makers, government services, media, industry, etc.

At global level, there is clear justification for a stronger developing country voice in research priority-setting, and associated decisions about resource allocation.

2. National health research plan

The national health research plan should recognize the importance of producing concrete health benefits, and should develop the human, institutional and financial resources to be able to do so; research proposals should be evaluated from that perspective. Projects supported by or developed in partnership with external agencies or institutes should be consistent with the national plan.

3. Targeted financing

National and international resources should be mobilized and allocated along the lines of national priorities, with particular attention to considerations of equity. Resource flows within a country should be under the control (wholly or in partnership) of national leadership. International collaborative efforts should respect and support the national priorities.

4. Monitoring and evaluation

To ensure that resources are used efficiently and in line with agreed priorities, there is a need for continuous monitoring and evaluation. All national and

international bodies funding health research should develop explicit policies and procedures for reviewing proposals, and for monitoring and evaluating the outputs and impact of those that are funded. Countries need to develop indicators to monitor the development and effectiveness of the health research system. On a broader front, countries also need to define valid indicators of health status, health system effectiveness, efficiency and affordability, in order to try to capture the contribution of research to reducing inequities.

5. Integration with health development

If health research is to have an impact on health development, the problems it tackles and the findings emerging have to be conceptualized within that context. Equally, decision-making needs to be informed by a sound knowledge base. Close links are therefore needed between the health research community, the broader health system and the development community. Health workers at district level are often ideally placed to carry out local research, and should be encouraged and empowered to do so.

6. Multidisciplinarity and intersectorality

Health research needs to be organized as a multidisciplinary and inter-sectoral activity; broad social objectives could be used as an entry-point for promoting such research.

7. Long-term perspective

The past ten years have amply demonstrated that there are no "quick fixes" in building an efficient and responsive health research system. Short-term project funding may be wasted if the underlying infrastructure is weak. Investing in health research is a long-term engagement and must include strengthening the capacity of institutions so that they can make the most effective use of resources.

8. Ethical operation

All research should be based on clear ethical principles, covering treatment of individual subjects, respect for communities, and institutional and other collaborative arrangements. Countries and institutions need to develop clear guidelines and capable ethical review mechanisms able to appraise and contribute to oversight of all research projects in which they are involved. The ethical base should embody the principles of human dignity, human rights, justice and fairness. Equity should be an overriding concern, in various aspects such as gender, ethnicity and socio-economic group. At the same time, the specific situation in the country needs to be considered.

International collaborative research should also be based on an accepted code of ethical practice that reflects the realities and concerns of the countries where the research is carried out. It is important that the unequal power relationships in research collaborations involving developed and developing countries be counterbalanced by the negotiation of appropriate arrangements regarding, for example, data access, authorship rights, financial benefits and rights to intellectual property resulting from collaborative efforts. Such collaborations should also explicitly address issues such as responsibilities towards strengthening of local institutions and health services, and providing benefit to local communities.

9. *Communication and networking*

There are enormous benefits to be gained from building collaborative networks and alliances, and by improving communications among the various players in the health research system. Thus researchers need to communicate far more effectively among themselves and with other stakeholders. Institutions can support and reinforce each other's efforts through exchange of resources and personnel, and by working together towards mutually agreed goals. Developing countries can collaborate in regional groupings to tackle common problems and to lobby for their interests with global partners. To facilitate this, the new information and communications technologies need to become widely available and used in the developing world, and made accessible to a broad range of users; equally there is a need for a new understanding of the importance and value of information management and knowledge-sharing – an understanding which is central to participation in the global process of knowledge generation and exchange.

10. *Principle of subsidiarity*

Regional or other groups and global organizations should undertake only those activities that cannot be carried out effectively at the country or institutional level. Thus, global organizations should support countries and regions in their functions and should not seek to supplant them. This will promote capacity development and will help to counter the "brain drain" by providing expanded opportunities for researchers and research managers at country level.

Functions

There are five primary functions of a health research system: stewardship, financing, knowledge generation, utilization and management of knowledge, and research capacity development. Each of these functions implies a need for a range of activities at the country, regional and global level. While activities at these levels should constructively reinforce each other, country activities should be primary; regional and global mechanisms should undertake only those activities that cannot be efficiently carried out at country level (subsidiarity principle).

Along the lines argued for international health organizations (Jamison, Frenk & Knaul, 1998; Frenk et al., 1997), research institutions with a regional, international or global mandate should balance their core business (research for promotion of the public's health) with supportive activities (aimed primarily at strengthening national research systems). Regional research organizations may prove particularly important with respect to such supportive activities (such as facilitating developmental partnerships between weaker and stronger institutions in neighboring countries, or targeting particular capacity needs).

Stewardship

This function encompasses a range of activities intended to ensure that the health research system demonstrates quality leadership, is productive, has strategic direction and operates in a coherent manner rather than as a collection of fragmented and uncoordinated activities. It should aim at creating or promoting a "research culture", that recognizes the need for evidence-based decision-making and the importance of health research as a vital component of health development. In this

way, it has a fundamental influence on all the other functions, since it establishes the framework for their implementation.

Stewardship can be divided into a number of distinct sub-functions. These include: strategic vision; overall system design and policy formulation; priority-setting; performance and impact assessment; promotion and advocacy; and setting of norms, standards and ethical frameworks ("sound practice") for the conduct of research.

Financing

Financing of health research comes from a number of sources. If the resources available are to be used effectively and efficiently, consistent with research priorities, mechanisms are needed to ensure coordination and to monitor resource flows over time, both within and between levels.

Knowledge generation

Each country needs to be able to generate knowledge relevant to its own situation, to allow it to determine its particular health problems, appraise the measures available for dealing with them, and choose the actions likely to produce the greatest improvement in health. This should not be seen as the exclusive preserve of universities or research councils, but equally of health/public services, nongovernmental organizations, etc.

Regions should focus on analyzing common problems, following and reporting on trends, evaluating regional progress and informing regional strategies and interventions. Core functions at global level should focus on (a) presenting a balanced overview of global health status and its determinants, (b) identifying and analyzing global/international health problems, (c) catalyzing action on outstanding issues requiring a global response (e.g. burden of disease estimates, poverty, global health threats), and (d) developing and disseminating new techniques, methodologies and approaches.

Utilization and management of knowledge

Generation of new knowledge is only a part of the research process; for knowledge to be useful, it should be shared with other researchers and communicated, in a suitable format, to the different users/stakeholders. It needs to be translated into policy or action or absorbed into the existing knowledge/technology base. Low-income countries, in particular, need to ensure that health research brings tangible benefits to the health status of their people. This implies a need for strengthened links between researchers, policy-makers, health and development workers, nongovernmental organizations and communities. A critical aspect is the need to improve interactions and connectedness, both horizontally and vertically, through accelerated and creative use of new information technologies.

Capacity development

A long-term, systems approach to the development and maintenance of research capacity is needed, addressing such issues as the depth and range of research competencies, gender disparities in education and training, institutional mix and capability, and the fostering of sustained collaborations, along with clear plans that

include provision for monitoring and evaluation. Efforts need to focus on both the quantity and quality of skills available, not just in research techniques, but over a broad range of related areas, including:

- Research priority-setting;
- Multidisciplinary research, including skills of management and leadership in this field;
- Capacity for use of research, i.e. development of the demand side of the research process;
- Leadership and management;
- Policy and systems analysis;
- Communication of results to a range of interested audiences through various media (publications, forums, mass media, Internet);
- Development of partnerships;
- Innovative uses of information and communication technologies.

Clearly, a situation analysis together with a phased and realistic plan is needed; the intention is not to overwhelm country leaders, but to provide pointers towards constructive and sustained capacity development.

Structure

To give effect to the research system described in the preceding sections, it is clear that more extensive and better cooperation will be needed between national, regional and global institutions and organizations. The existing structures at all levels will need to be examined with a view to determining whether they have the capabilities to carry out the functions specified above.

Countries – both individually and in regional groupings – may choose to reorient existing structures, support systems and networks, or to develop new entities to support health research for development in the revitalized system. While these decisions will necessarily be country- or region-specific, there are a number of principles that can be borne in mind. These include the need for structures to be non-bureaucratic, decentralized, and inclusive; to avoid artificial institutional or disciplinary boundaries and restrictive networks; and to respect the values and principles as articulated.

In addition, it is clear that, ***in reorienting their structures for an effective national health research system, countries should focus on developing and strengthening the essential functions of:*** stewardship; financing; knowledge generation; utilization and management of knowledge; and capacity development. The description of functions in the previous section included a number of activities to be undertaken, which are in the first place country-specific.

However, it is the reality that countries have to implement these activities in a regional and global environment. Until now, this external environment has been fixed and has largely determined the country reality; it could be argued that the time has come for this to change. This means that whatever is constructed as the regional and global dimensions of the health research scene should be guided by the same characteristics or criteria as those at national level, in full respect of the principle of subsidiarity.

In view of the specificity of national and regional arrangements, the discussion below focuses on the structure of the global health research system. It should be noted, however, that the reports of the regional consultations contain a number of suggestions and innovative ideas on organizational structure at regional level. Finally, it is worth reiterating that any reorganization of the regional or global systems should be based on the need to provide greater support to countries.

A Participant's Comment

"I am particularly delighted at the partnership between the World Bank and WHO at this Conference, but I fear that, as the pressure of globalization and the protests against IMF and World Bank continue, these institutions of economic development might restructure their programmes to compromise the ideals of the relationship between health and development. And I would urge us to keep this in mind and to be sure that we cannot have health research when development is lagging behind. So I would revert the title of the Conference, just as an experiment, to, say, Development for Health Research." Oladele Ogunseitan, Nigeria

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

3. Characteristics of an Effective Global Governance Structure

At the global level, pluralism in the health research scene has mushroomed in response to the increasing complexities of health problems and their determinants. This has been compounded by the rapid advances in science and technology (Frenk et al., 1997). Section A3 (Page 9) described 10 groups of players in the global health research scene (see Fig. 1 p.31). Over 120 health research bodies have been identified worldwide, and many have been linked in a worldwide database for information exchange.[6]

Recognizing that science has significant potential to contribute to reducing diseases of poverty and promoting health, new forms of health research funding have emerged. These include global health research initiatives linked to sources such as new philanthropic foundations (e.g. the Bill & Melinda Gates Foundation (McCarthy, 2000)), and global public-private partnerships between development sector health researchers and the pharmaceutical industry, foundations and UN organizations (Buse & Walt, 2000a, 2000b).

To mount a coherent and effective strategy in pursuit of the goals and targets for health research in the 21st century, the burgeoning pluralism must be modulated by enhanced coordination and collective decision-making and action. In various consultations with countries, regions and funding agencies, the politics and lack of coordination that pervade the international health research system have been consistently cited as obstacles to effective and efficient health research governance at all levels.

It is imperative that the evolving international health research system be built on a solid foundation, that includes:

- A shared vision for health research;

6 Scientists for Health and Research for Development (SHARED), http://www.shared.de

- A renewed commitment to a set of achievable goals;
- Agreement on the underlying values and operating principles of the health research system;
- A strengthened capacity of all stakeholders to contribute, but in particular the developing countries and regional networks that primarily comprise the "doers" and "beneficiaries" of health research.

Specifically, the structure of the health research system must be considered in terms of its ability to fulfil the functions as outlined.

The extent to which any proposed new structures – or indeed the existing structures – might be expected to contribute to the identified vision and goals can be assessed against a set of **criteria** or **characteristics** of an ideal system.

- **Robustness**. The structure of the system as a whole should advance health research for development at all levels – institutional, national, regional, international and global. In pursuit of the goal of equity in health research, it is essential that the structure be comprehensive in its attention to all organizational levels at which research is conducted, managed and applied.
- **Competence and effectiveness**. The structure should allow the formulation of a coherent strategy for achieving reasonable scientific goals. Long-term quality assurance can be pursued through such means as the creation of a highly competent **working** Technical Advisory Council, and effective external review processes, for which many precedents exist.

  The structure should be evaluated in terms of the degree to which it can effectively carry out the functions of stewardship, financing, knowledge generation, utilization and management of knowledge, and capacity development.

  Competence and effectiveness can be assured, over the long term, by the use of such techniques as:

  - Best governance practices gleaned from the experience of others and adapted to the needs of this very special undertaking, and
  - Generally accepted financial audit processes.
- **Credibility and accountability with multiple stakeholders**. It is essential for the many interested parties to have faith in the structure. It will be essential that all parties believe that any **new** structure will provide **increased support** for the achievement of goals, not only in science, but also in equity, cost-effectiveness, management and governance. The extent to which these expectations are being met should be monitored over time.

  To build such credibility, the structure will have to function in such a way that it:

  - Demonstrates sensitivity and responsiveness to concerns at many levels of the research system, e.g., as expressed through the six regional consultations;
  - Holds forth the promise of equity, not only between North and South, but also among the various relevant entities in the developing world, institutional, national and regional;
  - Demonstrates the feasibility of achieving economy and efficiency in the administration of the total enterprise;

- Shows fiscal responsibility and accountability in terms of both quality of research and finances; and
- Provides a high standard of stewardship as expressed through governance.

■ **Ability to champion health research for development**. The structure should be able to advocate effectively for health research for development.

As such, it will have to:

- Effectively articulate the significance of health research for development; and
- Cultivate an understanding of that significance in the consciousness of the broader general public, so that over time public support for the effort will increase significantly.

■ **Credibility and ability to generate research funding**. The structure should provide for the development of new techniques and approaches for attracting funds for health research for development. The structure will need to both cultivate and mobilize new sources of funding, as well as increase the yield from more traditional sources of support.

■ **Support national, regional and international entities in their organizational effectiveness**. The structure should support effective health research management and governance processes at all levels. It must be able to support institutional, national and regional entities in developing responsible management and governance practices, including finance and human resources development.

■ **Appropriate governance and good practice**. The structure should foster and encourage good governance. Boards and related accountability/oversight bodies created within the structure must be working entities capable of presiding over effective strategic planning and exercising stewardship on behalf of legitimate constituents. To this end, it will be critical that boards be composed of a balanced mix of individuals chosen on their merits in accordance with target skill sets. Directors and trustees must be able to contribute independent and varied external viewpoints and must adhere to strict ethical guidelines, e.g. concerning avoidance of real or perceived conflict of interest.

■ **Cost-effectiveness**. The returns that can be expected from the investment required to establish and operate new or modified structures should be considered. Any new structure should hold the promise of increased yield in research productivity and financing, for each unit of expenditure on management and governance, as well as in meeting the broader goals of health research for development.

4. Inter-relationships between Major Global Players

The pre-conference process of analysis and consultation provided a good foundation for the framework proposed for the revitalization of health research for development.

A Participant's Comment

"The historical reasons behind the creation of these kinds of international research initiatives, namely the lack of leadership at WHO, are no longer existent, and thus I believe the time has come to really reconsider what kind of an independent external body to WHO we must create together so that we combine the many merits of these various loose initiatives into perhaps one single greater one that serves the purpose of the original Commission mandate - that is, health research for development in developing countries." Jaime Sepulveda, National Institute of Public Health, Mexico

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

But this issue has been the concern of several other global players – such as large international research institutes, development agencies and philanthropic foundations – and a number of parallel discussions and reviews coincided with the planning of the conference.

One such contribution focused on the relationships between the various global players in health research for development. In response to suggestions that the current global arrangements for health research need review and restructuring, WHO initiated discussions on the complex exercise of identifying and assessing options for a new global structure which would help expand health research for development in the next decade.

Recognizing that further work is needed on developing a list of the different agencies, groupings and organizations, their functions and their inter-relationships, a map of the global health research system was proposed for initial consideration (Figure 1).

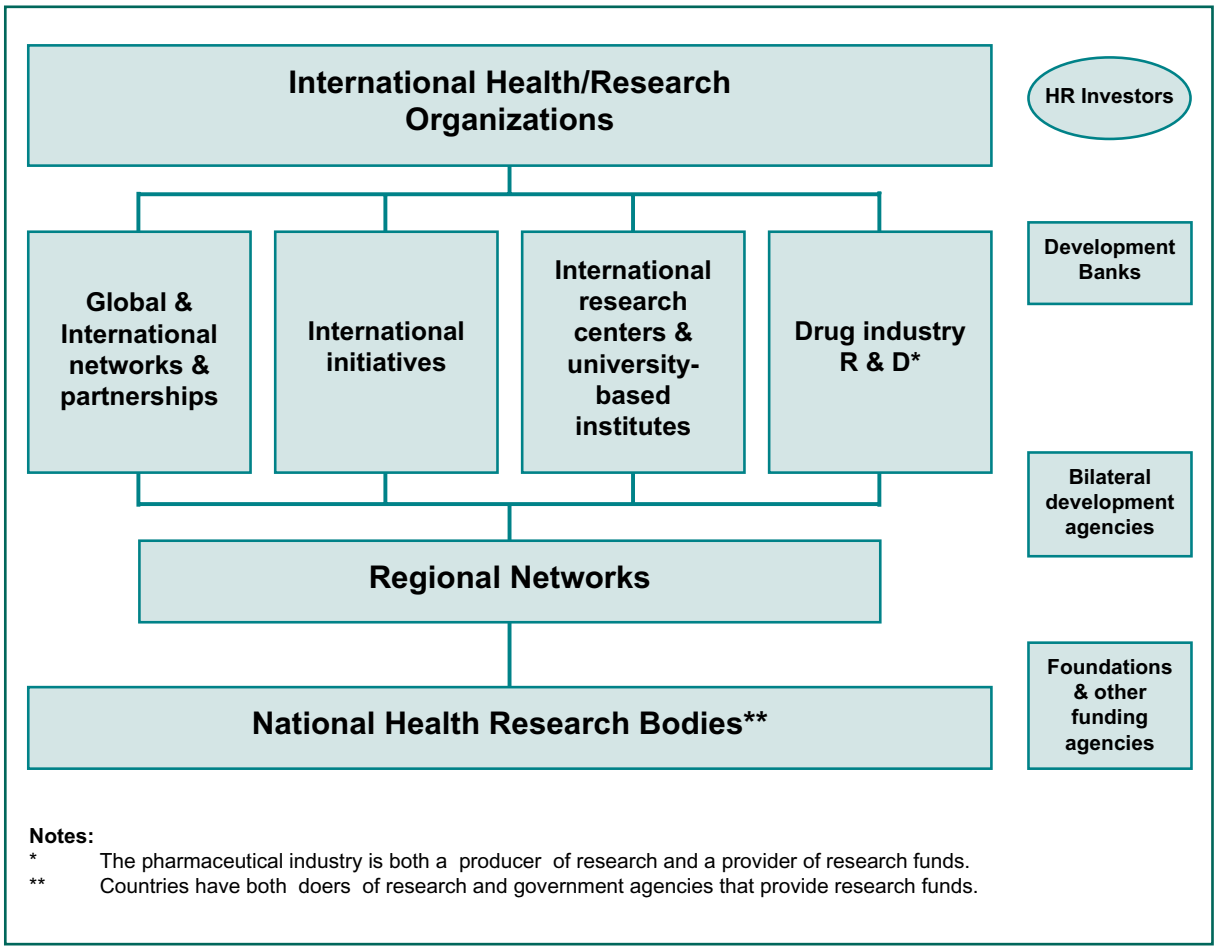
This map, which resulted from pre-conference consultations, provides a good starting point for determining the complexity of arrangements between different players, and the impact of these on health research for development.

One set of such arrangements relates to the growth in the number of initiatives involving collaboration between the public and the private sectors. When big philanthropic foundations, notably the Bill and Melinda Gates Foundation and the Rockefeller Foundation, entered into these partnerships, the stakes suddenly escalated. Global public-private partnerships (GPPPs) may offer many potential benefits to all the parties involved. However, as Buse & Walt (2000a; 2000b) point out, they also generate a great deal of uncertainty and some cause for concern. In particular, there is a fear that such partnerships may divert financial resources away from national priorities and that a small group of scientists and funders determine the thrusts and direction of such partnerships, thus marginalizing the developing countries and their priorities. In addition, there are no guarantees that the infusion of funds from the large philanthropic organizations will continue steadily through the long course of strategic research and product development.

However, there are some good examples of sustained funding from the private sector. The largest medical foundation, the Wellcome Trust, was the result of the beneficence of a pharmaceutical company. The Trust, with its capital base of over 29 billion dollars, remains a major support of health research with particular interest in diseases affecting people in developing countries. More recently the Merck donation of Ivermectin is linked to a promise to provide 'as much as is needed for as long as it takes'. This is an unprecedented commitment. Furthermore, the public sector does not have a perfect record for consistency in this regard.

Many of the consultations undertaken at the country and regional levels (and those with donors and some institutional representatives) prior to the conference alluded to issues related to relationships between the major players in global health research. The various consultations and analyses revealed widespread agreement that the current global structures and procedures for health research for development do not effectively serve the needs of these stakeholders.

Figure 1: Map of the Global Health Research System



Source: Health Research for Development: The Continuing Challenge. A discussion paper prepared for the International Conference on Health Research for Development. Bangkok 10-13 October, 2000.

There was general acknowledgement that there is a diversity and complexity of health research players which may reflect the complexity of health problems in the world, and that, in the real world, the health research investors, the international and global networks and partnerships, and other international initiatives hold the power. In this global setting, national groups and regional networks are weak.

That it would be desirable to optimize global arrangements between all heath research players to derive maximal benefit for the development of national health research, was without dispute. The present mechanisms and procedures for discussion, collective decision-making, and governance, are not adequate to meet current needs, and some options for change are needed.

A Participant's Comment

"WHO is not, probably, the main player, even though it may improve its functioning. Therefore we need organizations like COHRED and the Global Forum in this constellation of agencies. After all, one hopes that the organizers here would look into this and would provide to us in the future a constellation where each organization can take a lead in its own particular research area." Dr Ranjit Roy-Choudhury, National Institute of Immunology, India

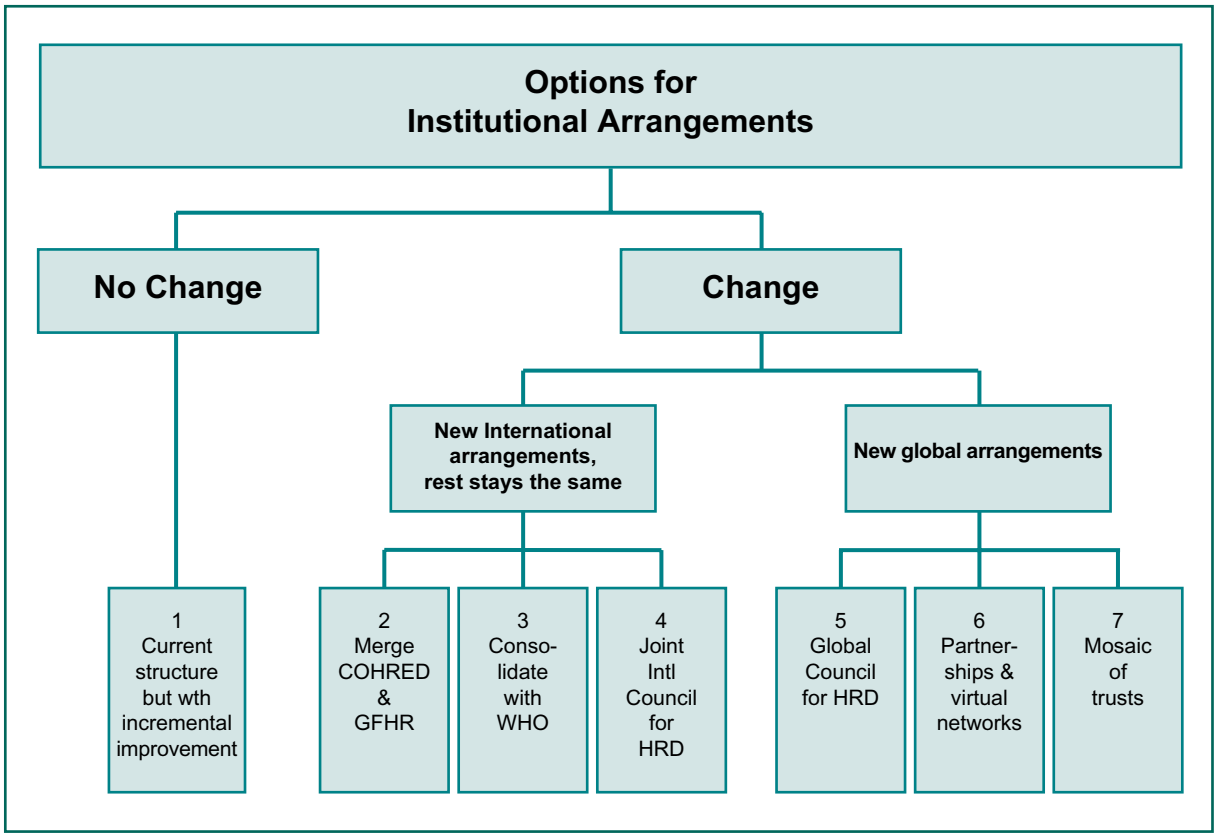
Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

There was also agreement that it would be important to give some more detailed attention to options for strategies and institutional arrangements to improve international health research cooperation, and to initiate thinking on some pointers for good governance and management for the future, and some "requisites for success" for future institutional arrangements.

Some options were proposed by a group of consultants (Figure 2). Ranging from maintenance of the status quo through changing a few of the existing international organizations, to the creation of new global arrangements; each of the options for change would modify significantly the present pattern.

Following consultation with some of the players, one perspective on the current institutional arrangements between the global players was the claim that the advances in health research over the past decade supported maintenance of the status quo. In this context, incremental improvements in each of the health research organizations in the field would be the only requirement for enhancing health research for development.

Figure 2: Options proposed by a group of consultants



Another approach could be realignment of the international players on the health research scene. Responding to concerns about fragmentation, lack of coordination missed opportunities and inefficient expenditure, different options for mergers and joint governance structures were proposed. However, recognizing that the landscape of global health research extends way beyond the international agencies, with a myriad of national, regional and international institutions – both public and private – contributing, some consideration was also given to new global arrangements, involving all players in discussions and decision-making.

The place of partnerships, coalitions, trusts and virtual networks – in different configurations at national, regional and global levels – was yet another option for consideration.

Some of the coordinating mechanisms could include capacities and partnerships between universities, as well as research institutions. In addition, there are loose and informal networks and coalitions as well as formal legal partnerships, initiatives and alliances.

Sustainability of these arrangements will be dependent on good governance, some elements of which would be: establishing research agendas; responsible management of resources; ensuring participation of legitimate stakeholders; ensuring high quality, relevant science; professional and transparent mode of operation; and leadership development.

A Participant's Comment

"I suggest we analyze more in depth the still important potentiality of Option 1, which could be more improved, with the non-exclusive Option 6. I disagree with the statements in the discussion paper, in the point that the former COHRED and Global Forum are not useful, redundant mechanisms to the one of the classic and more formal Advisory Committee on Health Research of WHO, and that they have not given enough results in hardly six and two years functioning. Really, there is not enough time to make an objective evaluation.

In the name of the most democratic governments of health research for development for the Southern countries, I want to suggest two things: first I suggest to let COHRED and Global Forum have the liberty to do and improve their jobs with very specific and global health research complementary approaches beside the ACHR of WHO.

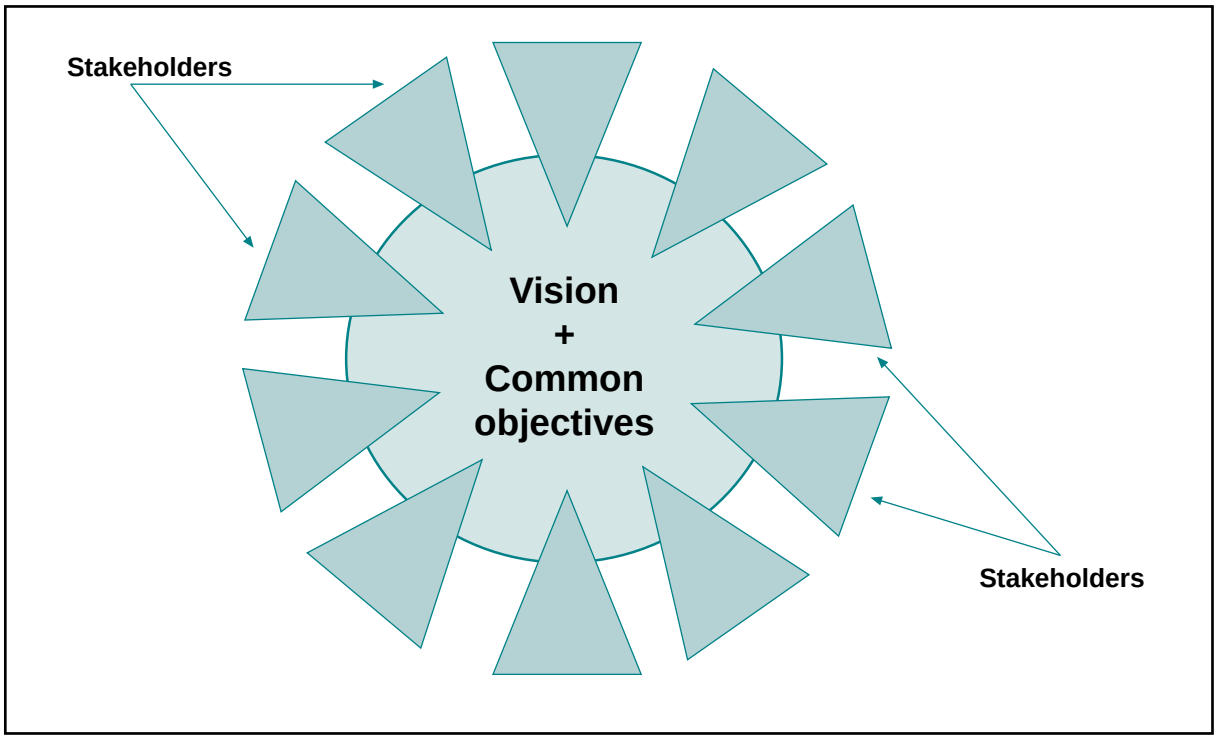
Second, I suggest being more patient and waiting some years more for increasing degrees of freedom that in the health research systems are producing electronic services, electronic discussion groups, and all kinds of scientific exchanges of results and products through the Internet...first generation and for implementation in the ... second generation and other communication technologies.

I am convinced that science is the human intellectual activity that needs more flexible, open, pluralistic and free mechanisms to achieve its progress in the long term. The return to rigid, closed, centralized or no mechanisms, which were demonstrated in 40 years as insufficient, could make much more difficult the necessary progress of health research for development in Southern countries." Rodolfo Stusser, Clinical Research Centre, Cuba

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

Whatever arrangement is decided upon the key to success is that stakeholders, whether at national, regional or global level, develop a shared vision, and agree upon goals, values and operating principles.

Figure 3: General Concept of health research cooperation



D. KEY CHALLENGES

The consultations and analyses that informed the pre-conference discussion document identified a number of shortcomings in the current state and organization of health research, as well as outlining a vision for a health research system that would address some of these shortcomings. The International Conference on Health Research for Development went some way towards contributing to the further development of that vision. It provided a "framework for action" for the coming years, albeit in draft form, that will help specify the concrete targets, together with realistic timeframes, relevant actors and where possible, associated costs.

As a basis for the discussions in Bangkok, participants were furnished with a set of "key challenges", extracted from the pre-conference discussion paper. Each challenge posed a number of questions to the conference participants, and these were used as the starting-point in elaborating its relevance for specific actions that need to be taken at country, regional and global levels in response.

The challenges were grouped into four broad categories. The first three - values, sustainable health research systems, and research environment - relate to specific aspects of the revitalized "system" envisaged by the Commission on Health Research for Development (also referred to in section 4 of the pre-conference Discussion document), and regarded as still being valid by a number of participants in the pre-conference consultations. The final challenge - knowledge production and its application - is an overarching concern that was considered as necessary to inform all our efforts.

1. Values

Equity

- In health

  The poor and marginalized people of the world continue to bear a disproportionately large – and in many cases increasing – share of the global burden of disease. The benefits of health knowledge must be made available to them to give them choices and hope for the future. This is the fundamental challenge of all health research for development and should underpin actions to strengthen the health research system.

  How can health research contribute more to reducing inequities in health between and within countries?

How can the national health research system be integrated with the national health development plan?

How can national governments strengthen these processes?

- In health research

  There are continuing inequities between the health research systems of developed and developing countries both in terms of the resources available (human, financial, infrastructure) and in terms of capacity to engage, interact and influence action at international and global levels. The challenge here is to ensure that research systems in developing countries have access to the resources they need to address their priority problems and to interact meaningfully on the global stage.

  How can developing countries more effectively make their voices heard in the global arena?

  Where should the health system at the different levels focus its attention in order to foster a more equitable distribution of resources for research?

Ethics

Health research at both national and international levels should be guided by clear ethical principles, based on respect for the dignity of the individual and for the sociocultural norms, engagement of the communities involved, and the right of everyone to enjoy the benefits of research.

What mechanisms and actions are needed at national level to ensure that research projects and programmes are in conformity with established ethical guidelines on treatment of individuals?

What actions are needed at national and international levels to ensure that international collaborative research reflects the realities and concerns of the countries where the research is carried out?

What should be done to ensure that international research collaborations (a) include appropriate arrangements regarding, e.g. data access, authorship rights, financial benefits and rights to intellectual property, and (b) explicitly address issues such as strengthening of local institutions and health services and providing benefit to local communities?

2. Sustainable Health Research Systems

Governance

Broadly speaking, governance is the means by which a society steers itself towards agreed goals. With regard to health research, governance can be understood as the formal and informal institutions, organizations and pressure groups, at national,

regional, or international level, whose actions have a bearing on any aspect of the health research system. At the level of organizations and institutions, governance is the process through which those with ultimate responsibility for the organization exercise the function of stewardship, as defined in section C.

Effective co-ordination among organizations at various levels of the health research system can be facilitated through effective contacts at the governance level. Such coordination, leading to collective action where appropriate and avoiding the simple addition of bureaucratic layers, represents a significant challenge for the future.

> How can the existing vertical international initiatives and programmes be integrated into a coherent global health research system that supports countries?
>
> What actions would improve communications between country, regional and global levels, and what role would governance play in such contacts?
>
> How can regional structures be strengthened to allow them to interact most effectively with both national and global levels? And how can the governing bodies of institutions at each level facilitate such interaction?
>
> What, if any, changes are needed to the global structure to improve support to countries and regions in their health research efforts?
>
> How can the growing institutional pluralism be captured to the benefit of global governance arrangements?

Capacity development

The development and retention of an adequate research capacity continues to present a major challenge to developing countries. There is a need for a comprehensive, sustainable approach to strengthening capacity, addressing both the quantity and quality of skills available, over a broad range of research-related areas, including leadership, priority-setting, advocacy, networking, negotiation, communication, use of research and partnership development.

> How can developing countries attain a "critical mass" of researchers?
>
> How can developing countries retain a critical mass of researchers?
>
> What are reasonable time-frames for this?
>
> How can a demand for research be generated among policy-makers, health workers, community groups and others?
>
> What can regional and international organizations, and well functioning established institutions such as certain northern universities, do to support countries and regions in their capacity development efforts?

Financing

The disequilibrium in allocation of health research funds identified by the Commission on Health Research for Development remains a key challenge for the coming years. Despite the recent injections of funds from philanthropic foundations and public-private partnerships, both the absolute amounts available for research and their distribution remain unsatisfactory.

What specific targets can be set for financing of health research, and what actions can help to ensure that those targets are met?

What specific actions can countries, regions and international organizations take to further redress the 10/90 disequilibrium?

How can global and regional financing mechanisms be more responsive to country needs?

What new tools or methodologies are needed to allow countries to coordinate inputs and monitor resource flows?

Are new mechanisms needed to strengthen the monitoring of resource flows?

Knowledge management

Knowledge is a key input to, and output of, the health research system. The challenge is to ensure that all countries have access to, can distil and use, and can contribute to the knowledge base.

What specific actions can be taken at national, regional and global levels to increase the access of developing countries to the international health research literature and knowledge base, both as contributors and as users?

How can we ensure that poor countries have adequate access to the new information technologies, and are not further marginalized by the communications revolution?

How can we ensure closer links between the research community, health services and policy-makers, in order to facilitate the utilization of research results in practice and policy?

3. Research Environment

Intersectorality

In line with increasing evidence of the importance of health and health research in development, the health research community needs to be much more closely linked to the development community. This implies a need for closer involvement with a number of other sectors – finance, welfare, education, agriculture, etc. The challenge is to create purpose-specific, equity-oriented research, learning and action coalitions, and manage them in an effective way.

How can the barriers between sectors – cultural, linguistic, and other – be broken down?

What specific actions could sensitize other sectors to the relevance of health research for their activities?

Globalization

Globalization is seen by some as an essentially progressive force driven by high technology and economic liberalization, bringing benefits to all. For others, it is "unfettered capitalism" threatening to increase marginalization of the poor and undermine health for all. The challenge is to find ways of enabling all countries to identify and use the opportunities offered by globalization and at the same time to limit the harmful effects.

What aspects of globalization can contribute positively to the functioning of the health research system?

How can countries take advantage of globalization to form effective international partnerships?

How can globalization be harnessed to improve health equity?

What specific actions can help to protect developing countries from the harmful effects of globalization?

Research Culture

There is widespread agreement that health research is not sufficiently valued by many societies as a critical input to human and socioeconomic development. The result is often an environment that is neither conducive to, nor supportive of, research. The challenge is, therefore, for each country to develop a culture that recognizes the value of research and of researchers, creates a sense of "ownership" of research by the community, and facilitates the emergence of a supportive research environment.

How can policy-makers, communities, etc. be more rapidly sensitized to the value of health research in development?

What specific actions would create a more supportive environment for research?

What is the role of national governments in promoting a research culture?

What is the role of regional, international and global bodies in promoting a research culture at national level?

4. Knowledge Production and Application

The production of knowledge is the primary function of the health research system. While the global body of knowledge related to the major health and development problems of the world continues to grow, there remain significant gaps, both in the underlying knowledge base, and in understanding of how existing knowledge can be applied to the problems of the vulnerable and marginalized. The challenge is to ensure that the effort leads to knowledge of high quality that is relevant to the overarching goal of equity.

How can the gaps in health knowledge be identified, prioritized and addressed?

How can the interface between priority-setting at global level and country priority needs be optimized?

How can local needs be better taken into account in country-based research?

How can scientists in poor countries be enabled to participate more effectively at global level?

In response to the questions posed, the discussions at the conference confirmed the relevance and seriousness of these challenges, but also extended both the nature and scope of the challenges, resulting in action plan which goes some way to addressing these concerns.

E. THE CONFERENCE: PROCESS AND DEBATES

The conference was unique in that it provided common ground for producers, users and funders of health research from all backgrounds. A plethora of specialized meetings catered for thematic, disciplinary or methodological interests, and discussions also explored new approaches to revitalizing national research capacity and international cooperation for health research.

1. Participants

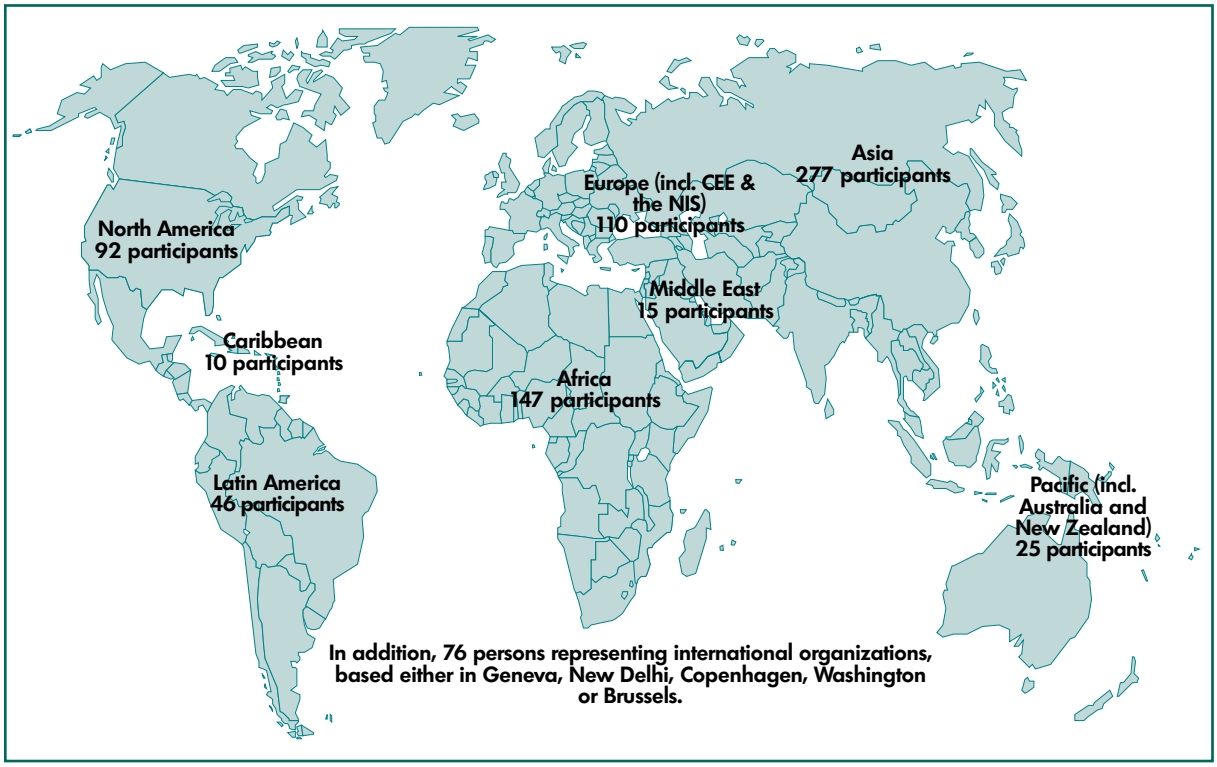
Many individuals, institutions and organizations were involved in the various phases of the process. Every effort was made to identify individuals from a wide range of constituencies concerned with health research in both the regional consultations and the conference, resulting in more than 800 persons from 102 countries attending the conference. The majority of these were representatives of health research institutes such as universities, private or government institutions, and there was a smaller number representing ministries of health, policy makers, investors in health research for development, international organizations and NGOs. The latter were largely under-represented, with very few voices from community-based NGOs and national policy-makers. About 75% of the participants were from developing countries.

From a Participant...

"I come from the Pacific – a region that has been overlooked in the construction of this Conference. When I asked why, I was told that nobody ever asked. But let's ask you, how can a country explain and ask for a picture they cannot see?" Sitaleki Finau, Kingdom of Tonga, currently residing in New Zealand

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

Figure 4: Conference Participation



2. Major Features of the Conference

The Conference procedure included keynote presentations, group discussions based on the regional and global preparatory consultations, parallel sessions, as well as a Marketplace which offered opportunities for individual interaction and collaboration, as well as satellite meetings.

The *plenary sessions* took place each morning and featured keynote addresses by prominent speakers which, along with other special presentations, set the scene for discussions for the rest of the day.

Group work sessions were an important element of the conference, providing a forum for debate and discussion on the key challenges derived from the pre-conference planning phase.

The *parallel sessions* represented a wide range of thematic and cross-cutting issues, and an attempt was made to link these discussions with those of the group work.

Reports on the participants' discussions were presented to a team which made these available through a daily Gazette, and also collated the issues into a framework for an action plan. A team also liaised with both the local and international media.

The *marketplace* offered a focal point for presentation of posters, documents, video materials, small displays, and documents or publications on priority issues relevant to the conference programme.

A number of related *satellite meetings* were convened around the time of the conference. These included:

- WHO's Advisory Committee on Health Research (ACHR)
- COHRED meetings of the Board and its Constituents
- Global Forum for Health Research: STRATEC and Foundation Council meetings
- Meeting of the International Council of Nurses
- Alliance for Health Policy and Systems Research: Consultation on Capacity Strengthening for Health Policy and Systems Research
- WHO/CIOMS/NIH Meeting on Bioethics in Research
- INCLEN: XVIIth Global Meeting
- A consultation convened by the International Consortium for Mental Health

One major initiative launched at the conference was the Global Alliance for TB Drug Development.

Bridging the Gap Between Health Research and Communication

From the Thai Press Office, International Conference

Market Place: 12 Oct 2000, 10.30-12.00

Public relations officers, health researchers and members of the mass media, as change agents, play a vital role in enhancing the profile of health and sciences research in the print and broadcast media. Public relations officers in health research organizations need to develop wide contacts with the media, as well as have a good understanding of health and health research matters. Health researchers and health officials who communicate with the general public should have some background in communication.

Meanwhile, journalists may not have a health background and need to be oriented, in particular, to the social aspects of health. Seminars, training, or short courses for health reporting were mentioned as crucial tools to educate all professionals involved in mass media health communication.

War and Health

From the Thai Press Office, International Conference

Market Place: 12 Oct 2000, 12.00-13.30

War has a tremendous impact on health, in terms of war injuries and disease. Often there are more casualties among civilians than military personnel. War results in disabilities, emergence of communicable diseases, and psychological trauma to victims of war, including women, children, and soldiers. War-related health concerns and issues include:

In controlling communicable diseases, terrorists are among the people to whom health workers must give immunization.

In times of war, health research funding may be diverted for military purposes.

Research on the long-lasting psychological trauma experienced by children in war zones may also help to increase public concern.

More funding is needed for research on disabilities, rehabilitation and other post-war health impacts.

In the context of war and health, discussants from military services need to be involved.

Health issues have the potential to be a bridge to create peace in the world.

Source: Conference Gazette Issue 4, Friday, Oct 13, 2000

3. Reports

Prior to the conference, the *conference website* provided both practical and programme information. Some reports and papers were posted on this site, along with contact details for various contributors and participants.

Regional reports were compiled for each of regional consultative meetings, and were posted on the website.[7]

Prior to the conference, some of the pre-conference consultations were reported to participants at an *international consultative meeting* in Prangins, Switzerland. The deliberations on these reports formed the basis of the discussion paper used as a background document for the Conference.

7 http:// www.conference2000.ch; Hardcopy versions of the regional consultative reports are available from the COHRED Secretariat.

During the conference, a *verbal morning report* on process was complemented by the production and distribution of a *Daily Gazette*, which reflected to content of the previous day's proceedings.

4. Process

From the pre-conference planning to the final session, the conference was characterized by a high level of participation and communication - between biomedical and social scientists, donors and researchers, researchers and policy-makers, and different regions of the globe.

Every effort was made to ensure that the voices from the "south" would be heard, and in the opening session, representatives from Asia, Africa, Latin America, the Caribbean, Eastern Mediterranean, and Central and Eastern Europe and the Newly Independent States – shared the platform with Dr Brundtland, Director General of the World Health Organization.

From their respective perspectives, these speakers set the scene for the health research challenges to be considered by the conference.

Acknowledging that principles should not only govern *what* is done, but also *how* things are done, the meeting facilitators applied a number of principles to guide the meeting process:

- Every effort was made to ensure appropriate *representation* of different constituents, with special consideration for those groupings deserving of greater support. Regions and countries were encouraged to air their views alongside the major international players, and participants were urged to be gender-sensitive in all their deliberations.

- *Participation* was maximized through use of various tools. Electronic communication made it possible for comment on both the conference and its products, such as the Conference Declaration. Informal meeting places were provided, and some attempt was made to poll participants, in order to harness their opinions on a few key issues.

A Participant's Comment

"I'm the Minister for Health in my part of the world. I'm saying a special thanks for letting me be with you because I'm now, more than ever, a convert to the importance of health systems research for development, and I think that one of the things that I would have really liked very much would have been for all the participants to have had people like myself in the dock and clobbering me no end with the following questions, for instance: Why is there such little money available for health research when we are very clear that this is the only way forward for development, particularly in countries such as ours where there is so little money?

The pile is very small and out of that there is minimal money available for the health sector per se, but for health research in particular. So maybe one of the ideas that I could leave with you, one of the thoughts that you might want to take forward, is to have more policy makers as conference participants, where we could sit round the table and share some of these ideas, and then obviously your research findings and your research initiatives and agenda may have a better chance of being translated into policy making and decision making. Right now it's people living in different ivory towers, with no cohesion and synthesis and coordination.

The second point I want to make is that I think we really need professionals such as yourselves to help governments make a reality out of the slogan that "health is a basic human right". I feel that until governments can take this past being a mere slogan and as a political slogan at that, and invest in their human resources, I feel the world can never be a better place for all of us, because marginalized people will always suffer." Shaheen Sardar Ali, Minister for Health, Pakistan

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

Several teams took responsibility for *planning and managing* different components of the meeting. These efforts were supported by the local organizing committee which ensured the smooth operations of the conference, meeting the audio-visual and electronic requirements of participants, and distributing key documents.

The conference provided a meeting place for different fields of research, different perspectives, and different regions, countries, and cultures. Participants struggled with differences in both linguistic and conceptual communication, however, facilitated by the conference structure, some progress was made in bridging the gap between the content of research and its governance, management and application.

Delegates were urged to view the conference as one phase in the development of a plan for the next decade, and in this spirit, a framework for the action plan evolved over the four days.

5. Plenary Sessions

The opening speech by Dr Gro Harlem Brundtland and the keynote addresses by Dr Mahmoud Fathalla, Dr Gita Sen, Dr Barry Bloom and Dr V.Ramalingaswami set the general stage for the Conference on each of the days. The full text of these presentations as well as of Dr Lincoln Chen´s concluding address to the Conference are attached as Annexes to this report (Annex 2, 3 and 5)

Other plenary sessions during the first three days of the conference were devoted to introduction of the themes for group work. The first day the focus was on *national health research development*, the second day on *intercountry research co-operation* and the third day on *international health research co-operation*. Presenters included members of the analytical team, the coordinators of the regional consultations, and representatives of universities, international and national research organizations from the South and the North. Extensive excerpts from these rich and stimulating presentations are given in Annex 4 of this report.

The following two sections (E 6 and 7) focus on the outcome of the interactive discussions in working groups and parallel sessions of the Conference.

6. Group Work

Eleven working groups tackled the conference challenges. Some selected highlights from each of the groups follow.

Capacity Development

Within **countries**, there is a need to attract and maintain a critical mass of skilled researchers. Governments need to invest in researchers as well as research. National situational analyses of capacity needs combined with priority setting for capacity development would assist in the creation of action plans to develop a solid body of researchers. The importance of generating demand for research was also emphasized. Framing equity problems in terms of wealth creation instead of poverty alleviation is a key element in creating this demand.

At the **regional level**, it is necessary to study existing models of regional collaboration, and to develop a suitable model for research capacity building partnerships specific to the region. Political commitment for regional collaboration was deemed critical; this could be facilitated by global organizations such as WHO, other agencies and donors. Furthermore, it is important to identify and map Centers of Excellence for regional capacity building (universities, research institutions, WHO Collaborating Centers). The need for a broad view on capacity development was emphasized. This includes research, research management and leadership for health research. The main barrier identified for building capacities at the regional level was the weakness of available capacity at the national level. The participants urged the development of a program, probably at the regional or global level, that would address this issue. If regional cooperation in the field of capacity development takes place the focus should be on inter-country activities guided by common problems.

The following action at the **global level** was suggested:

- Develop a code of practice between developed and developing country researchers that ensures appropriate and equitable health research capacity development at all levels and includes marginalized populations.
- Ownership of research must be discussed and decided upon at the highest international level. Research should not be owned by any individual researcher, institution or government, but must be used for the global public welfare.
- International organizations need to: (i) initiate and promote appropriate research, (ii) advocate the importance of health research internationally, and (iii) assist, facilitate, and co-ordinate international research conducted on similar topics.
- A toolkit be developed (and applied at national level) on how to develop capacity, based on the principle of equity.
- A study be undertaken to suggest donor strategies for addressing the brain drain problem.
- A task force be established to examine access to information technology and literature in developing countries.
- A proportion of funding for health research (sourced nationally or at the international level) be devoted to capacity development.

Equity

At the **country level**, inequities exist not only among "researchers" (for example between academic and non-academic based researchers, male and female, central

and periphery) but also "the researched". Communities should not only be the recipients of research, but partners in the process. Recommendations for action included: a redirection of funding to traditionally neglected researchers and ensuring that health research systems embrace the voices of the marginalized.

On day two, the group agreed that it was not possible to focus on the inter-country level alone, and therefore looked at equity at all levels. Issues related to stewardship and management, utilization and management of knowledge, and capacity development were discussed.

There is a need for a change in culture in which health research funding and health research takes place on the basis of social and gender equity. Training on research and information dissemination should take equity issues into consideration. Financing must be informed by a national health research plan, the concern being that new financial resources do not go toward the equity challenge. It was also observed that there are inequities within equity research. It was stressed that sharing the funding pie fairly does not necessarily mean that everyone gets an equal piece. Countries should be therefore encouraged to develop a system for assessing health systems research performance. A set of equity-related research performance indicators which go beyond publications to include change or action also needs to be developed for researchers.

At the **global level** discussions, a bold declaration was made: Equity is multi-dimensional and includes gender equity. The process and funding of research must not rest solely on scientific quality. Instead, it should move toward greater inclusion and empowerment of the researched, especially disadvantaged groups. In terms of action, the development of an equity code (in the spirit of an ethics code) is proposed. Such action demands ensuring the commitment of all stakeholders to this code, as well as capacity building and monitoring. Several participants had called for greater capacity building for the Pacific Region and indigenous peoples, and this was endorsed.

Ethics

At the **country level**, national structures and support systems should be held accountable to all stakeholders. There should be specific structures to ensure capacity development and training for ethics. National guidelines for research ethics should be adopted and applied through ethical review committees. Sustained monitoring of research projects (beyond the ethics of review) is required, and various international guidelines on ethics should be "harmonized".

A situation analysis of the issues linked to ethics of research and actions currently underway, was undertaken for the **regional level** discussions. Some of the dilemmas identified include the difficulties in setting up and sustaining ethics review committees, and the development of capacity for ethics of research. The use of regional linkages was recommended as a way of addressing immediate needs. Capacity building takes into account aspects of ethics in research. Regional actions should include establishment of ethical review committees, where there might be a need to start with something less than perfect. Mobilizing resources for training should be sourced from within developing countries. The session also touched upon the linkage with communities in discussing ethics in research.

At the **global level**, ethics should be seen as integral to the research enterprise. Further dialogue, based on the last three days discussions is therefore recommended.

Capacity development for ethics was identified as the highest priority. For building ethical capacity in research no specific structures are needed at the global level, but there is a need to improve linkages and advocacy around the issue. The group discussed the possibility of establishing a global alliance where national and regional "structures" dealing with ethics in research can come together and exchange experiences. The harmonization of multiple guidelines currently existing was also recommended.

Financing

At a **country level**, the main recommendation was for central planning at the national level to help distribute funds, together with international organizations and NGOs. An independent, but related mechanism should monitor the use of funds for national priorities on health research, and should contribute to global efforts to measure resource flows. A change in rules in funding, of both national and international institutions, is necessary to facilitate funding of long-term projects, and develop institutional capacities. Generation of more country funding for research, either through revenue sales on tobacco, from debt relief, or by allocating a percentage of the GDP to health research, was suggested. The discussions concluded that a percentage of interest payments on external debt should be fed back to each country specifically for health research, and that a further funding source may be sales of medicines.

Discussions around **regional issues** concluded that existing regional health structures (for example, WHO Regional Offices) should dedicate a percentage (or, where existing, a larger percentage) of their budget to health research. Non-health organizations (e.g. OPEC and the Organization of Islamic Countries (OIC)) should also be urged to create a fund for health research. The criteria for allocation of funding should be based on regional priorities determined by burden of disease; prevention strategies; gender; social class and inequity issues; ethics; and sustainability. Common regional priorities should be derived from national (country) priorities. Funding allocations should also be based on common regional priorities, but should be derived from national (country) priorities. Knowledge management via an electronic database should be managed by an independent (unbiased) unit (i.e. not competing for funding in the region). Finally, a regional monitoring mechanism should identify needs, track results, and leverage resources for research.

At the **global level**, recommendations were related to revenue generation, and distribution and monitoring of funds. International agencies and donors should dedicate a percentage of health sector funds to research and use this to support institutions in the South. Collaboration between institutions in the North and the South should be on a more equitable basis. Distribution of funds should primarily focus on the developing country institutions and researchers, with northern institutions and researchers as partners. COHRED and the Global Forum for Health Research can play an important advocacy role to achieve this change in distribution. There is a need to monitor the distribution, use and impact of health research funds at the international and national level.

Governance

Lack of coordination and under-utilization of research results were identified as key issues for **country-level** Governance. The need for national research

coordinating mechanisms was stressed. These mechanisms would vary by country and allow for an inclusive national priority setting process. The need to separate priority setting and funding functions within research coordinating mechanisms was stressed, as was the appropriate role of Ministries of Health in governing health research.

It was emphasized that thematic networks are likely to be the most effective means of governance at the **regional level**, and that it is important to work within existing structures. It was recommended that a study be undertaken by COHRED and/or the Global Forum to map existing bodies and analyze how they currently interact. A number of principals were set out for regional mechanisms. Regional mechanisms should be responsive, flexible, inclusive and pro-active. They should facilitate and monitor the mobilization and allocation of resource flows. Most importantly, regional mechanisms should be "by countries, for countries".

At the **global level**, a paradigm shift from control, to facilitation and partnership is needed with regard to governance. A number of action points were recommended:

- Assess the functions that are carried out by the various players and their complementarity.
- Address all identified functions in an inclusive and collaborative way.
- Strengthen functions already carried out by agencies but provide counterbalance to improve partnership.
- Establish rules and mechanisms to improve accountability to all relevant stakeholders as research is a public good.
- Ensure the "translation" of relevant research findings for the public.
- Create an environment for training the next generation of leaders and researchers in research and stewardship skills.
- Advocate for health research at the international level.
- Improve dissemination of information.
- Promote priority setting at all levels.

The current institutional context does not adequately fulfill these functions, so a new mechanism should be built – one that will ensure a wide representation of actors from all levels, as well as from the public and private sectors. WHO was suggested as a possible convener. A practical secretariat should be established alongside the mechanism to ensure continuous monitoring of research needs, research capacity, resources for research and, dissemination of this information on a continuous basis. Specific actors suggested were WHO, a reconfigured Global Forum for Health Research, COHRED, regional networks, and investors.

Knowledge Management and Use

At the **national level**, research is only meaningful if it is driven by demand. Priority setting for health research ensures that research is relevant to policymakers' needs. Policymakers should be involved at the outset in the planning and use of research. Research findings need to be communicated in a format that policymakers can use and communities should be involved in their dissemination. What is more, political commitment to use the results of research is required.

Insufficient **regional level** data is a key issue. It also reflects the lack of data at the national level. There is a need to map existing national databases and data management efforts as well as the need to create a database of experts in various areas. Both exercises might be the function of a regional co-ordinating body or clearinghouse. This co-ordinating body would collect data and make it accessible to researchers, policymakers, and communities. Political barriers to the dissemination of information was a second focus of the group's discussion. An important recommendation emerging from the morning session was that a proportion of research project budgets be devoted to dissemination of research findings.

Knowledge Production

An informal mechanism or forum for discussion among multiple stakeholders is needed to identify and address knowledge gaps at the **national level**. Networks for data exchange and greater multi-country collaboration were also identified as important aspects of knowledge production. Intermediary organizations between government and research bodies can play a key role in enhancing communication among all stakeholders.

Knowledge generation is health problem specific. Research on social issues (such as gender and poverty) should measure health outcomes at the national and regional levels. The group explored whether a **regional-level** framework for knowledge generation would be more effective. Suggestions included strengthening regional structures (such as WHO collaborating centres), and conducting high-tech research at the regional level and applied research at the national level. Encouraging good relationships between neighbouring countries was also deemed essential for effective collaborative initiatives. Much was made of the importance of capacity development in this area. At the national level, the focus was placed on priority research. At the regional level, regional data "clearinghouses" were proposed. National level clearinghouses should also be established, to act as advisers to the regional structure. At the local level, the national clearinghouses would have the responsibility of ensuring that research outputs are fed back to the communities where the research took place. The capacity of regional research organizations should be raised to mobilize resources.

WHO was seen by the group to be an effective "clearinghouse" mechanism at the **global level** for knowledge production and sharing among members. It was recommended, however, that the WHO needs to find ways of working more directly with universities – a key knowledge producer. Concern was expressed that WHO still adheres to an essentially biomedical view of health, rather than its stated broad definition of health. Participants proposed that WHO play a stronger advocacy role, particularly around health problems that do not draw the political and financial clout of the private sector.

Research Environment

Lack of stability and continuity, both at the policy-making level and within research institutions, was mentioned as a stumbling block for a supportive research environment at the **country level**. The creation of a national forum for the exchange of ideas would extract researchers from their vacuum. The group recognized the need for researchers to demystify research and include all stakeholders. Emphasis

was also put on the creation of respect for research and researchers.

The group looked at inter-country and **regional-level** arrangements around the research environment. The discussions fell into four categories: networking and interlinking networks, access and sharing of information, gender, and creating/nurturing an environment which is sensitive to ethical and human rights issues. Some clarification was provided on the first two areas. There should be a deliberate attempt to strengthen inter-country and regional networks – initial action would be to create national networks. Existing networks are often accused of excluding communities, NGOs and other indigenous groups. The intention is not to create another "scientific club", but to ensure inclusiveness of all groups. Donors should support efforts to increase the sharing of information, as should other mechanisms for exposure such as journals, scientific publications, and the Internet. In order to increase access to information across countries, the suggestion was to create a mechanism to ensure intersectoral collaboration for research at national, inter-country and regional levels.

Discussions on research environment issues at the **global level** produced a number of recommendations:

- Encourage South-South collaboration via various mechanisms, such as Centers of Excellence (facilitate sharing of expertise).
- Lobby multinationals such as oil companies, drug companies and environmental agencies working in the South to leave a fraction of their profits in the country in which they work (oil companies in Nigeria cited as example).
- Donor support should have a specific research component – funds are available for development, yet they are not spent on research in the South.
- Create a voice for the South by developing negotiation and communication skills, and encouraging equal partnerships between North and South rather than perpetuating the donor/recipient relationship.
- Involve researchers and decision-makers from the South in policy development for research funding, instead of dictating what should be implemented.
- Reduce the possibility of brain drain by training researchers from the South, in the South.
- Establish a forum of researchers from the South at the global-level who can inform donors of South-specific priorities.

7. Parallel Sessions

The parallel sessions generated discussion on a variety of issues related to research content, its management and the challenges for strengthening health research for development.

Some highlights from the forty parallel sessions follow.

Burden of Disease

- It was recognized that discussion about the DALY measure overshadowed the large amount of descriptive epidemiological burden of disease estimations done for various revisions of the GBD based on other methods.
- Participants recognized that there is a scope to improve transparency in burden of disease estimation studies.
- It was recognized that national burden of disease estimation projects usually help refocus attention on accuracy of vital statistics and descriptive epidemiological data, collation and synthesis of data from multiple sources and help build local capacity in generating evidence and information for health policy formulation. Hence it was recommended to increase support for these studies.

Community Involvement in Health Research

- Recognizing the sovereign role of communities in the research process, it is essential that there is investment in the "community", and an onus on the formal health system to find ways of demonstrating the benefits of research to the communities.
- Ethical issues include legitimacy, accountability, and terms of engagement.
- There is a need to sensitize researchers to the needs of communities.

District Health Research

- The fact that this session drew only 25 participants from among the more than 800 persons in attendance presents a challenge to the conference vis a vis the importance of district health research.
- A great deal of data is routinely collected at the district level. These data need to be utilized locally.
- Research relationships with districts need to be based on a longer period of time– in the order of 5-10 years.

Ethics in health research

Ethics should be an integral part of the whole research process (from priority setting for research, to the application of research results). Capacity for both ethics and research should be seen as part of the overall capacity for public health. An implication of this is that the ethical component of the research process needs to be included in the funding. The importance of providing ethical review committees was stressed.

Financing for Health Research

- It is important to mobilize more resources for research from the private sector. Health research is an investment, not a consumption.
- There should be more funding invested in health education and health promotion.

- The agendas of international research funding agencies should include researcher capacity development, not just funding for research.

Health Research During Economic Crisis

- The long-term impact of economic crisis on health status requires greater study.
- Research plays a significant role in developing proper policy instruments to mitigate the effects of economic crisis.
- National capacity, health policy and systems research, institutional arrangements, and mechanisms to translate research into policy and practice are vital in guiding evidence-based policy to help countries solve problems arising from economic crisis.

Nursing and midwifery research

The session focused on establishing a health research system that generates evidence to guide nursing and midwifery practice.

Recommendations and action points arising from this session are:

- Develop capacities for multidisciplinary health systems research, including nursing and midwifery, to contribute to equitable development;
- Conduct a study group on nursing and midwifery research priority areas and strategies;
- Build multidisciplinary partnerships to identify major priorities and gaps, and to advocate for increased resources.

Priority Setting

- A multi-sectoral group should ideally set priorities for health research at the country level.
- A combination of the priority setting methods presented would be desirable. Difficulties in setting priorities at the county level should be documented and lessons learned should be shared.
- Action is required after priorities are set.

Research to Policy and Action

- Country-specific national mechanisms are needed to facilitate research-policy linkages.
- Communities and NGOs can play a crucial role in linking policy and research but they are often left out of the process.
- Linking research to policy demands skills of researchers beyond effective communication and includes advocacy, marketing and networking skills.

Road traffic injuries

Road traffic injuries have become an increasing public health problem in developing countries - an issue that has been largely ignored in the past, resulting in very little

funding being allocated to the problem. There is an inequitable distribution in the burden of road traffic injuries (men and young children are particularly at risk of becoming victims).

Sexual Violence Against Women

- Sexual violence is a major public health problem, and in need of research. It should be afforded the same status as other determinants of health.
- Research on this issue needs to be better coordinated.
- There was unanimous agreement from the meeting that a global research initiative encompassing the spectrum of sexual violence is needed, with particular emphasis on sexual abuse and coercion of adult and adolescent women, child sexual abuse and sexual violence in war situations.

Traditional Medicine

- A global working group on intellectual property rights pertaining to traditional medicine should be established.
- Research on traditional medicine is grossly underfunded. One means of addressing this disequilibrium is to build a traditional medicine component into large research projects and programs.
- There is a need for a global database on traditional medicine.
- Venerable custodians of traditional health should be accorded "Living Treasure" status to protect and perpetuate their knowledge.

Tuberculosis

Public-private partnerships (PPP), such as the Global Alliance for TB Drug Development, are a relatively new and experimental way of combining resources from both public and private sectors to address the perceived needs in TB control not being addressed by existing mechanisms. PPPs (such as the Global Alliance) are addressing the discovery of new technologies -something which is not economically viable for countries to do themselves, and which, if successful, will achieve global public good.

Universities and health research

- There is a need for research to improve the performance of the health system. Participants agreed that universities are in a good position to take the lead in initiating an inclusive process and proposing models and methodologies that lead eventually towards unity for health.
- Universities might also create coalitions with civil society to improve the health of the disadvantaged.

A National Health Research System: The Thai Case

The role of the new health research coordinating institution must be carefully considered. International agencies must be equal partners in all stages such as

planning and execution. Research should be based on both national priorities yet include topics initiated by researchers themselves. The role of the National Research Council will have to be reconsidered. Sufficient scientific information resources are needed to support the health research system.

Capacity Development

The session examined the possibility of new approaches to research capacity development with an emphasis on "bottom up" approaches and national empowerment strategies. The group recognized that capacity building and retention entails several different components, and felt that the following issues were particularly relevant:

- It is necessary for countries and international agencies to support adequate research career structures - including appropriate financial incentives - to encourage health researchers to remain in developing countries. This will entail a reassessment of policies by some funding agencies;
- There is a need to strengthen capacity building in health research management, taking into account the managerial level and institutional affiliation;
- Research priority setting exercises should be carried out at subnational, national and supranational levels;
- Countries should be stimulated to further develop the analysis of resource flows for health research;
- Capacity strengthening needs to be gender sensitive with regard to science and its management as well as resource allocation to women scientists and to research on women's health.

A need to combine scientific excellence with local priorities and needs was also highlighted.

A Participant's Comment

"I think it is important that many more agencies also give priority to supporting capacity development among primary care providers, for example nurses, midwives and other health professionals. During the Conference we have discussed a lot about partnerships, a multi-disciplinary approach, and the importance of doing research in a more holistic way. But I think it is very important that from here onwards we take these issues very seriously. Partnership will allow inclusion and development of all players in the research process and the multi-disciplinary approach will allow for consideration of research participants in a more holistic manner.

Also, as a follow-up to this Conference I urge maternal health to be given higher priority on the research agenda, both at national and international level." Helen Lugina, Africa Midwives Research Network, Tanzania

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

Cost Effectiveness of Health Interventions

Economic analysis of interventions in the developing world was identified as a priority area for research – in particular the relation to the two fields represented in the session presentations – road traffic injuries and anti-microbial resistance. Concern was expressed that capacity for such research needs to be enhanced in developing countries. WHO has developed a set of tools for cost-effectiveness analysis. These are currently being made available for pilot-testing in the developing world. Resources need to be mobilized to fund cost and effectiveness research.

Gender Analysis

The group agreed that lack of information on gender inhibits the appropriate allocation of resources and results in inadequate policies and programs. The group recommended: (i) routine and systematic investigation of gender disparities in health at all levels, (ii) making gender analysis an integral part of evaluation criteria for funding, (iii) including a gender perspective in policies and programs of universities and research centres, governments, and donor agencies, (iv) include gender in the Bangkok declaration and action plan.

A Participant's Comment

"Although we have seen many examples of why this should be the case, we are unfortunately still very far from a situation where gender disparities in health are treated with the same degree of seriousness as disparities in socio-economic status. We have made a lot of progress in this Conference but we are still far from a situation where gender is mainstreamed and is seen as a thread running through all the deliberations of a meeting such as this." Rachel Jewkes, Medical Research Council, South Africa

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

Health and Safety at Work

Occupational health research and appropriate actions based on such research at the global, national and local levels will ensure a healthy working population, which in turn ensures socioeconomic development. Indicators for occupational health and safety should be established in order to provide a means for further development and benchmarking. A call was made for the World Bank to produce - with the help of the Network of WHO Collaborating Centers in Occupational Health - evidence-based occupational and environmental health assessments as compulsory elements of all its programmes, and make necessary preventive actions a condition for funding. A working group should be established to suggest protocols for evaluating the management of occupational and environmental safety and health conditions in all development projects. Research on occupational health and safety risks needs to be carried out in all countries. Special attention should be paid to high-risk areas such as agriculture and small- to medium-scale enterprises, and vulnerable groups such as female workers who are underserved and under-researched. Institutions for occupational health research and training should be established or strengthened for cumulating research knowledge within the countries for training and dissemination and application of research results. A suggestion was made that occupational health and safety aspects be integrated into all development programmes.

HIV/AIDS

Effective HIV/AIDS prevention will require up-scaling of available interventions (mostly behavioural) and developing new prevention tools, particularly vaccines, microbiocides and new drugs to prevent mother to child transmission of HIV. Attention should be placed on socio-behavioural as well as biomedical issues. Logistical aspects, including financing research and future application of research results also demands attention. Capacity must be strengthened in developing countries, to ensure that HIV vaccine research and other AIDS-related research is conducted to the highest scientific and ethical standards. Research grants should include specific provision for capacity building. The existing "market failure" for

HIV vaccines (especially against strains circulating in developing countries) should be counteracted with innovative financial incentives, such as tax credits and the creation of an international HIV vaccine procurement fund.

Indicators of National Health Research Development

This session reported on the priority-driven, equity-oriented health research profile project to provide country-level feedback to policymakers. The process that led to the identification of 44 indicators that reflect the five functions of a health research system [Stewardship, Financing, New Knowledge, Knowledge Management, Capacity Development] was described. The experience of testing the availability and feasibility of collecting this information was outlined by regional coordinators representing a sample of 13 countries in Africa, Asia, Eastern Europe, and Latin America. Breakout groups were asked to discuss the proposed indicators and select the top three indicators for each key challenge. The workshop participants recommended that this tool be further developed and implemented by countries for monitoring priority-driven equity-oriented health research for development at the country level.

Malaria

In order to vastly increase coverage with existing interventions, research should be linked to implementation. "Action research" should be institutionalized in the context of the health system at all levels, including the district level. There should be a move from project-oriented funding to output/product- and investment-oriented funding. Efforts at capacity building should be long-term with sustainability and a multidisciplinary focus in mind. They should also include balanced and equitable north-south partnerships and investment in long-term institutional support. Existing global and regional initiatives on malaria require a better interface for more coordinated action and complementarity of effort. Financing R&D on malaria should ensure that expenditures on malaria should be matched by an increased investment in R&D. There is also a need to ensure a sound balance between investment in implementation-related research and more upstream strategic and product development research.

Mental Health and Nervous System Disorders

Mental health and neurological disorders make the second largest contribution to the global disease burden. Cost effective interventions exist to reduce a substantial proportion of this burden. Policy and services research is needed to overcome the barriers to the implementation of these interventions. Basic and applied research is required to address the remaining burden. The parallel session unanimously agreed that there should be an initiative involving international funders and agencies, governments, private

A Participant's Comment

"On Mental Health...

The next steps that we propose are that a core key stakeholders meeting to develop a strategy document be held; that the strategy document is disseminated to a community of interest; and then a large stakeholders meeting be held to refine the strategy and agree on distribution of tasks. Finally, we recommend that a group representing key stakeholders be facilitated to constitute a mental health and neurological disorders initiative, to address the challenges identified above. We seek the support and endorsement of all those attending the International Conference on Health research for development in developing and implementing this initiative." Florence Baingana, World Bank

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

industry, NGOs, professional organizations, consumers and their families to address the issues identified above.

North/South Partnerships

Conditions and recommendations for good collaboration between partners in the South and the North were discussed:

- Partnerships in research need to be based on the priorities and agenda of the partners in the South;
- Capacity building for knowledge management and management of financing needs to be an integral part of partnership development;
- Northern partners should be committed, provide institutional backing, and include partnerships with both junior and senior level researchers;
- Southern partners should be committed to work with only a few partners, reflect the national agenda, provide core funding to increase sustainability, and secure competent human resources to reduce the local brain drain.

Poverty and Health

Research to reduce health inequities and poverty should: (i) become more democratic, recognizing and promoting participation of the poor, (ii) facilitate advocacy and empowerment of the poor, (iii) involve and influence decision makers with the aim of realizing social justice, (iv) pay attention to the forces of globalization and its impact on the health of the poor. The group recommended that the poverty issue, being central to the development process, needs to play a greater role in future meetings of this kind.

Reproductive health

Knowledge production is needed to evaluate how elements of health sector reform impact on specific elements of reproductive health and equity, before reforms are implemented on a wide-scale. Financing and decentralization reforms in reproductive health need to be evaluated urgently, as they impact the most vulnerable groups, women and youth, potentially exacerbating inequalities.

Integrating control of sexually transmitted infections in family planning services has progressed without empirical evidence of its impact. Research is needed to identify the conditions under which STI/FP integration has measurable public health impact.

Research Synthesis for better decisions

The session explored the issues around research synthesis for better decision-making. Recommendations were broad-based and included: (i) building research synthesis capacity and preparing systematic reviews of interventions for common health problems, (ii) getting research synthesis to influence health care practice, and (iii) greater use of research synthesis and evidence-based medicine at the managerial level of the health system.

Vaccine Research and Development

There is an important need for capacity building in many disciplines related to vaccine discovery and deployment. Urgently needed however are studies of disease burden, clinical trials, economic evaluations, studies of vaccine acceptability, and policy research that can assist rational decision making about vaccine introduction and in national vaccine production and regulation. Decisions to undertake evaluation of a specific vaccine in a developing country should be made with that country's interests in mind. The participation of national scientists and citizens in research programmes should be considered as a material contribution to the development of a vaccine product, and mechanisms should be identified to create a sustainable national vaccine research infrastructure. Many countries rely on WHO for advice in interpreting scientific data about the performance of new vaccines. It is critical that WHO continues to strengthen its capacity to provide this guidance in an unbiased fashion, based on sound scientific evidence.

Ageing

Demographic change is ongoing and populations in developing countries are ageing rapidly. Older people are valuable resources for their community. The example was given of the substantial proportion of the AIDS orphans in Africa who are cared for by their grandparents. Research on ageing and health in developing countries has largely been ignored by international health studies. The group recognized the need for capacity building in the area of ageing and health, in both the developing and developed world. This would include the strengthening of international collaboration. The group recommended integrating ageing and health research into the agenda of international health research and development. International agencies, such as WHO, are best situated to take the lead.

Child Health and Nutrition

From the general discussion during the session the following issues emerged:

- There is an urgent need to prepare for and respond to the Special Session of the UN on Child Health to be held in September 2001;
- There is a need to move ahead with specific research to highlight the problem of child health and nutrition in the developing world;
- At the same time there is a need for having an initiative where researchers from different parts of the world can come together, share ideas, and advocate these ideas on a global platform.

Health Policy and Systems Research

Three observations emerged from the session:

- There is a growing challenge to health policy and systems research from the increasing emphasis on vertical programmes for infectious diseases. In order to advocate for health policy and systems research, there is a need for indicators of research outputs that can be used by investors and research institutions to justify support;

- Some donor agencies have conditions on grants that are difficult to meet in institutions in the South - in consequence, making collaboration between Northern and Southern partners forced rather than meaningful;
- It is important to improve methodologies to address specific policy concerns.

Impact of the New Biology on Health

The session addressed the role of new biology, in particular that of the genomic knowledge explosion on human health. It was agreed that:

- Biomedical research is a global undertaking which needs to be strongly supported in developing countries as a means to: (i) improving research capability of local scientists and health personnel, (ii) creating knowledge and understanding of national health problems, and (iii) educating the public and government regarding ethical issues arising from the new biology;
- Partnerships between biomedical researchers in developing and developed countries need to be established, based on principles of equity and mutual benefit, so as to create an environment conducive to research;
- Adequate funding for biomedical research needs to be provided from both national government and international agencies, taking care to balance demands between health systems and biomedical research and to ensure good management practices for maximum benefit.

Information Technology in Health Research

Access to high-quality, freely available electronic health information is regarded as a strategic imperative for building capacity in health research. This requires global coordination, focused advocacy, garnering of resources, attention to inequity of access, sustainability, and support of critical evaluation.

Specifically:

- Monitor access to the Internet and cost of Internet access by country in the World Health Report as a health indicator;
- Monitor the impact of health information on equity;
- Broaden the scope of content beyond MedLine-retrievable journals to include regional journals, theses, technical reports, uncodified indigenous knowledge, and community and consumer health information;
- Build capacity at the local/national level to involve raising awareness; training in use of technology, search strategies, and critical appraisal skills; development of stable technical support.

Measuring Equity

Participants concluded that:

- Research on inequalities in health has been a neglected area – gaps in health status across strata including gender, ethnicity, income, education, occupation, and age must be documented;

- A rapidly developing literature and set of indicators for measuring inequalities in health (and their causes) should be part of research capacity-building in all countries;
- Active national monitoring systems which unite policymakers and researchers in a common effort to monitor health equity trends should be implemented – the idea of the South African Equity Gauge system was endorsed as a promising initiative.

Public private partnerships

Public private partnerships (PPPs) can improve health. However, they are not a panacea. It needs to be defined where they are appropriate and not appropriate. PPPs are "social experiments". The existence and emergence of PPPs should not permit the public sector to abrogate assuring access to health services. PPPs should consider *inter alia*:

- Accountability to intended beneficiaries and stakeholders as well as funders;
- Appropriate inclusion of developing country representatives in decision-making bodies, and in operations;
- The need to address ultimate "access" to products and services, i.e. provision for and delivery to poorer populations, in the formulation stages of PPPs;
- Transparency of operations;
- Avoiding duplication in delivery services. PPP experience should be documented and analyzed.

Information on particularly important common challenges (eg. IPR) should be shared amongst PPPs. Some system of encouraging appropriate practices may be desirable.

Resource Flows into Health Research

The session reviewed country and global studies on monitoring resource flows for health research. The usefulness of such studies was questioned and discussed. To maximize their potential the group made two main recommendations:

- Possibility of utilizing the data should be ensured beforehand, by including measurement of the effectiveness of interventions and by evaluating the linkage of data with identified health research priorities;
- Aggregate measurements might not reflect equity issues adequately. Additional case studies could address this gap.

There was a general call for more case studies to increase the utilization of existing experiences.

Safe Motherhood

Participants agreed that there is a need to:

- Broaden the scope of assessment indicators in antenatal care (ANC) beyond medical outcomes to health education and behavioural changes to cover the service and socio-economic context;

- Study ANC in low-resource settings;
- Build capacity at all levels and establish better referral systems;
- Highlight research on maternal health issues;
- Undertake studies on how to use human rights to promote maternal health;
- Make maternal health a priority;
- Conduct research on appropriate community-based interventions to improve quality of care.

As well, WHO should find ways to manage and utilize new knowledge.

Setting up New Organizations

The session discussed how health research and development can be rendered most effective through organizational change and ownership. The main focus was on the establishment of trusts and their impact on governance at national and international level. Trusts appear to be attractive and flexible arrangements for democratizing governance of organizations in the South. They are autonomous and independent vehicles for local control and ownership, including national and/or international partnerships. The importance of the development of a legal framework was discussed, and was emphasized by the presence of lawyers in the session.

F. Action Plan

Action Plan Adopted by Conference Participants

Recognizing that:

- the 1990 recommendations for strengthening health research for development made by the Commission on Health Research for Development have not been fully realized;
- the social, economic and political environment, as well as the organizational and institutional arrangements have changed over the last decade; and
- there is an opportunity to revitalize health research for development through concerted action;

the International Conference for Health Research for Development adopted the following framework for a Plan of Action in the context and spirit of the Bangkok Declaration (page 2 of the report).

Knowledge production, use and management

There was broad agreement that, in order to promote health equity, the health research for development system needs production of knowledge, of better quality, which is managed efficiently, and applied effectively to guide evidence-based policy and practice.

The specific actions proposed at each level include the following:

At national level:

- Systematic assessment of the quality of research output and processes.
- Wide dissemination of knowledge and its management based on the latest innovations in Information and Communication Technology.
- Dialogue for involving all stakeholders and communities in the knowledge cycle (production, use & management).
- Build capacity to raise ICT awareness, use of technology (e.g. search strategies), critical appraisal skills and technical support.
- Disseminate & apply research synthesis results to improve health care practice.
- Strategies for communication of knowledge at different levels to various stakeholders.
- Increase support for national burden of disease (NBD) studies.
- Develop national research policy and program for occupational health, including research priorities.
- Promote multi- and inter-disciplinary health research.

At regional level:

- Identify gaps in knowledge.
- Establish regional clearing house/database on human and institutional resources, projects, funds, and best practices.
- Establish networks for data exchange.
- Develop sustainable regional organizations to promote and support health research.
- Promote and enhance existing regional mechanisms e.g. WHO Collaborating Centers.
- Promote South-North and South-South collaborations in the following priority areas (non exhaustive) : road traffic accidents, traditional medicine, malaria, tuberculosis.
- Promote publication of regional health research journals.

At global level:

- Promote the role of universities in health research
- Foster long-term public private partnerships to invest in health research
- Facilitate and support a global research initiative that encompasses the entire spectrum of sexual violence
- Advocate for research on child health during the World Summit on Children. Prepare by reviewing and synthesizing research on child health in the past 10 years, identify gaps and develop child health research priorities.

Capacity Development

Capacity development and retention is crucial in ensuring production of research of quality and excellence, efficient and effective management of research and its use; as well as better formulation of needs and demands through the participation of the intended beneficiaries.

The proposed action for each level include the following:

At national level:

- Research management and leadership training plans and programmes should be established. Funds should be designated for research capacity development in its broadest sense.
- Viable research careers should be developed where they do not exist.
- Capacity development efforts should include all stakeholders – communities, health care providers, researchers and institutions – but should primarily focus on institutional development.

At regional level:

- Existing models of regional collaboration should be studied in order to develop models of collaboration for research capacity-building specific to the region.

- Supranational organizations should advocate for political commitment to regional collaboration.
- Centers of excellence for regional capacity-building (universities, research institutes, etc.) should be identified and mapped.

At global level:

- Funding agencies should give priority to capacity development in support of national and regional activities.
- Capacity development should form an integral part of funding for research projects.
- Guidelines and practical tools are needed in support of management and leadership of research.
- Access to databases and literature is key in capacity development, particularly access by researchers/institutions to outside information. An international task force is needed to explore ways to facilitate such access.

The targets identified for capacity development are involving all the players – researchers, and research managers, as well as policy-makers, health care practitioners and members and institutions of civil society.

Furthermore, through a range of strategic partnerships, a specific set of actions must be directed at retaining research capacity in the South.

Governance

In order to have well-aligned global structures for effective health research for development, we need a universal code of good practice, which can govern all practice, not just country specific efforts. Such codes should not only cover traditional bioethics of the research itself, but should also extend to the ethics of partnerships and of practice. A mechanism for monitoring and reviewing should guide all endeavours, along with some efforts in the international arena to advocate for more research flowing to those who deserve and need it.

At country level:

- All countries should take stock of the current state of their national health research system.
- Countries should move rapidly and purposefully to optimally configure, and then to strengthen, their health research governance structures.
- This should be undertaken with due consideration for the inclusive involvement of all stakeholders in health research; an inter-institutional National Health Research Forum (including representatives of civil society) could be an appropriate mechanism.

At regional level:

- A mapping of regional health research and capacity building initiatives is required.

- Efforts to develop an appropriate governance structure are increasingly called for.
- Autonomous regional Health Research Forums could be established, with a secretariat and board as appropriate. They should work in close association with WHO and other major development partners.
- The strengthening of regional structures and mechanisms should originate in countries' needs for cooperation.

At global level:

- A governance structure– one that should ensure a wide representation of actors from all levels, also including the private sector – is needed to promote a spirit of complementarity and partnership between various actors and stakeholders in health research for development.
- A proposed step to achieve this is the formation of a Working Party with representation from WHO, international initiatives such as COHRED and the Global Forum for Health Research, regional networks, national and international research institutions, the private sector and donors. It should be hosted by WHO but be independent of existing organizations and institutions.
- The mandate of this Working Party would be to address concrete global partnership and complementarity issues and to work out a proposal for a governance structure of the global health research system. Stewardship functions, initiated by the working party, could include ethical issues such as developing norms for ethical review committees in developing countries, the protection of intellectual property rights of researchers in developing countries, and the development of a code of conduct for N-S health research cooperation.
- The secretariat function for the Working Party would be organized by the sponsors of the IC2000. Its initial task would be to convene the first Working Party meeting to be held within the next few months.
- The proposed governance structure should be discussed at the next Global Health Research Conference, which would agree on a more permanent governance structure.

Financing

Adequate financial support from both international donors and development agencies, and national coffers, is needed. Proposed proportions to be allocated for health research for development are 2% of national health sector budgets and 5% of all donor health sector development budgets, as recommended by the Commission in 1990.

At national level:

- Establish a Central Planning Unit as an inclusive process (NGOs, international donors, governments) to attract, coordinate, distribute and monitor funds ensuring that their allocation is aligned with national priorities.
- Negotiate to change donor behaviour (national and international) towards facilitating longer term funding investments in institutions as well as projects.

At regional level:

- Urge existing regional organizations, including organizations not focused on health, such as OPEC, to allot a percentage of their budgets to create a fund for health research.
- Allocation of funds should be based on regional priorities drawn from country priorities and determined by burden of disease, social and economical determinants, gender balance and social equity.
- Establish an electronic database for knowledge management to identify resource needs, track results and impact, and to leverage resources.

At global level:

- Explore the possibility to generate funds for health research through investing a percentage of international debt interest payments, or introducing a tax (1USD) on international travel.
- Urge international agencies to dedicate a percentage of their health sector allocations to support health research institutions in the South.
- Create endowments at international and institutional levels through strategic fund raising and stimulating private-public partnerships.
- Develop tools for the monitoring, use and impact of allocations at the global level to advocate for a change.

To build the coalition for health research for development and to facilitate progress with action, the conference proposed the following priority actions:

At the national level:

- The creation of mechanisms for inclusive involvement of all stakeholders in health research, such as national forums for health research

At the regional level:

- The creation of regional health research forums to serve as platforms for cooperation and collective research for development;

At global level:

- The creation of a working party hosted by WHO, and managed under the auspices of the International Organizing Committee for the Conference (comprising the World Bank, COHRED, WHO and the Global Forum).

The remit of this working party would be to review options for global governance and institutional arrangements through a management structure which will:

- Reflect the spirit of the Conference;
- Be representative of all global constituencies;
- Be independent; and

- Report to a global assembly.

■ Regular convening of an international conference on health research for development ("more often than once a decade")

A specific proposal was that:

- A meeting be held every two to three years;
- Process and content of research be integrated;
- There be wide representation; and
- Other opportunities for complementary meetings be considered, such as through both face-to-face and other forms of communication.

This could provide an opportunity for assessing progress.

■ Creation of a communication and feedback mechanism for the post-conference period. This will include a dedicated site on the Conference website for comments on, and contributions to, the Action Plan.

A Participant's Comment

"We see this Conference as part of a process that does not end today. From now on this process should concentrate on analyzing and supporting actions that will contribute to the solution of the specific problems identified in every region, especially in the poorest and less advanced countries. To be effective, these actions must be based on the recognition of the rights and inequities between rich and poor, between those who have access and control of the present knowledge and technology revolution and those who have not." Ernesto Medina, National University of Nicaragua

Source: Plenary Session, Day 4 (Fri, Oct 13). Plenary title: Reflections on the Conference and Future Perspectives.

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8 This includes a non-comprehensive list of other relevant documents

ANNEX 1 – CONFERENCE PROGRAMME

Tuesday 10 October

8.30- 9.10	**Opening plenary session**
8.30	**Opening event** (multimedia)
8.50	**Keynote address**: Gro Harlem Brundtland, *Director General, World Health Organization*
9.10-10.30	**Plenary** *Chair*: Adetokunbo O. Lucas, *Global Forum for Health Research*
9.10	**Statements by cosponsors** Maureen Law, *the World Bank* Adetokunbo Lucas, *Global Forum for Health Research* Charas Suwanwela, *COHRED* Julio Frenk, *WHO and Conference Organising Committee*
9.30	**Presentation and introduction to group work on *National health research development*** **Presentation of consultations and analyses**: Joe Kasonde **Panel session with regional coordinators**: Mutuma Mugambi, Kenya: *The African region* Chitr Sitthi-amorn, Thailand: *The Asian region* David Picou, Trinidad and Tobago: *The Caribbean region* Peter Makara, Hungary: *Central and Eastern Europe and the Newly Independent States* Delia Sanchez, Uruguay: *The Latin American region* Tasleem Akhtar, Pakistan: *The Eastern Mediterranean region* **Issues for group work**: Vic Neufeld, Canada
10.30-11.00	**Coffee break/Marketplace**
11.00-12.30	**Group work**
12.30-14.00	**Lunch break/Marketplace**
14.00-17.30	**Parallel Sessions**

Parallel sessions

Burden of disease

Responsible organizations: WHO and Global Forum for Health Research

Chair: Prasanta Mahapatra

Issues: Progress in the burden of disease estimation; use of evidence of disease burden for policy support; strategies for improving the knowledge and evidence base.

Speakers: Allan Lopez: *Efforts to estimate Global Burden of Disease (GBD) since the 1990s*
Theo Vos: *Use of Burden of Disease as policy support – examples from a developing and a developed country*
Prasanta Mahapatra: *Estimating burden of disease in Andhra Pradesh, India*

Community involvement in health research

Responsible organizations: COHRED and the Rockefeller Foundation

Chair: Susan Reynolds Whyte
Mary Racelis

Issues: What do we mean by community involvement in health research? How can effective involvement of the community be facilitated in different phases of the research process? What is the role of community involvement in setting priorities for research? How can strategic forms of community involvement in research enhance equity in health? How can community involvement ensure translation of research into policy and action? Which capacity development strategies for which target groups are needed for a stronger community involvement?

Speakers and topics: Claudette Frances: *Community participation in preparation for AIDS vaccine trials in Trinidad and Tobago*
Steve Tollman: *Community involvement in long term research sites in South Africa*
Luz Canave-Anung: *Partnerships in people-managed community research in the Philippines*
Seri Phongphat: *People-initiated action research in combating HIV/AIDS in Thailand*

Discussant: Pooran Joshi

District health research

Responsible organization: COHRED

Chair: David Okello

Issues: What are the conditions to develop an effective health research system at the district level? What is the research management mechanism needed to create and maintain a research culture at the district level? How can this mechanism best ensure the participation of all stakeholders involved? How can it ensure financial resources to develop research at the district level? How can district research priorities best be identified and translated into research agenda? What are the capacities needed to implement the research agenda and to develop essential health research at district level? How can research done at the district level be utilised for policy and decision

making at the district and national level? What is the role of communication and information in developing a good research culture at the district level? What can be the role of international agencies/donors in stimulating district health research?

Speakers: John Gyapong: *District health research in Ghana*
District health research in Cuba
Raphael Owor: *District health research in Uganda*

Ethics in health research

Responsible organizations: CIOMS and WHO

Chair: Vichai Chokevivat

Speakers and issues: Tessa Tan-Torres Edejer: *Ethics of research partnerships*
Zulfiqar Bhutta: *Ethical infrastructure – capacity for ethical review of research*
Richard Cash: *Ethical responsibility of sponsors and researchers to the community*

Financing for health research

Responsible organization: Ministry of Public Health Thailand

Chair: Wiput Phoolcharoen

Issues: Financing for health research in the future; sources of funds for health research; health research which supports financing for health care; the necessity of national investment in health research

Speakers: Harvey Bale
Pisit Leeahtam
Vicharn Panich

Health research during economic crises

Responsible organization: WHO/SEARO

Chair: N.K. Ganguly

Issues: Lack of visibility of health research, lack of public understanding of its importance and potential benefits to the policy makers, planners and researchers at large; lack of public awareness and support for research and weak participation in scientific journals and mass media; poor understanding among policy makers of potential contribution of health research; how to change this for achieving effective and sustainable public health outcomes through better informed decision making; narrow focus of researchers on the defined research issues which fail to take into account other health and environmental factors; need for tools and methodologies to monitor and evaluate impact of economic crisis, especially in implementing social safety net programmes; decreasing trends in research funding, less training and capacity strengthening.

Speakers and topics: Suwit Wibulpolprasert: *Thailand case study*
Agus Suwandono: *Indonesia case study*
Siripen Supakankunti: *Asia case study*
Bong-min Yang: *South Korea case study*
Manisri Pantularp
Viroj Tangcharoensatien

Nursing and midwifery research

Responsible organizations: WHO, International Council of Nurses, Sigma Theta Tau International Honour Nursing Society and International Confederation of Midwives

Chair: Tasana Boontong

Issues: Major advances in the field of nursing and midwifery research and impact on health, based on evidence through health research and experience. What are the major issues and/or gaps in nursing and midwifery evidence-based research? How could nursing and midwifery research be carried out? What direction should nursing and midwifery research take?

Speakers and topics: Mo Im Kim: *Global vision for nursing and midwifery research – building bridges*
Joan Shaver: *Evidence based nursing and midwifery – research issues and future directions*
Christine Olufunke Adebajo: *Midwifery and safe motherhood research issues at country and regional level*

Priority setting

Responsible organizations: COHRED and the Global Forum for Health Research

Part I – methods for research priority setting

Chair: Andres de Francisco

Issues: What methods and processes may be used for setting priorities at the district, national and global levels? What frameworks and strategies have been used? How can different stakeholders be better involved in setting research priorities? What are the critical determinants and criteria for guiding research priorities?

Speakers and topics: Mary Ann Lansang: *Overview of research priority setting using the ENHR strategy*
David Fraser: *Gaps and complexities in research priority setting*
Carlos Morel: *A rationale for priority setting in tropical disease research*
Andres de Francisco: *Framework of priority setting methodology of the Global Forum for Health Research.*

Part II – Priority setting in action

Chair: Mary Ann Lansang

Issues: What practical examples of priority setting have worked at district, national and global levels? How can research priorities of countries be heard and integrated into priority setting at the international level?

Speakers and topics: Andre Soton: *Setting research priorities at country level – the Benin experience*
Walter Gulbinat: *Application of the Global Forum for Health Research framework for setting priorities on mental health and nervous systems disorders*

Research to policy and action

Responsible organization: COHRED

Chair: Somsak Chunharas

Speakers and issues: G. Mwabu and J. Wang'ombe: *From research to policy in Africa – experiences form the International Health Policy Programme*
Marian Jacobs: *A conceptual framework for linking research to action*
Michael Marx: *Indicators of research to policy linkage*
Somsak Chunharas: *The way forward, including capacity development needs*

Road traffic injuries

Responsible organization: Global Forum for Health Research

Chair: Maureen Law

Issues: A research collaboration was launched in April 2000 with the objectives of: fostering greater collaboration on road traffic injury research within the developing world; prioritising a research agenda focused on the developing world; mapping the actors and factors that affect the conduct and use of research for road safety in developing countries; exploring strategies to enhance funding for work in this area.

Speakers : Adnan Hyder: *Progress of the research collaboration*
Martha Hijar: *Pedestrian injuries in Latin America*
Olive Kobusingye: *Multi-country research proposal on road traffic injuries*
Erastus Njeru: *Prevention of road traffic injuries through a participatory process in the identification and implementation of interventions*

Sexual violence against women

Responsible organizations: Global Forum for Health Research and WHO

Chair: Pramilla Senanayake

Issues: Central research issues relevant to sexual violence against women, using the report of the Melbourne consultation as background.

Speakers and topics: Dr Wassana Im-em: *WHO multi-country study on women's health and domestic violence in Thailand: ethical and methodological challenges*

Sergio Munoz and Shuba Kumar: *WorldSAFE and IndiaSAFE: results of an INCLEN multi-country study*
Nohemi Ortega: *Ashoka international's initiatives on violence against women*
Pilar Ramos-Jimenez: *Integration of VAW into the nursing and medical curricula – the case of the Philippines*
Siriwan Grisurapong: *One-stop crisis center intervention programme*
Rachel Jewkes: *Sexual violence and coercion in South Africa*
Lenore Manderson: *Report of a meeting on sexual violence organized for the Global Forum for Health Research in Melbourne, Australia, March 2000*
Claudia Garcia Moreno: *Towards a sexual violence research initiative: progress and summary of e-mail discussion forum*

Traditional medicine

Responsible organization: GIFTS of Health

Chair: Gerard Bodeker

Issues: National research agendas in traditional medicine; traditional medicine in contributing to the control of malaria and HIV/AIDS; international priorities in traditional medicine research

Speakers: Gerard Bodeker: *Developing an international research agenda in traditional medicine*
Chen Ken: *Research priorities in traditional medicine in the Asia/Pacific region*
Ranjit Roy Chaudhury: *Clinical evaluation of herbal medicines*
Ismail Merican: *Traditional medicine research – a Malaysian perspective*
Ossy Kasillo, read in absentia by Andrew Kitua: *The new research priorities for traditional medicine in Africa*

Tuberculosis

Responsible organization: TDR/WHO

Chair: Carlos Morel

Issues: Research to cut the burden of TB: matching country needs with new opportunities; capacity development; country and disease controllers role in priority setting and implementation; organization and management of research and new opportunities; involvement of a mix of stakeholders

Speakers and topics: K. Yuthichai: *The need of TB control programmes*
Ariel Pablos-Mendez: *The Global Drug Alliance for TB Drug Development: lessons learned and relevance to control programmes*

Universities and health research

Responsible organization: WHO

Chair: Charles Boelen

Issues:	How can universities contribute better to the reorientation of health service delivery to meet the stated objectives of quality and equity? How can universities mobilise the civil society to address the priority area of improving equity, particularly regarding disadvantaged populations?
Speakers:	Arthur Kaufman: *Towards Unity for Health - Challenges and opportunities for universities in creating partnerships for health development* John Hamilton: *Universities and Health of the Disadvantaged - Creating coalitions within the university and between the university and civil society*
19.00	**Reception for all participants and accompanying persons**

Wednesday 11 October

8.00-10.30	**Plenary** *Chair*: Uton Muchtar Rafei, *WHO/SEARO*
8.00	**Report from previous day:** Synthesis of group work and parallel sessions Tamas Koos, Hungary
8.30	**Keynote addresses:** Mahmoud Fathalla, *Assiut University*, Egypt Gita Sen, *Indian Institute of Management*, India
9.10	**Presentation and introduction to group work on *Inter-country research cooperation*** **Presentation of consultations and analyses:** Stephen Tollman, South Africa **Panel session:** **Views from investors in the North**: David Rothman, *NIH*; and Anna Karaoglou, *EC* **Views from the South**, Mohamed Said Abdullah, Kenya **Issues for group work**
10.30-11.00	**Coffee break/Marketplace**
10.00-12.30	**Group work**
12.30-14.00	**Lunch break/Marketplace**
14.00-17.30	**Parallel Sessions**

Parallel sessions

A national health research system - the Thai case

Responsible organization: Thai Forum on Health Research for Development

Chair: Pakdee Pothisiri

Issues: Creating a health research system for the future health system; health research and a positive health approach; key features of a national health research system; creating concerted actions in a system with multiple players; how international organizations should and can work with countries.

Speakers: Somsak Chunharas
Representatives of SEARO and global WHO ACHRs
Montri Chulavatnatol
Praphan Phanuphak

Capacity development

Responsible organizations: WHO, Global Forum for Health Research, COHRED

Issues: Towards new methods and approaches at research capacity development with emphasis on 'bottom-up' approaches and national empowerment strategies

Part I — Setting the scene: country needs

Chair: Marian Jacobs

Speakers and topics: Tikki Pang: *Whither capacity development?*
Hu Shanlian: *Country needs and experiences - China*
Jack Nyamongo: *Country needs and experiences – Kenya*

Part II — Specific examples of capacity development

Speakers and topics: Vic Neufeld: *Leadership for health research managers*
Mary Ann Lansang: *Capacity development for priority setting*
Andres de Francisco: *Resource flow monitoring-capacity needs*
Michael Kay and Steve Chandiwana: *Capacity for information communication*

Cost effectiveness of health interventions

Responsible organizations: WHO and Global Forum for Health Research

Chair: Mark Miller

Issues: To review aspects of tool development for the generalisation of cost-effectiveness studies; to explore and suggest options to deal with long-term effect variables; to explore the future use of cost-effectiveness studies in health interventions

Speakers: Adnan Hyder: *Road traffic injury interventions – a framework for costing*
Tessa Tan Torres Edejer: *Tools available and data requirements*
Richard Smith: *Issues with long term effects on the measurement of cost-effectiveness*

Gender analysis

Responsible organizations: International Women's Health Coalition and Global Forum for Health Research

Issues: Why gender analysis needs to be incorporated in health research; the importance of gender analysis on health and development outcomes; methodologies of using gender analysis and perspectives in research design, clinical trials, health policies and action.

Part I

Chair: Rounaq Jahan

Speakers: Sundari Ravindran: *Information needs and indicators for gender analysis of health*
Kanokwan Tharawan: *The story of microbicides research: how gender analysis made a difference in research design and clinical trials*
Pascale Adukwei Allotey: *Gender analysis and malaria: implications for research and action*

Part II

Chair: Claudia Garcia-Moreno

Speakers: Ana Cristina Gonzalez-Velez: *Gendered health research for development – a vital contribution to health equity*
Binayak Sen: *Women's empowerment, inequality in health and economic growth – an interpretation*
Rachel Jewkes

Health and safety at work

Responsible organizations: WHO and Finnish Institute of Occupational Health

Chairs: Jorma Rantanen and Wilaman Juengprasert

Issues: Working conditions and health at work are in a rapid change due to globalising economies. Numerous traditional hazards and risks call for prevention and control actions, and simultaneously new health and safety risks are emerging and affecting the health of the majority of the three billion working people in the world. They also are lacking occupational health services for the protection and promotion of health. The socio-economic development in the countries is critically dependent on the health, safety and safety hazards at work; and the lack of appropriate services cause an enormous economic and social burden for the countries. Most of the existing hazards can be prevented by available research knowledge

but its implementation needs still research efforts. The identification and risk assessment of new risks and challenges requires new types of research strategies, methodologies and multidisciplinary research.

Speakers and topics: Jorma Rantanen: *Global analysis of conditions of work and research challenges*
Twisuk Punpeng: *Needs and possibilities of developing countries; case of Thailand*
Christer Hogstedt: *Research needs - examples from Latin America and Africa*
Kari Kurppa: *Risk surveys in East Africa*

HIV/AIDS

Responsible organization: UNAIDS

Chairs: José Esparza and Wiwat Rojanapithayakorn

Issues: HIV is an important problem, and has become a major cause of death in adults world-wide. With the number of HIV infected people increasing without relent, it is urgent to develop methods to decrease its transmission. Today there are only behaviour change and condom promotion to achieve a reduction in sexual transmission, and as yet sub-optimal methods to decrease transmission from infected mothers to their children. An HIV vaccine and better methods to reduce mother to child transmission are therefore clearly needed. However, the development of both interventions is hampered by problems: there is limited interest among those who develop vaccines to develop them for developing countries. Thus developing countries need to increase their commitment to the development of vaccines for their populations. The development of new and feasible interventions for mother to child transmission likewise can only be done in developing countries, where most HIV-infected women are not under anti-retroviral therapy. This poses ethical and practical dilemmas.

Speakers and topics: Natth Bhamarapravati: *HIV vaccine development*
Philippa Musoke: *Mother to child transmission of HIV*

Indicators of national health research development

Responsible organization: COHRED

Chairs: David Okello and Peter Tugwell

Issues: The idea/goals of a health research profile; feasibility and desirability of a (country-specific) health research index; how does this tool/methodology relates/contributes to the equity discussion? The structure/analysis of a health research profile; what is required to make monitoring of the health research process a regular function of the health research management system? The availability of data; which skills (by who and for who) have to developed in this area? Current results and future possibilities

Malaria

Responsible organization: WHO

Chairs: Jane Kengeya-Kayondo and Kanini Mendis

Issues: A research agenda for malaria to respond to the need of reducing the burden of disease and related issues: fostering R&D in malaria endemic countries: human resource capacity, optimal financial and institutional arrangements, gaps in R&D, and linkages between the research and intervention sectors; the health systems response to malaria: issues of scaling up interventions, operational and implementation research and moving products of research into policy and practice; arrangements for product development to address a major disease of poverty: How do global alliances and networks (RBM, MMV, GAVI, MVI, MIM) address the priority needs of endemic countries?

Speakers and topics: Andrew Kitua: *Fostering Re³D in malaria endemic countries – human resources capacity, financial and institutional arrangements, and links between research and control sectors;*
Marcel Tanner: *A perspective form the North*
Wen Kilama: *Re³D on the health system response to malaria control – scaling up interventions, operational and implementation research, and moving products of Re³D into policy and practice;*
Marcel Tanner: *A partner's perspective*
Gerald Keusch: *Global initiatives in malaria that aim to address a major disease of poverty – a critical examination of the global alliances and networks (MIM, RBM, MMV, MVI, TDR etc) and how they address the priority needs and gaps*

Mental health and nervous system disorders

Responsible organizations: Global Forum for Health Research and WHO

Chairs: Elly Katabira

Issues: Assessment of the cost/effectiveness of current interventions for selected mental health and nervous system disorders causing highest burden in developing countries: achievements, gaps of knowledge, and future research; adapting mental health policies and services to the needs of countries at different stages of socio-cultural development; the architecture of research into mental health and nervous system disorders: needs and options for the next decade

Speakers: Assen Jablensky
Florence Baingana: *Analytical studies on mental health policy and services: adapting mental health policies and services to the needs of countries at different stages of socio-cultural development*
Thomas Bornemann
Sylvia Kaaya
Harvey Whiteford: *An architecture for mental health research in the next decade*

North/South partnerships

Responsible organizations: NORAD and Sida/SAREC

Chair: Berit Olsson

Issues: Partnership in health research. The presenters will discuss experiences from developing countries. This include the Sida/ SAREC models in Africa and Nicaragua, partnerships between the Netherlands and Ghana and experience of institutional development in India

Speakers: Mutuma Mugambi: *Partnership in health research - lessons learnt through the African analytical process*
Maharaj K Bhan: *Partnership in health research - Experiences and challenges for institutional development*
Elmer Zelaya: *Experiences from a conference on bilateral collaboration with Sida/SAREC*
Ivan Wolffers and John Gyapong: *Production of knowledge for development - the place for partnership*

Poverty and health

Responsible organization: WHO and Global Forum for Health Research

Chair: Andrew Haines

Issues: This session addresses the role that health research can play in strengthening the health content of development policy and practice, including making health policy serve the goals of reducing health inequities and poverty reduction. Cognisance will be taken of global, national and sub-national perspectives, the two-way linkages between health and poverty reduction, and actions needed inside as well as outside the health sector.

Questions: What health research exists to guide policy in health and poverty reduction? What has been the experience to date of the role played by research in policy formulation and implementation (lessons learned, obstacles, barriers to success in translating health and poverty research into action)? What specific issues should receive priority attention in the development of a future policy-oriented research agenda on health and poverty reduction? How can capacity-building, linkages and networking in health and poverty research be strengthened?

Speakers : Eva Wallstam: *The WHO perspective*
Suwit Wibulpolprasert: *Thailand's experience*
William Pick: *South African experience*
Gita Sen: *Gender perspective*
Davidson Gwatkin: *The World Bank perspective*

Reproductive health

Responsible organization: WHO

Chair: Jay Satia

Issues: The impact of health sector reform on reproductive health – the role of research; integration of services – examples in reproductive health

Speakers: Priya Nanda: *The impact of health sector reform on reproductive health – the role of research*
Karl Dehne: *Review of the evidence on the integration of STI management into family planning services*
Baker Ndugga Maggwa: *A case study from Kenya*

Research synthesis for better decisions

Responsible organization: Global Forum for Health Research, Cochrane Collaboration and Effective Health Care Alliance Programme

Chair: Tessa Tan-Torres Edejer

Issues: How can we prepare and maintain reliable systematic reviews of research? How can we make the results accessible? How can research synthesis be used for better decisions? How can the Effective Health Care Alliance help in this process?

Speakers: Martin Meremikwu: *Building research synthesis capacity in Nigeria – a pilot project*
Qian Xu: *Better Births Initiative – using research synthesis to influence practice in China*
Rodrigo Salinas: *Establishing a Health Technology Assessment Unit – institutionalising evidence-based policy making in Chile*

Vaccine Re³D

Responsible organization: WHO

Chair: Natth Bhamarapravati

Issues: Vaccine research and development has a great potential for bringing into use new cost-effective disease prevention tools. When coupled with capacity development, this can lead to a very significant impact on the excessive mortality and morbidity caused by infectious disease in developing countries. Ultimately, vaccines will become an even more effective measure in the fight against poverty, fostering socio-economic development.

Speakers: John Clemens: *Vaccine research and capacity development*
William Makgoba: *How can vaccine development foster socio-economic development?*

19.00 **Banquet**

Presentation of the 'International Awards to support cooperation in Health Research for Development' by HRH Princess Maha Chakri Sirindhorn of Thailand

Thursday 12 October

8.00-10.30	**Plenary** *Chair:* Maureen Law, *the World Bank*
8.00	**Report from previous day:** Synthesis of group work and parallel sessions, Marian Jacobs, Rapporteur
8.30	**Keynote address:** Barry Bloom, *Dean, Harvard School of Public Health*
8.50	**Presentation and introduction to group work on *International health research cooperation*** **Presentation of consultations and analyses:** Mary Ann Lansang **Panel session:** **Role of an international research centre**, David Sack, *ICDDR,B, Bangladesh* **Perspectives from a developing country**: Nelson Sewankambo, Uganda **Role of an international research programme**: Carlos Morel, *WHO* **Donor perspectives**: Sigrun Mogedal, Norway, and Berit Olsson, Sweden. **Issues for group work**
10.30-11.00	**Coffee break/Marketplace**
11.00-12.30	**Group work**
12.30-14.00	**Lunch break/Marketplace**
14.00-17.30	**Parallel Sessions**

Parallel sessions

Ageing

Responsible organization: WHO

Chair:	Alexandre Kalache
Issues:	Implications of the demographic transition for health research worldwide; ageing and development – a neglected issue in the research agenda; capacity building for developing countries; the importance of longitudinal studies.
Speakers:	Alexandre Kalache: *Ageing and health within the development agenda* Taina Rantanen: *Epidemiological research – prevention of old age walking disability as a priority*

Toshihiko Hasegawa: *The importance of longitudinal studies for the understanding of health status in older age*
Chitr Sitthi-Amorn: *Capacity building for research on ageing in developing world – the case of Thailand*

Cardiovascular health

Responsible organization: Global Forum for Health Research

Chair: Stephen MacMahon

Issues: Discussion on workplans of the initiative and discussions on start-up of three projects: assessment of existing capacity for cardiovascular diseases research and control in developing countries; clinical algorithms on elevated BPs; assessing existing knowledge

Speakers: Srinath Reddy: *Overview of the CVD Initiative and capacity development for CVD research*
Bruce Neil: *Protocol on BP related risk reduction*
Shanthi Mendis: *WHO's strategy for CVD prevention and control in developing countries; the role of CVD Health Initiative*
Anthony Mbewu: *Sentinel surveillance systems*

Child health and nutrition

Responsible organization: Global Forum for Health Research

Chair: Robert Black

Issues: The Child Health and Nutrition Research Initiative was launched earlier this year with the objectives to: foster greater collaboration for child health, especially within the developing world; prioritise a research agenda focused on the developing world; map the actors and factors that affect child health and nutrition globally; explore strategies used by donors for funding work in this area.

Speakers: Adnan Hyder: *Progress of the Child Health and Nutrition Initiative*
Zulfiqar Bhutta: *Research priorities for child health and nutrition*
Marian Jacobs: *International collaborations for child health*

Evaluating investments in research cooperation

Responsible organization: NIH (USA)

Chair: Gerald Keusch

Issues: What can developing countries do to promote collaboration with developed countries? Motives for collaboration. Benefits of collaboration. Hurdles in the collaborative process that must be surmounted.

Speakers and topics: Gerald Keusch: *Introduction*
David Rothman: *An examination of NIH involvement with international collaborators*
Tasleem Akhtar: *Capacity development for health research in Pakistan – evaluating a decade of effort*

Globalisation and infectious diseases

Responsible organization: WHO and NIH

Chair: David Heymann

Issues: Current networks which support surveillance, research on infectious diseases; international health regulations; globalization of the food industry and emerging infectious diseases - demographic trends, selective pressures, transportation trends, identification of new organisms as aetiological agents of chronic diseases; globalization and drug resistance – spread of drug resistance, global patterns of emergence.

Speakers: Dr Kumnuan Ungchusak: *Current networks which support surveillance research*
David Heymann: *International Health Regulations*
Gerald Keusch: *Globalisation of the food industry and emerging infectious diseases*
Keith Klugman: *Globalisation and drug resistance*

Health policy and systems research

Responsible organizations: Alliance for Health Policy and Systems Research (AHPSR) and Global Forum for Health Research

Chair: Anne Mills

Issues: This session will analyse issues on financing and priority setting of health policy and systems research (HSPR). Presenters will analyse the extent to which the international research architecture has responded to regional problems and opportunities by analysing the objectives, levels of funding and strategies pursued by specific initiatives. The success and limitations of these initiatives will be assessed from the point of view of research processes, outputs and policy impacts. Recommendations will focus on lessons from these experiences for international research architecture and for effective research to policy processes.

Speakers: Di McIntyre: *The international research architecture from the African perspective*
Viroj Tangcharoensathien: *The international research architecture from the Asian perspective*
Miguel Gonzalez Block: *The international dimension of institutional capacity for HPSR*
Debarati Guha-Sapir: *Health systems research in developing countries – trends and evolution in EU policies and funding*
Anne Mills: *Towards an international architecture for HSPR*

Impact of the new biology on health

Responsible organizations: Thai T-2 Programme, IMBN and WHO

Chair: Yodhathai Thebtaranonth

Issues: Key advances in the new biology revolution and its impact on health and development in developing countries; perspectives from the South on the feasibility and likelihood that technology advances actually will have an impact on health and development

Speakers: Barry Bloom
Sangkot Marzuki

Information technology in health research

Responsible organization: COHRED

Chair: Tessa Tan-Torres Edejer

Issues: Understanding the nature and potential of advances in technology in information and communication: What is the nature of the technologic advances in information and communication? Through what mechanisms can it induce fundamental changes in the way things are done? How can this be applied in health research?

Using ICT in health research now: What is the current status of availability and use of ICT in developing countries, in the field of health research? How is information and communication technology currently being utilized in the different phases of health research?

Managing ICT in health research for the future: What should be done to ensure that the advances in information and communication technology can be used to buttress the new architecture of health research?

Speakers: Tessa Tan-Torres Edejer: *Revolutionizing health research: the power of information and communication technology*
Koos Louw: *Using ICT for dissemination of health research results in different formats and influencing and monitoring actual change*
Christina Zarowsky: *The donor's Perspective*
John Gyapong: *The researcher's perspective*
Hilda Bastian: *The Consumer's Perspective*

Measuring equity

Responsible Organization: Rockefeller Foundation

Chair: Tim Evans

Issues: This session will address the measurement of inequities in health. The key considerations – both technical and value-based – underlying the choice of indicators of health disparities will be outlined. A range of indicators, from the most basic to the more advanced, will be presented, with emphasis on application in research and policy (Chile and Russia). An emerging initiative on national monitoring systems for health equity – Equity Gauge – will be presented as an example of an important step toward equity in Health Research and Development.

Speakers: Tim Evans: *Basic considerations in measuring health equity*
Davidson Gwatkin: *Beware of averages*
Jeanette Vega: *Measures of inequality applied*
Patrick Naidoo and Meg Wirth: *The Equity Gauge: an important step towards equity in research and health development*

Public/private partnerships

Responsible Organization: Global Forum for Health Research

Chair: Roy Widdus

Issues: Public policy context for improving the availability and accessibility of drugs and vaccines for the poor; factors of success in the development of public/private partnerships; update on existing public/private partnerships

Part 1: An overview of public/private partnerships and apparent 'good practices'

Speakers: Roy Widdus: *Public/private partnerships for health – an overview*
James Orbinski: *Where are partnerships still needed?*
Giorgio Roscigno: *Perspectives of major companies on partnerships*
John Kilama: *Collaboration with industry on traditional medicines*
Mwele Malecela: *Collaboration with industry – 'donation' at country level*
Kent Buse: *Public-private partnerships - do they add to the total effect or just complicate public health governance?*

Part 2: Partnerships in practice

Seth Berkley: *The international AIDS Vaccine Initiative and other vaccine development partnerships*
Bob Ridley: *The Medicines for Malaria Venture and other vaccine development partnerships*
Natth Bhamarapravati: *Thailand's experience in collaboration with the pharmaceutical industry*

Resource flows into health research

Responsible Organizations: COHRED and Global Forum for Health Research

Chair: Wendy Baldwin

Issues: To review strategies to collect information; to review critical issues in implementation; to discuss possible next steps

Speakers: Andres de Francisco: *Introduction and main findings to date*
Bienvenido Alano: *Selected country studies*
Caryn Miller: *Funds towards capacity strengthening*

Safe motherhood

Responsible Organization: HRP/WHO

Chair: Joseph Kasonde

Issues Strategies to improve maternal health through research; priority setting: the contribution of centres from developing countries; priority setting: the contribution of systematic reviews; multicentre randomised controlled trials in developing countries to select the most effective interventions

Speakers: Guillermo Carroli: *The WHO/RHR Maternal health research programme The Who Antenatal Care Trial*
Pisake Lumbiganon: *The WHO Misoprostal for the third stage of labour trial*

Setting up new organizations

Responsible Organization: Rockefeller Foundation and INCLEN

Chair: Mary Ann Lansang and Marcel Tanner

Issues: To analyse and discuss how research and resource organizations that are actively involved in health research and development can be rendered most effective at national and regional level through organizational and ownership change; to present successful examples of ownership change and discuss the key determinants that enabled the change; to suggest models of ownership to increase effectiveness of health research

Speakers: Marcel Tanner and Andrew Kitua: Presenting the issue – two concise statements, one from the North and one from the South
Andrew Kitua, H. Mshinda and Mary Ann Lansang: *Presenting the case studies – Ifakara Health Research and Development Centre; From INCLEN Inc to INCLEN Trust*
T. Gelzer and F. Twaib: *Lawyers' views on the case studies – a northern and a southern view*

Friday 13 October

8.00-10.30 **Plenary**
Chair: Charas Suwanwela, *COHRED*

8.00 **Report from previous day**: Synthesis of group work and parallel sessions
Marian Jacobs, Conference rapporteur

8.30 **Keynote address**:
V. Ramalingaswami, *All India Institute of Medical Sciences*

8.50 **Panel session**: Reflection on the conference and future perspectives

10.30-11.00 **Coffee break/Marketplace**

11.00-12.30	**Plenary** (continued)
11.00	**Panel session** (continued)
11.30	**Presentation and adoption of action plan**: Marian Jacobs, Conference rapporteur
11.55	**Concluding reflections**: Lincoln Chen, *Rockefeller Foundation*
12.15	**Closing event**
12.30	**Lunch/Marketplace**

ANNEX 2 – OPENING ADDRESSES

Opening Speech

Gro Harlem Brundtland, Director-General, World Health Organization

Dear Colleagues,

I am delighted to be with you all here at this landmark event in Thailand, a country that has contributed so much to health research.

Scientific knowledge is at the core of our collective effort to advance health - whether we work in communities nationally, regionally or globally.

Knowledge improves health through three basic mechanisms:

- By leading to better technologies;
- By creating the basis for health-promoting life-styles; and
- By providing an evidence-base for policy-making.

They all need to be mobilized for us to meet the challenges we face today. Our first challenge is to reduce excess mortality, morbidity and disability, especially in poor and marginalized populations.

There is unprecedented political commitment to reducing world poverty. New knowledge has demonstrated the substantial economic losses faced by poor communities due to conditions such as HIV infection, malaria, and reproductive ill-health. Many Heads of State recognize that the good health of their nations is key to human development and economic growth.

There is a growing consensus: First - equitable health outcomes are essential for global prosperity and the well being of societies. Second - better health is key to reducing poverty, particularly among the nearly 3 billion people in our world who live on less than US$ 2 per day.

Health is starting to take its rightful place at centre stage of development action: we must make a massive effort to respond to this challenge.

Knowledge and technologies have helped develop tools for tackling conditions of poverty. But we need more knowledge on the determinants of illness and ways in which people respond. We need research into means for tackling the conditions - new drugs and commodities, strategies for health promotion, illness prevention and treatment, and efficient systems through which those in need can access what is available. This is urgent, as much of what has been developed is just not accessible to those who need it. And the power of the available tools may well diminish as pathogens learn to resist our response.

Colleagues, our second challenge is to promote healthy lifestyles and reduce factors that pose risks to human health. Knowledge, generated through research, helps us to understand people's life experiences, as well as options for environmental protection and lifestyle changes that result in better health and well-being. Knowledge is vital to help us make sense of popular perceptions about possible risks to well-being - unsafe food or sexual behaviour, radiation and non-communicable diseases.

New knowledge has demonstrated how tobacco use is growing in developing countries and how young people in these countries take up the habit. The world woke up to a frightening reality: a devastating global epidemic of tobacco use now threatening the developing world. We also have the knowledge about how to control this threat. As we speak, nations are preparing to work on a Global Treaty that will help put the knowledge into practice.

Our third challenge is to develop health systems that equitably improve health outcomes, respond to people's legitimate demands and which are financially fair. Knowledge must guide all of our attempts to improve health systems so they better benefit the people they serve. It should reflect people's experience of illness and their interactions with carers, describe the operation of their health systems and reveal the impact of alternative health policies in different settings.

Our fourth challenge is to promote an effective health dimension to social, economic, environmental and development policy. The effectiveness of all efforts to improve health - whether through health systems or risk reduction - will depend on the ways in which broader policy and institutional environments are developed and expressed. This calls for policy research that analyses what has happened in different political and economic contexts.

We face a fifth, and different kind of challenge. How do we deal with knowledge that is relevant to the public's health? Is it a private good, to be traded in markets, closely guarded, tightly protected and used to enrich its owners? Or is it a global public good, openly available to all who need it and make good use of it? Currently there is an imbalance and under-provision of knowledge goods within poorer communities and countries.

One of the remits of the **Commission on Macroeconomics & Health**, chaired by Jeffrey Sachs, is to examine options for investing in the production and use of new knowledge for addressing current and future health challenges. One of the Commission's six working groups will examine the impact of intellectual property rights on innovation, the incentives for developing new products relevant to the health of poorer societies, and ways to protect intellectual property while safeguarding public health. Another group is examining institutional mechanisms which will promote increased investment in international public goods.

The ownership of knowledge and intellectual property is, inevitably, the subject of intense political debate. There are signs of change. A recent communication of the European Commission, discussed last month at a well-attended Round Table in Brussels, indicate a convergence of interest from those responsible for Research, Trade, Health and Development to improve equity in access to knowledge, products and services which will benefit health.

Colleagues, much of the knowledge and understanding we need has to be produced through research: the conduct of research is thus a critical element of all actions to

promote better health. So, too, is the rapid and widespread application of research results, and universal access to its benefits.

These realities were appreciated when the World Health Organization was founded in 1948, and given its mandate on behalf of the peoples and nations of the world. This included the "promotion and conduct of research in the field of health". The general principles of WHO's research functions were established in 1949, and the Advisory Committee on Medical Research in 1959.[9]

Since then WHO has played a key role in many international health movements. Primary Health Care. The control - and rolling back - of malaria. The control and stopping of tuberculosis. Controlling leprosy, river blindness, leishmaniasis and other communicable diseases. The expansion of immunization and the integrated management of childhood illness. The eradication of smallpox. The promotion of reproductive health and safer pregnancy. Health care in complex emergencies. Improving access to essential medicines and technologies. Responding to HIV infection, and seeking ways to intensify the world's response to the epidemic. Reducing disability, and supporting those who are less able. Safe blood and better mental health. Improving the nutrition of infants and young children. Tobacco control. The impending eradication of polio. Environmental health.

In each case WHO's contribution has been based on the creation of knowledge, putting that knowledge to the test, applying it through the development of health systems - as well as through health promotion and targeted programmes. WHO has also encouraged focused research by national, regional and international bodies.

One of these foci has, of course, been effective therapies and preventive measures for priority health problems. But another is the operational issues encountered in community-level and national responses to people's health care needs. Research has responded to both challenges.

Scientists in WHO's regional and Geneva offices have worked closely with researchers within developing countries, linking them with Colleagues, from industrialized countries.

We see a continuing need to strengthen national capacities for health research, particularly in poorer countries. A range of interests have a stake in setting the agenda. They include policymakers, researchers, civil society and consumer groups.

Despite intensive advocacy by many of us, the overall level of investments in knowledge relevant to poor people's health are still minute compared with the extent and complexity of the problems to be tackled. WHO has used its own funds to support programmes. To fill critical gaps, WHO has established partnerships to support programmes of research and product development.

Two of the most effective of these programmes are the UNDP/World Bank/WHO Special Programme for Training & Research in Tropical Diseases (TDR) and the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP). Both are well known for promoting and strengthening excellent research in tropical diseases and reproductive health in many developing countries. They are also renowned for their efficient use of funds.

9. In 1986 the name of the Advisory Committee on Medical Research was changed into Advisory Committee on Health Research.

Ten years ago, the Commission on Health research for development started its work. The Commissioners presented their landmark report *Health Research – Essential Link to Equity* at the Nobel Conference in Stockholm. A truly visionary document. Several of the Commissioners are with us today. The report has been championed by the Council on Health Research for Development as it helped national authorities establish capacity for research to guide health policy, and locate funds to support it. The Global Forum for Health Research, established in 1996, has helped focus international attention on the benefits of new knowledge and technologies in tackling global health priorities.

Shortly after I became the Director General of WHO in 1998, we reported that many of the health achievements of the 20th century were the result of advances in scientific knowledge. Based on a recent estimate that there was a $20 return for every dollar invested, we concluded that the economic case was good. We concluded that further investment was essential.

During the last few years several new global research initiatives have been set up - to assess risks, to develop vaccines, to find new treatments, and to assess different preventive measures. Typically these involve basic science, clinical and social science researchers. Most are partnerships that involve both public and private sector entities, foundations alongside research institutions.

Later today I will be participating in the launch of one of these new initiatives - the Global Alliance for Anti-TB Drug Development, which brings together WHO, national institutions in South Africa and in the US, as well as the Rockefeller Foundation. Some years ago we saw the establishment of the International AIDS Vaccine Initiative: strongly supported by WHO and UNAIDS, it has made impressive progress at great speed. Late last year the Medicines for Malaria Venture began. Building on pioneering work by TDR, it offers a sustainable mechanism for the professional discovery, development and commercialisation of affordable new antimalarial drugs. And the Global Alliance for Vaccines and Immunization has as one of its objectives the acceleration of research and development efforts for vaccines and related products specifically needed by developing countries.

At the same time, more resources for research are needed within countries, so that national health research contributes knowledge that is relevant both to national, as well as global, agendas. The research must be of high scientific quality as well as relevant - whether research techniques are drawn from the biomedical, social, political or managerial sciences. Sustaining both excellence and relevance is not easy. Hence the continuing need to strengthen national capacity for research.

Given the scarcity of funds for research, disagreements about priority and emphasis are inevitable. The way forward involves careful analysis of the issues, and a response that contributes to relevance and excellence in the conduct of research for health - particularly for the health of poor people.

It also involves the creation of networks that minimize the barriers between different research disciplines and the distance between the laboratory and the field. Indeed, in good research programmes this distance is shrinking rapidly and interdisciplinary barriers have been eroded. That is as it should be. Many research networks are also designed to stimulate national or regional research capacity - such as the Multilateral Initiative on Malaria, set up to support malaria research capacity within Africa, and SEAMEO TROPMED, a network based in SE Asia.

Colleagues, in 1999 I initiated a study of research and development for international health. WHO staff worked with an external board to identify elements of a new strategy for more effective and concerted action:

WHO will continue to monitor emerging trends in knowledge generation and tracking resource flows for research. This will enable us to offer strategic visions for health research so that it adds to the evidence base necessary for priority setting and formulation of the policies.

WHO will help to promote and advocate for resources to support relevant, high quality research, We should offer norms and standards for the conduct of research, including ethical frameworks. These are particularly relevant given the globalization of health research, genomics, medical genetics and population genetics, and the widening technology and research gap between industrialized and developing countries. The Global Forum on Bioethics for Research will be meeting immediately after this conference to discuss some of these issues. And we have revived the secretariat committee on research involving human subjects to bring ethics to the forefront of WHO's research responsibilities.

Within all its programmes, WHO will support the better dissemination of knowledge as it becomes available - through synthesis, involving meta-analysis and related techniques; through careful analysis and peer review of new findings; and through the use of modern information technology and telecommunications.

In fact, we have witnessed a growth in the number of hits on the new WHO web site from four million to 12 million per month. Hits from 160 different countries which make it the most visited web-site on health in the world.

WHO will contribute to the effectiveness of regional and global health research efforts. Hence, we will continue work with others, bringing together the health research capacity within countries, within other organizations, and within both public and private entities.

WHO will continue to play a role in research capacity strengthening in developing countries, and in supporting strategic research in key areas where gaps remain.

We have confirmed that Expert Committees are one of the key links between WHO and the scientific community. We will do what we can to ensure that the science is of highest quality and relevance. We are updating the links with WHO collaborating centres and optimizing their important contribution of relevant and quality knowledge.

We have also reviewed the role of the Advisory Committee on Health Research: I am very pleased that Professor Fathalla has agreed to lead this important Committee as it provides strategic advice to WHO on a continuing basis. The Advisory committee has just held its meeting here in Bangkok this past weekend, now with a much-improved balance both of disciplines and gender.

The new strategy that I have described will be led across WHO by focal points in regional offices linked to a revamped Department of Research Policy and Cooperation in Geneva.

Colleagues, over the past few years, the health research capacity in many developing countries has improved beyond all recognition. Major new sources of research funding have appeared. There are more international health research initiatives than ever, with diversity of purpose, organization and governance.

This diversity brings new challenges. How to make sure that different groups know what is being done, by whom and how; what results are being obtained; what collaborative processes are being established; what options exist for capacity development and linkage; what needs are emerging; where there are important gaps in the regional or global response? How to make the most efficient and effective use of limited resources available? Above all, how to maintain focus on international health priorities?

WHO sees the value of diversity of organizations performing different functions at various levels and at different parts of the research spectrum. To maximize the advantages of diversity, additional research networks that span national borders will be needed to help the research community contribute better through the sharing of expertise and emerging knowledge.

Alongside this, WHO sees advantages in the better coordination of these diverse research activities, so that the different groups can see themselves responding collectively to the health challenges of today. This co-ordination could draw on the unprecedented powers of modern information, communication and management technologies.

The challenge is to convene the many stakeholders in health research for development in a community, which builds on their existing and growing experience. This will require the initial commitment of groups who are perceived to represent the different stakeholders. Many of them are present here today. It will require the investment of time and energy, and a slim but effective management; it will depend on the trust and self-discipline of participants.

WHO has a responsibility that reflects the interests of all people in its 191 member states. It responds to the wishes of their governments. It represents the international public sector in the health arena. WHO's work also draws extensively on the vision, insights and products of the health research community: this sustains its evidence base. Taken together, WHO's responsibilities and position enable it to act as a value-based global convenor, bringing together the producers, funders and users of health research. WHO is also well placed to catalyze novel actions when these are indicated.

As a convenor for international health research, WHO will strive to help establish a balance between basic and applied research, between biomedical and social disciplines, between the interests of decision makers and researchers, and between global priorities and local imperatives.

Colleagues, I sincerely hope that this conference will help all of us explore ways in which health research can best achieve specific and measurable results. I hope that the discussions will show ways in which health research can it be organized so that it secures higher investment, contributes best to development policies and finds its right place within international cooperation mechanisms.

Many of us sense that the way forward has to be based on several clear principles. Goodwill, trust and empathy; priority to the better health of the world's poorer communities; a strong political commitment to both health research and its management; and international collaboration within and between regions that is productive and mutually beneficial.

The recognition that knowledge is a global public good implies that all countries stand to benefit equally from its equitable distribution. All countries should share

and cooperate in the creation and utilization of knowledge for the *collective* benefit of humankind.

Quite simply, the potential rewards of well-organized international health research are inestimable. We need much more knowledge to respond to the challenges faced by the world's people. The production of knowledge has to be focused because our capacity to produce it is, inevitably, limited. The focus will change over the years, both nationally and globally, as needs evolve.

We have a chance, now, to establish better ways of working together, more effective ways of responding to need. We can build on a great history, with extraordinary improvements in our understanding of ill health and substantial health gains for so many people. The hard part is yet to come. Let us build on our success, and turn our aspirations into realities. It is this challenge that stimulates all of us to make the extra effort. I can assure you that WHO is ready and willing to support this effort.

Thank you.

Statements by Cosponsors

Maureen Law, The World Bank

Mr. Chairman,
Dr. Brundtland,
Fellow Participants,

The World Bank is very pleased to be a co-sponsor of this important Conference. As most of you will know, the World Bank has identified the reduction of poverty as its primary mission. And it is very clear that the improvement of health is an essential element of the poverty reduction agenda.

It is also clear that our efforts to reduce the burden of disease and improve health outcomes must be underpinned by sound research.

Perhaps the need for health research for poverty reduction is most immediately obvious in relation to communicable diseases, which disproportionately affect the poorest of the poor. Research is needed not only for new vaccines and drugs, but also to enhance our understanding of how to finance and deliver existing vaccines and treatments and of how to influence human behaviour to prevent the transmission of disease.

One could cite many examples of the past or potential impact of research in this area, but let me mention just one which came to my attention very recently. A Harvard University study concluded that, had a vaccine for malaria been available for the past 35 years, it would have avoided US$100 billion in lost productivity in Africa. It is this kind of evidence that has caused Mr. Wolfensohn, President of the World Bank, along with many other leaders in development, as well as political

and financial leaders from around the world, to enthusiastically support the current international campaign to tackle these diseases.

But it is not only in the area of communicable disease that research can contribute to better health and the reduction of poverty. We also need new cost-effective preventive, diagnostic and treatment methods to address the growing burden of non-communicable disease and injury and malnutrition in the developing world.

And we need a lot more research on health policy and systems to help us to understand how to equitably and efficiently deliver the products of research to those in need.

We all know that there is a need for countries to increase their expenditures on health research. A decade ago, the Commission on Health Research recommended that 2% of national health expenditures be allocated for research. Although our data are incomplete, it is clear that this objective is far from achieved. Until it is, developing country researchers will not have equitable access to funds for research and will be inhibited in their access to the international research community. Moreover, we will not see much-needed research in areas of national priority, nor the optimum translation of research results into action at country level.

At the same time we must recognize that some important public health problems cannot be solved by action at the national level alone. In this regard, another, as yet unmet, objective set by the Commission – that of 5% of donor funding being allocated for research – is important.

But it is not simply a matter of increasing funding. In order to use available resources to best advantage, we need to develop or strengthen a variety of regional and global partnerships. These partnerships can facilitate the sharing of information and ideas, can help to identify priorities and point out gaps in current research efforts, can advocate for increased resources, and can help to strengthen capacity for research.

This Conference provides a good opportunity for us to assess our progress in this area over the past decade – to examine the current state of these partnerships. What is working and what is not? How can we make them work better? There are thousands of researchers, institutions, and networks in the field. This pluralism is not only inevitable but, in my view, is desirable. We cannot hope to coordinate health research, but we can create opportunities for collaboration through a variety of networks and other institutional arrangements – including what is relatively new on the international level – public/private partnerships.

We need to develop ways of measuring the results of these joint efforts. Are we increasing the availability of resources? Are we increasing international attention to priority areas of research? Have we increased attention to ethical aspects of research or to the important issue of gender sensitivity in health research?

I don't expect this Conference to come up with all the answers, but I am confident that it will contribute a great deal to the consideration of possible approaches to future cooperation.

I am personally looking forward with enthusiasm to participating in the discussions over the next three days – and my colleagues in the World Bank will be very interested in the outcome of this milestone meeting.

Adetokunbo O. Lucas, Chair of Foundation Council of the Global Forum for Health Research

It is a pleasure to welcome all participants to the International Conference on Health Research.

The Global Forum is delighted to join the World Health Organization, the World Bank, the Council on Health Research for Development, and other partners, in co-sponsoring this important Conference.

Founded three years ago, the Forum has drawn attention to the "10/90 Gap". Out of US$56 billion spent by the public and private sectors on health research, only about 10% is devoted to tackling the diseases and conditions that account for 90% of the global burden of disease. The central objective of the Global Forum for Health Research is to help correct the 10/90 gap. Its specific objectives are to focus research efforts on diseases representing the heaviest burden on the world's health, improve the allocation of research funds and facilitate collaboration between the Forum's partners – government policy makers, multilateral and bilateral aid agencies, international foundations, national and international NGOs, research institutions and universities, private-sector companies and the media.

Ten years ago, the Commission on Health Research for Development made major recommendations on international cooperation on health research. In particular, it urged governments in developing countries to strengthen their support for and management of health research. At this Conference, we need to review the progress that has been made since the Report of the Commission. To what extent have countries adopted new policies with regard to research? How much support are they giving to their own scientists and institutions? Essential National Health Research is the foundation for global cooperation in health research; without it, nations are not able to make the best use of their own resources, nor are they able to collaborate effectively internationally.

This Conference represents the Fourth Annual Forum of the Global Forum. It is a real pleasure to join our partners and co-sponsors in welcoming all participants to this important Conference.

Charas Suwanwela, Chair of the Board of COHRED

Ladies and Gentlemen,

As Chair of the Council on Health Research for Development, one of the sponsoring organizations of this Conference, it is my great pleasure this morning to say a few words of welcome.

It is now ten years after the Stockholm Nobel Conference, and seven years from the creation of COHRED. COHRED is to move the principle of Essential National Health Research to reality. Many things have happened both inside the health research area, and in the environments surrounding it. This necessitates a new look and vision as well as new approaches and actions. Country focus continues to need our attention. From my observation at many regional consultative meetings I

am heartened to see an acute and heightened awareness of the roles and necessity of health research in so many developing countries. They are taking up the responsibility and challenges, and are anxious to have their voices heard, as well as to play an active part in the regional and global efforts. There are, however, many hurdles to overcome. The discussion paper which will form the basis for our deliberations in the next few days clearly shows the values, system and development needs of developing countries, as well as inter-country and global cooperation. It is hopeful that we will together define the health research agenda for the coming years and identify the appropriate governance mechanisms for its implementation.

In the end, it is not what happens here in Bangkok that will be important, but what we do afterwards. Will we take away and maintain the enthusiasm to give effect to the plan we decide upon? Will governments from Bamako to Sao Paulo to Manila recognize the importance and take the steps needed for the national health research system? Will we be able to create a global system that truly reflects country needs and priorities? I believe we will, if we work together here in a spirit of true partnership with mutual respect and trust.

I would also like to say a few words on behalf of the Local Organizing Committee. Even though all involved have been working very hard, I am sure that there must still be problems, inefficiency and inconveniences. I hope that you will accept our apology. We wish that you will enjoy your stay here and will have an opportunity to see more of Bangkok and Thailand beyond the Conference rooms.

Julio Frenk, Executive Director, Evidence and Information for Policy, WHO

Mr Chairman,
Dr Brundtland,
Colleagues:

On behalf of the International Organizing Committee, I extend to each and every one of you a warm welcome to the International Conference on Health Research for Development.

This is a conference firmly grounded in an awareness of time, since it is meant to provide an opportunity to reflect on what has been achieved in the past, what lessons have been learnt and what may be the way forward for the future.

Such an awareness of time is reflected, first of all, in the fact that we are holding out Conference exactly ten years after the appearance of the landmark report of the Commission on Health Research for Development. One explicit objective of the Conference is to review how much closer we have come, during this decade, to the vision articulated in that historical report.

In addition, it will not have escaped anybody's notice that we are holding our Conference in the symbolic year 2000. It is not that there is something intrinsically transcendent in the year 2000. These are after all, arbitrary marks that humans have invented in the futile attempt to anchor the relentless flow of time. We cannot even agree whether the year 2000 signals the momentous opening of the new millennium or the more modest closing of the previous one. But in the rolling of the full set of four digits the whole world even those culture with different time keeping traditions have seen a symbol of change.

And this Conference is about change: the change that has taken place during the last decade; the change that we envision for health research during the next ten years. I therefore invite everyone to think creatively about how best we can use the foundations of past efforts to build a better future for health research both nationally and internationally.

Today we reach a major milestone in a process that began two years ago. Dr Gro Harlem Brundtland had just taken office as Director-General of the World Health Organization. Among other aspects her new agenda for renewal included three themes: the need to develop a sound knowledge base for policy making; the importance of reaching out in order to build constructive partnerships and the imperative of placing health at the center of the development agenda.

In light of this new strategic orientation, WHO decided to join hands with the World Bank, the Council on Health Research for Development and the Global Forum for Health Research in convening the Conference that begins today.

From the outset an effort was made to be as inclusive as possible in the process of organizing the Conference, so as to reflect the growing pluralism of the international health research arena. Thirty-five organizations from all sides of this arena joined in as members of the Steering Committee for the Conference, bringing with them a wealth of participatory energy.

Also from the outset, it was decided not to conceptualize the Conference as a single event in time, but rather as an unfolding process involving activities before and after the meeting itself. Three convergent lines of work were carried out over the past 2 years:

- First, extensive consultations were held on a regional basis in Africa, Asia, the Eastern Mediterranean, Latin America, the Caribbean, and in Central and Eastern Europe & the Newly Independent States. All in all, close to 1,000 persons participated in these group discussions.
- Second, an analytical exercise was carried out based on critical examination of documents, interviews with key informants and roundtable discussions.
- Third, consultations were also held with major investors in health research.

The consultative and analytic strands of work have been brought together in the **Discussion Paper** that has been widely distributed prior to this Conference. You should see this papers simply as a partial reflection of deliberations that have taken place over these past two years. We very much hope that the Conference will take these ideas a step further in the shared effort of learning from the past and constructing the future.

How does the Conference hope to achieve its objectives? The steering and Organizing Committees have quite consciously tried to assemble a hybrid conference with both a substantive and a deliberative side.

One the one hand, the substantive side of the Conference will review many of the content areas of health research. While there is a plethora of specialized meetings catering to thematic, disciplinary or methodological interests this Conference is unique in that it offers a common ground for producers, users and funders of health research from all backgrounds. The substantive aspects of this Conference will be covered through afternoon **Parallel Sessions** (consisting of cross-cutting issues, specific issues, and tools and methodologies), as well as through a **Marketplace** offering opportunities for individual interaction and collaboration.

On the other hand, the deliberative side of the Conference will seek to bring new insights and add value to the ideas presented in the Discussion paper, as we build-up the discussion about ways of reinvigorating national capacity development and international cooperation for health research. This aspect of the Conference will be covered through **Keynote Presentations** and through morning **Group Work** based on the regional and global preparatory consultations mentioned above. The groups will focus their discussions on eight key challenges identified in the Discussion Paper, namely: equity, ethics, governance, financing, knowledge production, knowledge management and utilization, capacity development, and research environment. Later today these challenges will be analyzed within countries. Tomorrow morning the focus will be on intercountry relationships, including regional interaction. On Thursday the challenges will be examined with respect to global cooperation for health research.

Planning a hybrid conference imposes the added requirement of connecting the two sides. To this effect, the chairs of the parallel sessions have been requested to try to link the discussions with the key challenges from the morning group work. In addition, the Conference will rely on a reporting group. Let me at this point submit you to the proposal of the International Organizing Committee that we appoint Dr Marian Jacobs of South Africa as the main Conference Rapporteur. If there are no objections Dr Jacobs, has accepted this important duty for which we are grateful. She will be assisted by a competent team.

To ease their task, this reporting team has designed a systematic process whereby highlights and recommendations from both the group work and the parallel sessions will be put together by so-called "distillation teams" at the end of the morning and afternoon sessions. The members of these teams will provide inputs of four follow-up activities.

- First, the **Synthesis** session covering each morning the main points of the previous day's debates,
- Second, the Morning Gazette, which will bring you the highlights of the discussions along with programme updates,
- Third, the process of drafting the Action Plan as the Conference progresses, and
- Fourth, preparation of the Conference Report.

In addition, a Thai National Team will examine the way in which our deliberations can feed into the needs of the research system of our host country and also provide an interface with the local media.

The final day of the Conference will feature a **Round-Table** discussion of the **Action Plan** of the Conference, in addition to some reflections from distinguished individuals. It will hopefully end with the adoption of the Action Plan as a guide for next steps.

Let me finish with the most gratifying of all tasks, to give thanks:

- First of all to our hosts, in particular the Local Organizing Committee, chaired by Professor Charas Suwanwela
- Second, to our partners in the International Organizing Committee and the Steering Committee, who have devoted precious effort to make this Conference possible and to the institutions that have provided financial support, which are listed in this guide book

- Third, to the organizers and participants in the regional and global consultations and to the members of the analytical team, who have generated the momentum of ideas that we must now carry forward
- Fourth, to the keynote speakers, the chairs of the several sessions and the presenters for providing the substance for this meeting
- Fifth, to the Reporting group chaired by Marian Jacobs who will bear the burden of giving coherence to our discussions
- Sixth, to the Secretariat of the Organizing Committee, headed by Lennart Freij, and to the members of the partner institutions who, together with our hosts have been responsible for bringing all the pieces of the logistical puzzle together
- Last but certainly not least, to each and every one of you for giving life to this Conference through your participation.

Today, we have come together in Bangkok to examine present challenges and debate future options for health research. As we do so, I hope that we will be inspired by those who launched a visionary effort ten years ago - many of whom are with us today - and also by those who came before them. I am here reminded of the words of Bruno Bettelheim:

"We owe much to those before us and around us who created our humanity through the elevating insights and cultural achievements that are our pride, and make life worth all its pains…"

Let us build on that legacy so we search for new frontiers in pursuit of our shared goals: more equity in health through research.

Thank you.

ANNEX 3 – KEYNOTE ADDRESSES

Gender Matters In Health Research

Mahmoud F. Fathalla, Assiut University, Egypt

1. Introduction

When our founding fathers wrote the Constitution of the World Health Organization, more than 50 years ago, they emphasized health as a fundamental human right, without any type of distinction, be it based on race, religion, political belief, economic or social position. They missed one thing: distinction on the basis of gender. They did not leave it out on purpose. They missed it because it was only relatively recently that, through research, we began to learn about the importance of gender in health.

2. Gender versus sex

The reality of life is that societies, all societies, are divided along what we can call "fault line of gender". Gender refers to women's and men's roles and responsibilities that are socially determined. Gender is related to how we are perceived and expected to think and act as women and men because of the way society is organized, not because of our biological differences. Sex is biologically determined; gender is a social construct.

3. Gender matters in health research

Gender matters in all walks of life. It also matters in health research. For this, the research tool one needs is simple: a gender lens. But without this gender lens, gender blindness in research will result in missing important information or perspectives, or will lead to incorrect conclusions.

4. Gender matters in the systematic collection and analysis of data and statistics

This is well illustrated in the following two studies. The first is what is now a classical study published almost twenty years ago by Lincoln Chen and his colleagues. It was only by segregating the data about boys and girls, that they were able to show the gender bias in the family allocation of food and health care in rural Bangladesh. The findings in the study led to subsequent work which confirmed in many other societies the preverence and consequences of discrimination against the girl child.

The second study is that of Amartya Sen in 1990, and confirmed by Coale in 1991. Looking at excess female mortality and the balance of the sexes in the population revealed the alarming estimate of the number of "missing females", ranging between 60 and 100 million.

5. Gender matters in the participation of women and men in the research process as researchers

The examples selected here are from two countries not known for their gender inequality: UK and Sweden.

A report on women in science in the UK showed that in 1992, women made up only 22% of all academic staff in the UK and less than 16% in science departments (O'Driscol & Anderson,. 1994). One may take this simply as an indication for women's work preferences. But the report found, in addition, that most women are concentrated in junior grades, with fewer than 3% advancing to professorial level. Moreover, the report found that there is little evidence that the situation was improving.

Did this relatively small number of women have equal chances to apply for research project and programme grants?. A study by the Wellcome Trust, again in the UK, showed that women did not apply to the Wellcome Trust for project or programme grants in the proportion that would be expected from the number of females working in UK universities (Grant & Low, 1997).

When women applied, did they get a fair treatment?. One answer comes from Sweden. An analysis of the peer review system of the Swedish Research Council, published in the journal Nature under the provocative title of nepotism and sexism in peer review, brought up evidence that women researchers were discriminated against because of their sex (Wennerus & Wald, 1997). Female applicants for post-doctoral fellowships had to be 2.5 times more productive than their male colleagues to get the same peer review rating for scientific competence.

6. Gender matters in the participation of women and men in the research process as research subjects

"Ensure, where indicated, that clinical trials of pharmaceuticals, medical devices and other medical products include women with their full knowledge and consent and ensure that the resulting data is analysed for sex and gender differences." (Commission on the Status of Women, 1999)

The Commission on the Status of Women made this statement last year, responding to three areas of concern.

First, women were often excluded from clinical trials on disease conditions that affect both men and women, on the basis of biological variability, and/or vulnerability. But they were given the same drugs that were not tested on them if the drugs proved safe and effective for men.

Second, drugs and devices intended for use by women only, were often tested on them without their proper informed consent, particularly in poor resource settings.

Third, when women were included with men as research subjects, gender was not always taken into consideration when results were analysed.

7. Gender matters in setting the research agenda and research priorities

The priority health needs and health research needs of men and women have long been known to be different. A keen observer in the 17th century has rightly remarked

that men, being more intemperate than women, die as much by reason of their vices, as women do by infirmities of their sex. This observation was confirmed more than 200 years later by the major study of the World Bank on the Burden of Disease.

Are women's specific reproductive health research needs receiving their priority?. I submit to you that this is not often the case. Women's priorities have either been neglected or distorted.

7.1 Neglect of women's health and health research needs

There is no striking example for neglect than the tragedy of maternal mortality. In the words of WHO Director-General, *"Because of our collective failure to solve this problem, the tragedy of maternal mortality represents a major source of suffering and injustice in our societies…..This situation cannot be allowed to continue"*.

Why is one woman dying every minute because of pregnancy and childbirth?. I submit to you that it is a gender issue. It simply boils down to the question of what is the monetary value of a woman's life, the answer to which in many societies is, unfortunately, *not much*.

7.2 Distortion of women's health and health research priorities

"Women know that childbearing is a social, not a purely personal phenomenon…But our bodies have become a pawn in the struggles among States, religions, male heads of households, and private corporations."

Politicization of women's bodies is a gender issue. A woman can claim as her's all her body, but with the exception of a certain area which belongs to certain males of the species, moralists, politicians, lawyers ..all of whom will decide how the area is best utilized.

Contraceptive research and development is a case in point. Women look at the currently available methods of contraception and find that important women's research needs have been left out by a field that was for long demographic driven. It was only recently that attention was focused on a woman-centered agenda for contraceptive research and development, including: male contraceptives to allow more male participation in the responsibility for fertility regulation; vaginal microbicides which women can use and control to protect themselves against sexually-transmitted infections; and retro-active contraception for women to use when they have been subjected to unprotected sexual intercourse.

8. Gender matters in health research on diseases that affect both men and women

It is well known that genetic and hormonal factors modify the prevalence, behaviour and treatment of diseases of body systems in men and women. But what is less known is that culturally evolved gender-related differences in lifestyle behaviour are powerful determinants of women's health and account for major differences in the disease burden between males and females, probably more than genetic or hormonal factors (Waldron, 1986).

A more recent statement from UNAIDS emphasizes the same point: *"Understanding the influence of gender roles and relations on individuals' and communities' ability to protect*

themselves from HIV and effectively cope with the impact of AIDS is crucial for expanding the response to the epidemic." (UNAIDS, 1998).

9. Gender matters in health research on health sector reform

There are two ways to formulate the research question about gender and health sector reform. One way is to look at how different needs by the two genders are being met by the health care system. Another is to look at the health care system with a woman's lens.

Let us admit that we still have health care systems that are **h**ypermedicalized, **i**mpersonal, and **s**ub-specialized. The contrast is a health care system that is **h**umane, **e**quitable, and **r**ational. The acronym for the first system happens to be **his.** The acronym for the second system happens to be **her**.

Engendering Health Research

Gita Sen, Indian Institute of Management, Bangalore, India

Dr Uton, Colleagues, and Friends,

It is a great privilege and honour for me to be here this morning speaking to this very accomplished gathering of physicians and scientists. It is doubly a privilege because I follow Dr Fathalla, and I do so with both pleasure and trepidation. Pleasure because I hope to shine in the reflected glory of his great clarity and acuity; trepidation because it is such a difficult act to follow.

This morning I am going to try to build on Dr Fathalla's analysis of why gender matters in health research to look more closely at the question of how one goes about incorporating gender appropriately and effectively in health research. In doing this, I have many people to thank for my remarks are based on their work, but especially my colleagues in the Gender and Health Equity Working Group of the Global Health Equity Initiative, some of whom are in the audience here today.

My remarks are in two parts: in the first, I propose that we look more closely into the consequences for health research of not addressing gender effectively; in the second, I suggest how we may redress this situation both at the level of research itself and through the creation of a supportive institutional environment.

In what follows I will be using the distinction between sex (as biologically determined) and gender (meaning the socially constructed distinctions between women and men based on differences in access to resources and knowledge, social roles, divisions of labour and occupational segregation, power relations and hierarchies of authority and decision-making, and socially sanctioned and enforced norms regarding identity, personhood, and behaviour). This distinction has been extensively used in the last quarter century of research particularly in the social sciences, and is one that allows the researcher to distinguish and comprehend the social basis of differences between women and men.

Doing this in the health field poses two challenges:

- Health, unlike say education, has a biological base or at least biological referents; no one would seriously believe that educational differences between races, castes or genders have a biological basis (although it is useful to remember that it was not so long ago that serious scientists believed that there were differences in brain capacity on the basis of race, and that girls were incapable of learning mathematics), but biology cannot simply be wished away as bias in the field of health. We are forced therefore to analyse the complex ways in which biology and social factors interact when attempting to understand health-related differences between women and men;
- Within health sciences, the differences between men and women are more influenced by biology than the differences between rich and poor, or between caste groups. Even race-based differences are probably more similar to class or caste in this regard than to sex, despite the known influence of genetics in particular diseases that are racially differentiated.

Understanding the way in which biological and social factors interact in different aspects of health becomes central therefore to understanding how gender operates in health. This has consequences for our understanding not only about women's health but also about men's health. The excess fatalities and injury due to traffic accidents among men for example, may be a consequence of the gendered phenomenon of who drives and who owns cars, but may also reflect a promotion of risk-taking through the marketing of maleness.

Consequences of not taking gender seriously

1. Data - Although people tend to think immediately of complex interlinkages between biomedical and social sciences, the absence of gender is still felt in some simple and unfortunately rather pervasive ways. This includes the fact that data (in individual research projects, national, regional levels) are still not systematically disaggregated by sex. I remember a few years ago when I was doing a programme review in a state in India being told informally that the health department had stopped reporting infant mortality rates by sex because of the growing disparity between female and male rates!

   While not all aggregation may have ulterior motives behind it, the sad fact is that data managers and systems are not systematically sensitised today to the need for even basic disaggregation by sex, let alone the presentation of data in a manner that will allow cross-tabulation and classification between sex and social stratifiers such as socio-economic class, race or caste.

   A further and more difficult problem in relation to data is the question of its reliability both when collected in the home/community, and through the records of health service providers. In societies where systematic gender biases exist in health seeking behaviour or where social norms for women of 'suffering silently' prevail, morbidity data are well known to be underestimates whether self-reported or collected from provider records.

   These data problems urgently need our attention because they mean that our analysis of female –male differentials in health are seriously hampered even when we have other reasons to believe that they may be significant.

2. Resounding silences – One way in which gender bias manifests in health research is through the slow recognition of health problems that particularly

affect women. One not so distant and now well-known example is of course the case of reproductive tract infections, particularly among poor women in developing countries. Despite over 50 years of globally and nationally supported family planning programmes and extensive related research into contraceptive behaviour, it is only within the last 10 years that serious research into the prevalence of RTIs has occurred.

Another example is that of domestic violence – its prevalence, and its consequences for women's physical and mental health. New research being done in this area points to wide prevalence, a range of social causes, and consequences across a wide spectrum of sub-fields.

In both of these problems, WHO and many other agencies and researchers have recently been supporting a considerable amount of work. Lest someone feels that I am speaking about problems that have already been addressed, I would like us to remember that when speaking about poorly acknowledged health problems, it is only possible by definition to speak about we already know! What is striking in relation to both of these problems is how widespread their incidence is, and how significant their effects; and of course how long it has taken us to recognize them.

Lack of acknowledgement of women's health problems is however only one way in which gendered silence affects health research. Another way is through the presumption that what holds true for men in health is also true for women. A good example here is of course the issue of clinical trials that routinely exclude premenopausal women in order to avoid the confounding influence of the menstrual cycle, but then assume that the results derived from male subjects are automatically applicable to women. The International Ethical Guidelines for Biomedical Research Involving Human Subjects prepared by CIOMS, the Council for International Organizations of Medical Sciences, in collaboration with WHO bemoaned this as far back as 1993: *Premenopausal women have also been excluded from participation in many research activities, including non-clinical studies, that do not entail administration of drugs or vaccines, in case the physiological changes associated with various phases of the menstrual cycle would complicate interpretation of research data. Consequently, much less is known of women's than of men's normal physiological processes. This too is unjust in that it deprives women as a class of persons of the benefits of such knowledge (p 34)*. So far so good. But the Guidelines do not then go on to make any recommendation about what should be done to correct this problem. (I am told that the Guidelines are now being carefully scrutinized for their gender content, and one hopes will redress the problem.)

3. Misdirected or partial approaches – This category probably includes some of the widest problems across a broad range of health sub-fields. Some examples are:

   - Air-pollution standards and testing that for a long time ignored the problem of indoor air pollution and smoke-filled kitchens that are critical for large numbers of poor women in developing countries (environmental health);
   - The differential causes and patterns of occupational stress consequent on women's and men's different roles combining work inside and outside the home; e.g., the Swedish study that has found that the stress levels of male managers tended to decline towards the end of the paid work-day, while that of female managers tended to increase sharply in anticipation of

domestic work requirements of at the end of the paid work-day. Such evidence attests a fortiori to the argument made in a recent paper by Whitehead, Dahlgren and Gilson that the determinants of health inequity may be different from those of aggregate health. The authors give the example of working conditions in Sweden which, since they are relatively good on average, do not have much explanatory power for aggregate morbidity, but do explain quite a lot of the differential between economic groups. When gender is added as an additional stratifier and when work is taken to include both paid and unpaid work, this argument clearly acquires even greater force.

Indeed, domestic work has typically been presumed to be more leisurely, slower paced and under the control of women – growing evidence suggests that the reality is rather different; and the health implications involve an as yet poorly researched combination of stress and depression (occupational health).

- The pattern and incidence of mental health problems vary considerably between women and men. Men are at significantly greater risk of completing suicide at all ages, although women are more likely to make the attempt. Women are twice as likely to suffer from depression as men, despite the fact that evidence is now emerging that, at least in richer, urban locales, the ability of widows to mobilize social networks is significantly better than that of widowers. Ongoing research on domestic violence suggests strong links between physical and emotional/psychological abuse on the one hand and depression on the other through a powerful mix of humiliation and entrapment. Evidence on the possible links between domestic violence, depression, and cardiovascular problems in women is emerging (mental health).

- But perhaps no sub-field of health research is as replete with irony when viewed through a gender lens as reproductive health. As is well known, early beliefs in the field of mental health linked women's problems closely to reproductive biology as the very word hysteria attests. Such unsubstantiated and almost axiomatic presumptions are not as far behind us as we might suppose or wish. Contraceptive acceptability research until very recently (and perhaps even continuing today) tended to presume that women's complaints about discomfort or pain were imaginary and could be ignored. Thus, for example, the discovery of the wide prevalence of RTIs and the implications of anemia were long delayed although women's weak acceptance of IUDs should have served as an early warning signal.

  But while women's reproductive biology was being linked in questionable ways to their behaviour and mental health, the real implications of gender power relations around sexuality and reproduction for violence and depression were ignored as we have seen.

4. Non-recognition of causally interactive pathways to ill-health and disease – Gender as a social determinant of health does not act alone; it is usually crosscut by other social stratifiers such as socioeconomic class, race and caste. Recent work by Gwatkin and Guillot points out for instance that among the poorest 20%, infectious diseases are responsible for a significantly larger proportion of female deaths, and that girl children have a higher proportion of DALYs than boys. Are such differences due to the interaction of poverty and sex or poverty

and gender? We must find ways of sorting out the influences; existing data suggest that the female – male differentials in mortality and morbidity from specific infectious diseases vary globally, and point to a mix of economic, social and environmentally gendered factors in their epidemiology. But the possible synergy between risk factors needs to be better understood so that we can explain for instance, why although after the start of adolescence, men are more likely to be infected with T.B., women are more likely to present with the disease.

Emerging and in some instances long-standing data suggest a range of other interactions:

- women experience greater co-morbidity in mental health problems;
- the anemia risk is greater for pregnant women with malaria relative to pregnant women without malaria, and also relative to non-pregnant women with malaria;
- schistosomiasis is associated with greater risks of infertility, abortion, and vulnerability to HIV – while many of these connections are to reproductive health, there is as yet little research on other implications, e.g., the relations of gendered nutritional differences and the risk or exacerbation of infectious diseases
- Human Papilloma Virus risk is greatest for women who are poor, have had multiple births, and who have themselves had or whose partners have had multiple sexual partners
- The complex mix of social and biological factors in the incidence of HIV/AIDS and the fact that these are profoundly gendered is now only too well-known. While male to female transmission of the virus is biologically easier, the growing burden of infection among girls and women is clearly associated with gender power relations whether through the inability of women to insist on safe sex practices by their male partners, or through the economic power differentials crosscutting age and gender power in the phenomenon of 'sugar daddies' and adolescent girls.

Taking gender seriously in health research

How do we move forward? As some of the examples I have cited suggest, incorporating gender effectively in health research involves changing our conceptual approaches, questions, and methods, and these are likely to change our research and policy conclusions. Gender appears to affect the risks of mortality and morbidity through both differential exposure and vulnerability; the severity and consequences of illness; access to resources for health promotion and for the prevention, diagnosis, and treatment of illness; the experience and implications of ill-health; and the responses of the health-sector. All these are subjects for health research.

Some things are relatively easy to do. Without appropriate sex-disaggregated data, it is difficult even to begin a gendered analysis. However collection of such data by individual research projects or through larger data systems is certainly not without cost; and here is where the question of values – political will and commitment comes in.

In formulating research questions and hypotheses, it is certainly easier to move forward in areas where reproductive biology is unlikely to play a role. However,

where it does play a role, a useful guideline is for the researcher to NOT assume that reproductive biology accounts for all or even the bulk of the differences between women and men. Gendered differences in economic access, social power and behavioural norms must be presumed to operate unless proven otherwise. As stated before, the pathways can be complex and interactive but they can certainly be investigated systematically. This may require a range of methods, both quantitative and qualitative; as well as more inter- and multi-disciplinary research across biological and social sciences.

As long as the current situation holds wherein women health researchers and decision-makers are in the minority and less powerful, there need to be additional safeguards to ensure that gender equity is addressed. Researchers need to establish safeguard mechanisms that involve the subjects of research in order to guard against one's own biases. This needs to be done not only at the time of interpreting and understanding research results but at the early stage of research design, when shaping and refining one's questions and hypotheses. If this had been done in acceptability studies of IUDs in poor populations, perhaps RTI prevalence would have been detected sooner.

Creating a supportive institutional environment for gendered health research

Besides promoting the collection of sex-disaggregated data, there are a number of steps that can be taken to create and strengthen the institutional environment. In the field of gender research, there has been considerable experience in the last two decades with creating specialised gender units versus mainstreaming gender throughout the organization. While the weight of wisdom leans these days towards the latter, it is clear that gender can be mainstreamed into disappearance unless backed by a gender unit with senior staff and adequate resources. Mainstreaming gender in research also does not happen simply by attempts at sporadic gender training but needs the development of guidelines for research beyond checklists, and the creation of both incentives and disincentives.

In health research, as in other fields, the gender advisory panel or committee can play a valuable role provided it has a broad and flexible mandate, is adequately resourced, and is linked ex officio to other key committees and panels.

Supporting a culture of dialogue between researchers and women's groups/ representatives on specific issues in an ongoing way has also been proven to work.

Large organizations need to do the foregoing not only in different sub-units, but also in the organization overall in order to avoid the twin problems of organizational irrelevance and fragmentation. Above all, however, what happens in institutions, what standards they give themselves, and what examples they set for others depends on research leadership and governance.

Ladies and Gentlemen, the challenges to justice and equity in health today are profound. Some of these challenges as we all know are new and we are barely beginning to understand them. Others such as the inequalities posed by gender are much older and yet equally poorly addressed. If the fragmentary research in this area of the last few decades tells us anything, it is about the depth and urgency of the problem. Isn't it high time we did something about it?

Essential Global Health Research

Barry Bloom, Harvard School of Public Health

It is a truly humbling experience to be asked to address such a distinguished group of scientists, representing such an vast range of disciplines, knowledge and experience. I was asked by the organizers to do two things — to speak about some exciting developments in biomedical medical science, and to be provocative. I shall attempt to do both.

The title of this presentation is my basic thesis — a recognition of the global nature of health research. It is based on the premise that what will ultimately be best for health in the world will depend on knowledge that we do not yet have. Research is traditionally defined as the generation of new knowledge, development of new and enabling technologies, and the identification of gaps in present knowledge. The World Health Organization and its Advisory Committee on Health Research have endorsed two other aspects, which are the verification of knowledge in different contexts, and the creation and dissemination of products of knowledge, to enable that knowledge to be accessible to many people.

The context in which we now talk about new knowledge is not, I must admit, the happiest. The income gap now between rich and poor countries is ten times greater than in 1970. There are one hundred million more people now living in poverty than there were in 1970. And there is a 50-fold differential instead of a 5-fold differential in earnings of people in the richest and poorest countries. At the same time there is an increasing and, I believe, inexorable trend towards globalization of travel and trade, with many multinational and cross-national companies. In our realm they include pharmaceutical and vaccine companies, and a new organizational set, called contract research organizations (CRO's), that now do 60% of all clinical trials for hire. In addition health management organizations (HMO's), that provide health coverage for some, but not all who need it in the industrialized world, are now moving to expand their markets into developing countries where the regulatory environment is weaker or non-existent. A concomitant global trend, of course, is the spread of infectious and environmental risks that are increasing at a worrisome pace, witness the explosion of HIV/AIDS in Eastern Europe and South Asia. Finally the predictable outcome of the current trends is, regrettably, an increase in the health and technology gap between the rich and poor countries.

During the past decade, there has been an extraordinary rising consciousness within every country of the world about the role of essential national research in health care and health care systems. And that decade, as is apparent at this meeting, has produced extraordinary advances and changes in almost every country on the world. The level of understanding, commitment and sophistication in issues of health care and health policies is far beyond anyone's expectations a decade ago at the Nobel Conference and Commission Report on Health Research and Development. My challenge is to ask where we go from the concept of essential national health research derived from those meetings over the next decades? My hope would be to build on that platform to create a framework for essential health research that is global.

The provocative thesis that I would like to put forward for discussion is based on a maxim from the former speaker of the U.S. House of Representatives, a wonderfully colorful Massachusetts politician named Tip O'Neill, that "All politics is local". To that I would add my conviction that:

- All health care is national, including essential national health care research.
- All health research is global.

What do I mean by global health? In a publication of the US Institute of Medicine entitled, *America's Vital Interest in Global Health*, global health was defined as problems, issues and concerns that transcend national boundaries and may best be addressed by sharing knowledge and cooperative action. By that definition, then, global health knowledge belongs to everyone — not just to the owner, the proprietor, the country in which it is done or from which it is sponsored. Thus health research is a true public good. An important corollary of this fact is that global health research is based on individuals and institutions, and not on nation states.

The Genome Project: Probably the most exciting area of biomedical research now, and for at least the next decade, derives from the Human Genome Project. How then do we relate the genome project and the new post-genomic biology to the problems of the developing world? The fact is that much of the research is driven by high technology, by hopes for profits, and innovation is not always inspired by the most humane of motivations. The emphasis of post-genomic research is largely on non-communicable diseases — cardiovascular disease, cancer and neuropsychiatric illness — as we know the major chronic disease problems in the industrialized world. There is a convergence, however, in that they represent increasing problems in developing countries.

There is at least one piece of the genome project that does reflect, I believe, a deep commitment on the part of scientists to use sophisticated knowledge and technology to make a contribution to problems specific to developing countries — and that is the part of the human genome project dedicated to Pathogen Genomes. A remarkable number of genomes (over 20) have been sequenced. Most of them would only lose companies money because the diseases they cause do not represent a market, but they have been completed because of a commitment of scientists to learn about the causes of cholera and typhoid fever, tuberculosis and leprosy, meningitis, pneumonia, and syphilis to mention a few. And parasitic genomes like malaria, schistosomiasis, leishmaniasis and Chagas Disease are on the way. And even if the effort to genetically engineer the Anopheles mosquito with the hope of rendering it non-permissive for growing or transmitting malaria may not truly be realized — it is an aspiration that has given new life to medical entomology, and is shared by scientists from all around the world in to gain knowledge of the mosquito that at some level can be used to make a difference in reducing vector borne diseases in poor countries.

The genome project, I believe, will change the way our understanding of health and disease is perceived and conceived. All of epidemiology up to now has dealt with external and environmental risks for disease. What the human genome project offers is knowledge of the other side of the health equation, our own intrinsic risks for disease. There are molecular and cellular tools available to explore gene expression and function, undreamed of previously, to provide such knowledge on a scale that was inconceivable even five years ago. We have perhaps 40-80,000 genes in our genome. We can now look at which ones under which circumstances are 'on' or 'off', through the use of microarrays and DNA chips. A DNA chip no larger than a wristwatch or a microscope slide can hold 60,000 genes or cDNAs, and will ultimately contain the entire human genome. One can now assess the functional activity of tens of thousands of genes in a period of hours. That produces

a vast amount of literally incomprehensible information which has given rise to the necessity for three new approaches: i) enormously sophisticated informatics; ii) the study of individual differences between people; and iii) the need for large populations in which to test hypotheses and learn which of those genetic differences really confers some level of susceptibility or resistance to disease. These approaches have already made it possible, for example, to identify gene expression patterns that distinguish melanomas from lymphomas from colon cancers that no pathologist could duplicate for accuracy. And within patterns for breast cancer, it is possible now to distinguish those likely to survive 5 years from those with a poor prognosis.

The Promise of the Genomic Revolution:
New Drugs: The genomic revolution is going to yield biomarkers that can be used to create new diagnostic and prognostic tools to identify intrinsic risks and propensity for disease. It has already created rational drug design, in which it is possible to clone a gene, produce the protein it encodes, crystallize it and determine its three-dimensional structure, and then design a drug on a computer that fits an appropriate site in the molecule. The protease inhibitors for HIV were the first computer-designed drugs, and they were developed in astonishingly rapid time. When the lead compound lacks the optimal activity or biological properties, new methods of chemistry, particularly combinatorial chemistry, have been developed that enable even a small laboratory to produce 50,000 new compounds in a week; — more than a major pharmaceutical company could have produced in a year.

It is estimated that there are about 80,000 human genes. Yet, the thousands of drugs in the world's pharmacopoeia act on only 479 known molecular targets. Parenthetically, 40% per cent of the existing drugs are "me too" drugs, that is they act on the same target and do the same thing as some other drug, only they have a different structure and a slight difference in action or adverse effects. If one makes a conservative assumption that 10% of the human genome represents targets for drugs, in a world of a very small number of major pharmaceutical companies, one can ask whether the world has the capacity to develop drugs for 8,000 targets. I submit it currently does not, and I see this as an opportunity for the pharmaceutical and biotechnology industries in developing countries to make an important contribution. That is already happening in countries like India, Brazil, South Africa, Indonesia, and one might anticipate in a decade that there will be many actors in this field. Yet it is not clear that the current regime of intellectual property rights will permit the new players to have a chance to develop their new compounds. What are the incentives and opportunities for the developing country industry — or populations — if two companies own all the patents on the human genome, and a half a dozen own most of the intellectual property rights?

New Vaccines: The first examples of moving directly from the DNA sequences of pathogen genomes to predicting what the key antigenic determinants of a vaccine might be have been completed within this year. The predicted antigenic peptides were synthesized and shown to generate protective immune responses in mice, and as a result new protein vaccine candidates have been created against *Neisseria meningitidis* and *Streptococcus pneumoniae*. And the approach is general and applicable to most other pathogens.

New Therapies: For repairing and remodeling damaged tissue in chronic diseases from Parkinson's Disease/and coronary heart disease, stem cell therapy offers extraordinary promise. Successful in mice, it is possible to isolate tissue-specific or pluripotential stem cells, currently obtained from embryos but with the possibility

of expanding them from blood, and inject them and allow them to repopulate damaged tissue and organs with completely new, functional cells.

Then there is the prospect of gene therapy, about which I am personally less optimistic than many. For simple genetic disorders, there are real, but challenging opportunities. But successful gene therapy will require not only getting the right gene in the right cells or place, but to get it to be regulated correctly so that it behaves like a normal gene and responds to appropriate signals. It will be difficult, but it will be done. But most genetic susceptibilities to disease require interactions of multiple genes, and gene therapy with single genes is unlikely to be the answer in circumstances involving complex genetic traits.

All of this will ultimately lead to a demand for 'preventive treatment'. Once the intrinsic risks of an individual are known, people will seek medicines to prevent or ameliorate them. Drug costs in every country are rising.

The current pharmaceutical market is about $125 billion and if the predictions are right there will many more drugs becoming available and an increasing demand preventive therapy. In a sense, the distinction between prevention, as in public health, and treatment, characteristic of clinical medicine will be obscured. When the DNA chip tells you your risk for smoking is very high, there will be a pill to inhibit the targets that predispose to lung cancer, and one will be able to smoke contentedly. One has the nightmare of, at six weeks of life, the child of the future will not just be receiving eight vaccines, but sixty pills that he or she will take for the rest of their lives to prevent their intrinsic risks — if their parents can afford them.

Predictable Problems of the Genomic Revolution: Despite the optimism and enthusiasm, a darker side of the genome project is emerging. Since individuals have different risks, while the babies of the wealthy in the rich countries will have his or her own DNA chip, this will not be available to babies in the poor countries or poor populations of rich countries. As a result, there will be an increased focus on individuals rather than populations. And ultimately I fear the genome project will increase the gap between rich and poor.

To test the new drugs that will be possible, there will be, unless we are very careful, a tendency to exploit of developing countries with large populations for research and clinical trials. In countries where genetic risks are known, one has to anticipate the possibility of risk adjustment, that is, excluding people from insurance, and discrimination in jobs, marriage and housing. In this information age, personal genetic information will certainly present unprecedented threats to privacy and confidentiality.

In sum, that is my perspective on the molecular frontier of the biomedical realm. I appreciate the aphorism of Lord Porter, President of the Royal Society, who said. "There are two kinds of research — applied research and not yet applied research". It is clear that most of the money at the moment is going for basic and 'not yet applied research', and my sense is that there remains an urgent need for understanding and support of applied and operational research. Regrettably, that is mostly, not driven by market forces, and it will take great humanitarian effort to alter the balance. The focus of future interventions, as I have described it, will be towards individuals and their individual diverse risks. And yet, from the point of view of the world as a whole, the most effective interventions are population-based interventions — preventions like vaccines and mass treatments.

Finally, in terms of resource allocation, we appear to have lost the understanding, or perhaps never had the recognition, that one cannot conceive of research with integrity, without having a vision for training generations in the future. That cannot be taken for granted. Capacity building and training are inseparable from research, but not funded as intrinsic to research.

Let me end my thoughts on the implications of the genome project with a plea for humility. We know now everything that we can imagine deriving from the genome project about sickle-cell anaemia. We know the gene, the protein, it's structure, the mutations, and the loss of function. And we cannot do anything about the disease. I am concerned that we not over-sell the science and realize, with great humility, that there are limits to what knowledge and scientists can do.

The Next Frontier: Human Behaviour and Social Determinants of Disease. There is another revolution just beginning, namely in understanding the functioning of the human brain, and ultimately human behaviour. With biomarkers for stress being sought, with CAT, MRI scans, and PET (positron emission tomography) we can visualize areas of the brain thinking, remembering or enjoying music. Science will have the technical ability within the next fifty years to begin to untangle the processes of thinking in molecular terms, with frightening possibilities to alter or affect them. Good things will come out of this.

We will have measurable objective tools for interventions in changing behaviour perhaps. We will understand psychiatric illness better and have new psychotropic drugs.

But there is a widespread basic misconception about unhealthy behaviours. Most people believe that individual behaviours are individual responsibilities. Yet all of the lessons of social epidemiology — and the flourishing world of advertising — indicate that risk behaviours or unhealthy behaviours are socially patterned. We have not done a good job of learning how to change social patterns. I would argue that just targeting high risk individuals, for example for HIV/AIDS, without a change in the social context that, for example, leads to stigmatisation, is not the optimal way to prevent disease. I would agree, as it has been powerfully argued at this meeting, that you cannot just target patients and people. One has also to target the communities and the media to get people engaged in changing the social patterns that are unhealthy. In the United States, reasonable epidemiological estimates indicate that 50% of the 2.3 million annual deaths are be preventable. When one looks at the real causes of death, 19% are due to tobacco, about 14% are attributable to poor diet and exercise, and about 12% to injuries. Those deaths are a function of unhealthy behaviour, and they can be prevented or postponed.

The Question of Relevance: It is a fair question to ask, "What is the relevance of the new biology and the new genetic therapies to countries that cannot even provide or afford to provide existing vaccines and essential drugs"? For a biomedical scientist that is a very hard and painful question, and I do not pretend to have very profound answers. But I have given it thought. It is my hope that work in biomedical science will be able to provide better and cheaper tools for prevention and treatment. For example, control regimens that are very complicated, such as two years treatment for drug resistant TB, could be reduced to six months or less if we had better drugs. The hope as well is that the revolution in new biology will foster creative activities in many countries of the world, which will produce new ideas and new innovations, particularly for their major disease burdens. This will stimulate local and regional research as well as pharmaceutical and biotechnology industry. And

from that, there will be increased demand for the use of the scientific knowledge and products by the populations of all countries. We have seen that with the antiretroviral drugs. And if the biotechnology and pharmaceutical industry flourishes in the same way as the computer industry, ultimately I would hope it would create additional resources to meet our global responsibility.

WHO and Research: I was not asked to speak about WHO, but because I have been involved with WHO for 36 years, it is difficult for me, at a meeting with the subject of global health research architecture, not to share a few thoughts about WHO. The first, that I believe all of us appreciate, is that WHO has made incredibly important contributions to research at a time when the world was neither paying attention, nor courageous enough. I am thinking of research in human reproduction (HRP), in the Tropical Diseases Research (TDR) Programme, in EPI and vaccines, to mention but a few. I would point out here that HRP has trained 1600 people, 90% of whom are doing human reproductive work and maternal and child health work in developing countries. TDR has trained over 1200 hundred developing country researchers. In a review of TDR's training component, to which 25% of the annual budget was committed from the start in 1977, we found that about 90% of those have returned to their countries; 70% are doing research on what they were trained to do; and many of the others are doing work on what they weren't trained to do, namely HIV/AIDS. I was privileged to chair the Scientific and Technical Advisory Committee (STAC) when TDR gave the first of the Rockefeller TDR Partnership Grants, the first grants in WHO where a developing country partner could choose with whom collaborate and to send their students and fellows for training without the need for signatures or travel permission from Geneva. There was a trust, and an accountability justified in terms of the science. Autonomy and reciprocity can and must be respected in intellectual partnerships.

There's another side to WHO that is, from my point of view, less conducive to research, which has created an unfortunate level of scepticism of the organization in the biomedical community. I quote here for you three excerpts of press releases under the logo of WHO in the period of 1990 – 1995:

"It is only a matter of implementation..."

" We have the tools, strategies and medicines to defeat the epidemic in all parts of the world."

" Money is wasted on narrow biomedical research."

My intent is not to be critical of the individuals in responsibility for what they said, but to be critical of the intellectual environment that fosters the lack of appreciation of the need for, and process of research. Imagine a debate that might have happened in the 1950's between some red-eyed guy in a white coat saying "give me a little bit of support and I'll make a vaccine for polio", and a WHO functionary saying "we have the tools, strategies and medicines… — it's called the iron lung. All we need to do is just get it out there." How would that debate be resolved in WHO today? There is an inevitable tension between what we can do now and what we could do with better tools, which can be a healthy tension, if examined thoughtfully in a broad perspective.

There is an attitude in WHO reflected by the phrase "narrow biomedical research", which I believe reflects a fundamental lack of understanding about biomedical research. I would argue that the major intellectual contributions to science that have made the greatest difference in our understanding, and our ability to shape the future of health, derive from what could be called 'narrow biomedical research'.

Some examples:

- Do bacteria have sex? Do they mutate and evolve one gene at a time, or do they do it by recombination? That gave rise to the entire genetic revolution.
- If one fuses a cancer cell with a cell carrying out a differentiated function like antibody production, is the differentiated function of immune lymphoid cells extinguished in the same way that differentiated functions of other body cells would be? It was not, and from that narrow question, derived the ability to produce monoclonal antibodies.
- When smallpox had been eradicated, two laboratories in the world wanted to know why it was a pathogen. What could be more arcane? And from that came the idea of multi-component recombinant vaccines, which represent some of the most hopeful candidates for AIDS vaccines.
- And finally, a former Director of the NIH and his colleagues found a curious coincidence in DNA sequences between a tumour virus known to cause leukaemia in chicken and the DNA in the genome of normal chickens. That has led to the understanding of the genetic susceptibility and resistance to cancer mediated of oncogenes and tumour suppressors.

That is the nature of biomedical research, and what comes of 'narrow biomedical research'. The important role of the scientific environment is to seize on sometimes obscure or arcane discoveries, and move them forward to make them real, practical, and accessible. I believe WHO has a way to go to develop that kind of receptive appreciation of science and supportive intellectual environment.

WHO has been criticized, in recent years, for a number of other shortcomings:

- Not being effective or responsive to research needs
- That it lacks sufficient scientific in expertise
- That its activities are spread too thinly.
- That it is too bureaucratic and slow to respond.
- That WHO is no longer a major funder of research

Some of those criticisms are not unjustified; some are shared by WHO staff; some are the consequence of the rules and procedures of the UN system. WHO is no longer the only game in town in health research. But when TDR and HRP started, virtually no one else was looking at research problems from the point of view of the poorest people and countries. We now have major funding sources, both public and private, for biomedical research supporting extraordinary research. The world of science moves very quickly, WHO moves very slowly. There are major WHO programmes that I believe are fragmented, such as the vaccine programme — arguably WHO's best known program since the eradication of smallpox — that would be more effective if they were more unified.

'WHO PLUS': WHO, of course, is not free to just run off and do what the Secretariat wants. It is constrained by the political will of its member states. But I would argue it is precisely that which makes WHO unique and important to us all. We must not forget that 191 countries recognize WHO as the global authority for health, and that authority gives it power, when it gets its act together, to create consensus and to change things in the world of health. It has access the best knowledge and experts, and the power to have knowledge translated into policy. I

believe there is no other body in the world that has that capability.

I would argue that over the past decade a response to the perceived limitations of WHO has been the sprouting of many of the organizations that are participating in this meeting: COHRED, UNAIDS, the International AIDS Vaccine Initiative, Medicines for Malaria, Global Alliance for TB, Global Alliance for Vaccines and Immunization, and the Forum. (It is noteworthy that since WHO cannot set up new organizations directly, it was instrumental in the creation of the virtual companies, Medicines for Malaria and the Global Alliance for TB, to develop drugs for which the markets were insufficient.) In one sense, they should worry us all, because inevitably each of them diverts attention, energy and resources from WHO as the central focus in global health research. And that leads to the potential of two options: One is to welcome the pluralism and diversity of forums and agencies providing different perspectives, recognizing that we will pay a price of some diffusion and diminution of the role of WHO. The other option would be to focus our energy and strengthen WHO's role in research. I have agonized with that question for this meeting on architecture and my conclusion is, for whatever it is worth, that they are both absolutely vital and essential. We need groups of people with different perspectives, different degrees of freedom, representing not just the public sector, but lots of individual interests and voices. We need those voices to criticize and to strengthen WHO. But fundamentally we need a strong and respected WHO to be the world's and the UN's advocate for the health of everyone, especially the poorest. And I would suggest that one of the follow-ups to this meeting could be how to think about a dialogue in which we define how we can strengthen WHO to do what the world needs it to do, and to define what WHO cannot do well, and to set in place a mechanism to facilitate other agencies taking on those responsibilities.

As the world of health research changes, I would also see a need for WHO, with others, to take on new concerns. Let me mention just four:

i) The ethics of research done in developing countries. Who will evaluate the new ethical issues of genetic research and clinical trials in developing countries? Can WHO/CIOMS serve as a place where major ethical issues and disputes can be resolved?

ii) Risks, particularly in developing countries, for exploitation of populations, and. It should work to prevent risk adjustment and guard confidentiality of health information, to prevent exclusion people from access to care and insurance.

iii) The impacts of intellectual propriety and pricing on developing countries. We need someone, not just economists and bankers, to sit at the table and make the case for the global health needs of the poorest.

iv) Training and Capacity Building in Research. A quarter of the budget of TDR, from the day it was founded, was mandated to go for capacity building. I have a tremendous concern about support for research institutions in developing countries. Projects are not so difficult to fund, but institutions, and particularly outstanding institutional leadership receives relatively little support. I believe institutions are important. The founder of the University of California, the first really high quality public institution of higher learning in my country, Clark Kerr once said, "In western civilization since the 14th century, the exceptions of the Protestant and Catholic churches, only eight institutions have

survived in recognizable form - the [democratic] parliaments of Iceland and the Isle of Wight, and six great universities."

Partnerships, Not Pluralism: My solution, not terribly original and not always welcome, is that our best chance at strengthening research, particularly in developing countries, is to foster collaborations between scientists, partnerships between institutions, and to create, where they are useful and respond to the needs of the communities, regional and global research networks. Even in my country, there are limitations in both resources and in opportunities to study global problems. In less advantaged countries, there is a need in science for access to technological research infrastructure and an intellectual critical mass. Partnerships, collaborations and networks help to make that possible. If one takes the view that essential global health will be based on partnerships, then there is a real challenge to creating them on the basis of mutual collaboration without exploitation or imperialism. That requires a learning process and will take patience and tolerance on both sides. But the impact will be much more profound than just products and drugs.

If public funds are used for research, there a need in all collaborations for accountability to the public, which sustains them. In a world where science is competitive, where countries' budgets, like my own, are made on an annual basis, the most difficult part may be sustaining partnerships. As times change, people change and it is a great challenge to maintain partnerships and programs, but we should work hard at trying to do so.

There have been many wonderful, as I've seen in TDR - meaningful, long-term, productive, rewarding collaborations. There have been some that have been terrible - one-sided dominance, patronizing, and exploitative. I would hope we could analyze some of the best and worst examples, and learn the key differences between those that succeeded and those that did not? The fundamental unit of research is people, their ingenuity, their imagination and their commitment. Resources ought to go to the best people, and we have to learn how to support good scientific leadership to make that possible.

Two reflections. There is a great, but implicit debate about the value of health. It is exemplified in my school by positions of two great economists at my school. It is framed in these terms. In one view, health is justified as an instrumentality for economic development. We talk also about cost effectiveness and appropriate resource allocations. We could save $100 million a year if we reduce the malaria burden. In another view, best articulated by Nobel laureate, Amartya Sen, health must be seen as a value in itself. It provides capability for individuals to fulfil their potential and it doesn't have a dollar value. It is a fundamental human value. I would remind you that the Preamble to the Constitution of the World Health Organization states, that "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social conditions."

What happens when health is *not* cost-effective? In the World Bank Report of 1993, *Investing in Health,* cervical cancer did not emerge in the list of "best-buys". And yet screening for cervical cancer addresses an enormous gender equity gap in health that has a justification other than a purely economic one, in my view, sufficient to put it in the highest priority category of interventions. That is illustrative of the kind of value judgment that we need to make to deal with issues of equity and justice.

What happens in the even worse circumstance in which ill health is an economic good? Early on in the AIDS epidemic, a few economists argued that the disease would be an economic good for some countries. Perhaps we should reflect on economic arguments made by historians on the Black Death of 1348 in Europe. It killed 50% - 70% of the urban population. It reduced marginal labour. It increased wages. It opened guilds to wider membership. It stimulated technology - for example, after the scribes were reduced in number, the printing press was invented. Since religion was unable to ameliorate the epidemic, it created the great secular universities in Europe. In fact it transformed Europe into the modern state, and it was the greatest thing that ever happened to Europe. It only killed 50% - 70% of the population.

I would support use of economic arguments and cost-effectiveness data when we can, and when it supports the cause of global equity. But I would be cautious about resting all of our aspirations on an economic cost-benefit platform.

Finally, to summarize the direction in which I would hope health research would move in the next decade, I would emphasize the concept of essential global health research. We need sustainable collaborations because they create knowledge and it is knowledge, I believe, which is our best hope at creating global equity. The framework would be based on partnerships and not pluralism - that is pluralism in the sense of what politicians have referred to in the US as 'a thousand points of light'. There are many circumstances, for example the environmental movement, in which it is beneficial to have many individual organizations each doing different things. But the in the resource-constrained world of health research for developing countries in particular, it would be a tragedy to have multiple organizations competing with each other for resources, each going their own way without a framework, without coherence, without an interface or place to interact, or the ability to create a powerful focus. We do need a multiplicity of organizations, but we need them working together as partners, and knowing what each is best at contributing, so that scarce resources are better utilized. I see that as the 'WHO Plus' framework.

Ultimately we need partnerships because the health of the world is not a national responsibility or just a local responsibility. It must be a global responsibility. Only by working together can we create the fundamental and critical recognition that essential global health research implies global responsibility for health.

Reflections on the International Conference on Health Research for Development

V. Ramalingaswami, All India Institute of Medical Sciences

Distinguished colleagues and friends,

The Commission on Health Research for Development was imbued with two dominant thoughts. One - that research has the power to accelerate health

improvement. And two - research has the power to overcome health inequities. These were two passions that motivated the Commission, and they soon came along and threw the Commission into a frenzy. There was a striking paradox, only 10% of global health research investment was being made on 90% of the global disease burden. The Commission got thinking and gradually a new health paradigm was propounded. There were four recommendations basically, which constituted the health paradigm, of which Essential National Health Research was the first one. That is the original picture of Essential National Health Research arising or stemming out of the confluence of these three entities: people, scientists, policy-makers. At these intersections a massive movement had taken place and that constituted Essential National Health Research.

The Report of the Commission, as you all know, was released in Stockholm at the Nobel Conference in February 1990, described by the Director General of the World Health Organization as a visionary document and a landmark report. We are meeting ten years later, on the banks of the Chao Phraya river. The last three days have been intoxicating here in more ways than one. ENHR caught the imagination of a number of scientists, scientific disciplines, in biomedical and health sciences, other sciences in areas of social behavioural, ethical, economic fields, and there are many others. ENHR was a clarion call. Health and equity became the rallying point of this movement, which we saw manifested in myriad ways at this Conference.

The Commission established a transitional mechanism, the Task Force, which was to be a platform by which the Commission and its thinking was to be translated into an institutional mechanism which would be growing and expanding and learning as it went along. Through this transitional mechanism of the Task Force the Commission was transformed or yielded place to the Council on Health Research for Development (COHRED) in 1993. As a testing ground, COHRED sent out missions to Africa to see whether the ENHR made any sense. It impacted on people. It stirred them to action in country after country. The Task Force got the full feedback that there was much excitement and ENHR is stirring action.

The Task Force's early exploration of the ground in Africa in respect of ENHR struck roots and COHRED became inspirational. A number of initiatives, networks, groups, coalitions grew up to grasp the new mantra of ENHR. And then came the Global Forum for Health Research and then many, many other institutions were activized or grew up *de novo*. There was growing evidence that national health research capacity and action were beginning to establish themselves in many countries. And there was an international collaborative system also beginning to be visualized. Here today at this meeting, with over 700 people attending, with much enthusiasm, with much corridor discussions going on, one witnesses a confluencing of health research activities under various umbrellas and mechanisms around the world from public and private sectors, from industry, from philanthropy, from R&D institutions, from development agencies, from foundations, from universities, and there is a whole host, a phenomenology that is rarely witnessed. This confluencing of health to reveal to us the contours of the mighty river of health. The rich variety of programmes in the last three days speak of the unrest in health research and development across the world. We now have the multi-splendid river of health flowing in full view.

The Commission itself could not have been timed better. I don't know if there were any stars involved in the timing of the Commission. Its origins can be traced to a

little meeting we had in Celigny, outside Geneva. When this Commission started its work, that was a time when one could sense a new social contract for science. It was just becoming visible. The need for faster and more effective transfer of new and existing knowledge to policy and decision makers, and better communication of this knowledge to the people, was already being felt. This connection to policy makers is, I think, very crucial to secure the benefits of science to all, including the vulnerable and disadvantaged. The realization came that the action involves action on a multiple front. And the decision makers and policy makers had begun to stir themselves to action. A political and administrative will had to be developed. Education and motivation of recipients and providers of health care was essential. It involved the stirring of the masses of people into action in a spirit of self-care and self-help, driving people as co-producers of health not just passive recipients of health. It involved the use of technology, which is cost-effective, accessible and acceptable within the socio-cultural milieu of those affected. We have discussed in this conference very widely the various aspects of the knowledge action interface which lies at the very root of ENHR.

There are two levels of knowledge. One is knowledge that has just come out, knowledge in the raw, not yet honed, through operational research, effectively into a service mechanism. And the other of course is knowledge which had already been proven in some place or the other and effectively built into the value system - the culture, habits, customs of the people - to bring about a behavioural change which essentially is the ultimate end-point of technological thrust.

We need to incorporate knowledge based science into the values system in the same way that a cordon acts as a trigger to gene action. Social support can foster health and promote recovery. We are confronted today with a situation where our society has not been successful fully in utilizing optimally the rather commonplace contributions that science has offered to humanity.

One aspect of health improvement that I wish to mention this morning is its measurement and we've talked about measurement a great deal, quite rightly, in this Conference. Professor Atcheson, the former Chief Medical Officer of England, says we normally measure health on the average for each country. Although there are of course more detailed disaggregated studies also. When these averages are disaggregated, the regional diversity, the disparities, and sometimes the tragedies, reflecting conditions in areas and pockets of vulnerability and disadvantage become obvious. And Professor Atcheson suggests that real progress in health, especially equity in health, should be measured in terms of reduction in iniquity. In fact we should be doing health iniquities impact assessment as a measurement of health improvement, especially from the point of view of iniquity.

There is an idea which the World Health Organization has lately been supporting and that idea is growing, that improved health can act as a lever of poverty reduction. Indeed development can be seen, and this is a very interesting concept, in one perception as a health promoting process of change. So somebody asked why not in future all prime ministers of countries be also ministers of health. It seems to constitute a pathway to development of an extraordinarily great importance. The world development report, which we all know and we have referred to constantly at this meeting, advocates future health strategies that have to focus on health and education of the poor, poverty reducing economic growth and enhanced social economic status of women, a health care programme measured in terms of efficiency, equity and ethics. We have been doing this the last three days. I just want to mention

that nutrition in anticipation of pregnancy, adolescent and pre-conceptual nutrition, has emerged today as the key concept in public health and low birth weight and its control is another area in the new public health paradigm that we need to focus on. The consequences of low birth weight and its later effects on chronic non-communicable disease is an area of absorbing interest today all around the world.

Smallpox has been eradicated, guinea worm almost, polio is on its way out, leprosy equally so, and much else is happening, which are many diseases of different stages of exit. So far so good. What does the future hold? Our Conference has looked at this quite intensively. I'd like to refer to two events: one - market economics, globalization, economic liberalization, whatever you like to call it. What will be the effect on equity and on the environment? It's not easy to drive the market forces along and yet target the benefits to the under-privileged. It's a difficult exercise in which we need to engage in a lot of experimental action. Experiments need to be carried out with a pro-active social development policy *pari passu* with economic liberalization. An old friend, Sir Douglas Black, a past President of the Royal College of Physicians in London, cautions against excessive reliance on what he calls "mercantile populism" and an under-awareness between what is a business and what is a human service. At all times the caring ethic needs to be preserved, the caring ethic of the health care system needs to be preserved and promoted at all times, under all circumstances.

Each of our countries must be deeply concerned with the environmental avalanche. With economic growth, the indicators of environmental pollution are rising. This is a phenomenon that is taking place universally. Disruption and destruction of natural life support systems constitute threats to improved human health, and this is something that must increasingly impinge upon our actions. Ecological infringement, human mobility, human social change, are potent forces for the new infectious diseases to emerge. The tide of infectious disease is coming back again. We must create the science needed, with the help of developed countries, for developing feasible, flexible, regulatory systems, rather than pass regulations which are expensive and difficult to implement. A new era of environmentalism must be ushered in.

A friend of mine told me while in general, and it's not always true, the rivers in the west over the past few decades have been becoming cleaner and cleaner the rivers in some of our developing countries have remained more or less the same in terms of their cleanliness, or are getting worse, and new intoxications are carried through water. Apart from infectious disease carried through water, chemicals like arsenic, like fluoride and many others are burdening the environment all the time.

I would try not to say anything about this fantastic era of genetic science we have entered. Dr. Barry Bloom made such a fine job of it yesterday that I have taken out all my slides dealing with that topic. I would say almost nothing, except to articulate a couple of ideas. Genetic science for health care is now a major thrust area in the interaction between science and society in numerous ways. Vaccines of tomorrow, as was mentioned yesterday, will depend on advances in genetic science. New gene-based drugs of tomorrow will fill our pharmacopeias pretty soon. And interestingly, physicians will be hard-put to keep abreast of the fast-moving front of genetic science unless they do something about it right now. We will in fact sometimes find patients who know more about their own genetic disease than the general practitioner whom they consult. Much knowledge there is acquired through reading science journals.

We will of course unravel not only the mendelian disorders, but also the *polygenic* disorders. A new public health genetics is being born. Despite the recent shocks from the gene therapy experiments done by one of the universities, there is around the world a sense of optimism about the future of gene therapy. Dolly has opened the doors of triumph, as well as the doors of bitter unease about the future. And the stem cell with its numerous possibilities of development in differentiation into organs is of course a tremendous development. And of course we have the gold rush mentality of gene hunting, gene patenting, etc.

But the point I wish to make about gene science and health is predictive medicine. Predictive medicine as a result of advances in genetic science is going to be on the rise, predicting alterations at the genomic level years before the disease strikes, and of course you have time to do something about it. Predict and prevent is the axiom that will become a reality through the gene science and public health.

I don't know how many of you were in Budapest last year at the congress on science last summer. It may not be feasible to adopt the suggestion made by Sir Joseph Rotblat, the Nobel Peace laureate at that congress, that all scientists, be they medical, biomedical or any other type, should build their agenda on strong ethical foundations, even suggesting that all young university trained students take the Hippocratic Oath just as physicians do. But this was not considered quite feasible, although the idea was so very attractive.

Finally, the congress gave up the idea of Hippocrates, but resolved that all scientists should commit themselves, be they medical, non-medical or any other, as a societal norm, to the highest ethical standards in their work.

In the end, I would like to bring the spirit of Gandhi into this room and his views on prevention, promotion, of health.

Thank you.

Annex 4 – Excerpts from Introductions to Group Work and Plenary Panels

Tuesday 10 October: National Health Research Development

Presentation of consultations and analyses

Joseph Kasonde, Analytical Team

'I beg to lay on the table, as it were, the discussion paper for the Conference, and I do so in the name of the one thousand or so persons who have contributed to this exercise. And if I have a message, before proceeding to the few remarks, it is the observation that there has been a major contribution from the regional participants. Meetings were held in Latin America, in Asia, in the Middle East, and in Africa, and I believe that the strongest voice in support of regional participation came from a meeting in Cape Town. I could not resist recalling that it was in Cape Town that forty years ago a statesman stated that the greatest observation he had made was the strength of national and regional consciousness. I do not think that we can call it a wind of change in this case, but we certainly must observe that these representatives of the regions are the greatest contributors to this discussion paper.

And what better place to start than the Commission on Health Research for Development, which noted that "we have found a gross mismatch between the burden of illness, which is overwhelmingly in the third world, and investment in health research, which is overwhelmingly focused on the health problems of industrialized countries, and we propose a set of strategies through which the power of research can be harnessed to accelerate health improvements and to overcome health disparities". Much has happened since then....; for example, the creation of COHRED; for example, the subsequent creation of the Forum; and for example, the subsequent initiatives. But I think in summary one can say that we have seen, since 1990, the emergence of a global health research system. This ..... consists of international health research organizations, of regional networks, of supporters and investors, of all the initiatives, as well as industry, but above all of the national health research bodies and the national governments that have contributed and will continue to contribute to health research.

But we obviously were not satisfied, our sponsors were not satisfied, that we could leave things as they are. We felt that we should have another look and see where we go from here. What we were talking of is a possible revitalization of health research. Could we have a vision of health research, driven by equity and focused on country needs and priorities, within an interactive regional and global framework? And if this is our vision, then we had better look at what is the current feeling, what are the current thoughts for the future, and use those to plan the future. And so it was found necessary to review international cooperation in health

research with regard to the players, their roles, their functions, their relationships and arrangements, and among other things to propose options for the future governance and architecture of the international health research and development system, aimed at improving effectiveness, complementarity and synergy of the different players.'

'We noted the progress that had been made in many countries, particularly countries like Thailand, our host. But at the same time we must observe that there were some concerns and we cannot shirk our responsibility for looking at those concerns, concerns about the research environment, concerns about leadership and management, concerns about our inability to convert research into action, concerns about our inability to maintain financial support for research, weakness in intersectoral links, and inadequacies in research capacity in the developing world. And therefore it appeared to us, and I mean all those who participated, that what we are looking for is an effective health research system, and if there is any other message that comes out of the consultations it is the desire for an effective health research system.

The functions of such a system have been referred to and these are stewardship, financing, knowledge generation, knowledge utilization, management, and capacity development. And if we are to develop such an effective health research system, we have to look at very specific aspects. First, the values of equity and ethics to govern our health research system, looking at the systems themselves, the governance, capacity, financing and management, and looking at the environment to see whether we have achieved intersectoral cooperation and benefited from globalization rather than suffered from it, and above all, created a culture which is sensitive to research and uses research results. And all this under the umbrella of producing knowledge for development.

These are the key challenges that we are going to try and work on in our working groups, but we should also recognize that we have to have goals. What are the goals of the global health research system? At the global level, to actively support countries and regions and other networks and alliances in achieving their own goals, to identify health problems of global significance, develop mechanisms to address them, and to mobilize collective action. At the regional level, to foster communication, cooperation and collaboration among countries, to support members and partners in their efforts towards equitable health development, and to identify common problems and trans-national issues, and develop mechanisms to address them, to interact with other regions or networks, as well as our funding partners. And at the national health research system level, to generate and communicate knowledge so that it can be used for health planning, to adapt and apply knowledge generated elsewhere to national health development, and to contribute to the global knowledge base.'

The African Region

Mutuma Mugambi, Kenya

'Development of health research systems in Africa needs new thinking, new approaches, and intensified efforts. There is a basis for these assertions. First, the level of investment within the region for health research is too low. Research output

is dismal. Health inequities continue to widen. And health challenges continue to mount. Now, the continent presents many opportunities for health research, but equally the challenges are major in view of persistent political and economic turmoil, contrasting situations of countries, the colonial legacies under which we operate, and low capacities and also resources for research. The above challenges or constraints make the 1990 recommendations of the Commission even more valid today. One of these recommendations was that countries should vigorously undertake essential national health research.

In the opinion of most African respondents to the Consultation, the discussion on international architecture for health research sounds interesting, but in some ways it's rather remote. First, the proliferation of international initiatives has really not brought tangible benefits - I am not saying that there are not benefits, but they have not really brought substantial benefits – to the system. Instead, we witness often that there is more friction between them, and more effort towards self-preservation of some of these initiatives, and sometimes insufficient consideration for the African voices and views. Now, although African countries need more funds for research, sometimes the mode of off-loading these funds does not get to the core - health research for development issues. I think there is a need to better understand the real country needs. The funds should be used to build up research systems and not cause fragmentation or distortion of priorities, or indeed these funds should not be used to build up elite groups who do not have the national system in their consideration. In this regard therefore, in considering these international research initiatives, we are asking for better leadership for the global health research system, genuine research support in line with the new terms in use today of development partners or investors, rather than the old terms of donors which was more in the recipient-donor situation. So we are talking about partners and therefore if they are partners, then we are asking for real benefits.

Where should these development partners put more resources, and again I quote from many of the respondents to the African consultation. Of course, in vertical programmes we all agree that resources should go there to tackle malaria, to tackle leishmaniasis, to tackle many other problems. But also there should be very high priority given to the production of research managers and leaders; also towards building up national mechanisms because without these we cannot sort out the total research environment and in fact we would be doing the research in a way that is not sustainable; to establishing better linkages between research performers and action, and also in areas of priority setting.

Then of course, once these systems are organized we can talk more effectively about capacity building and also the support of projects and programmes. In our consultation, for example, it came to light that in fact the continent is losing well over 30,000 researchers and scientists per year to the outside. Surely, in this kind of situation there is no point of talking about a system, because if you take into account those people who are being lost to other sectors or retiring and so on, it means that whatever we are putting out needs to be more than doubled for it to be effective within the continent, and therefore clearly our research system then is not serious with that kind of loss, so we have to work towards stemming this loss and retaining our human resources within the continent for us to be effective in health research.

The African consultation also came out very strongly in recommending countries first, or the country focus in health research for development. But the countries are also required to pull their act together. Many have very fragmented health research

systems, with no research plans, no priority focus and of course, in the circumstances, are very vulnerable to various manipulations. Therefore, the African consultation recommended very strongly that there should be national forums, or research coordinating mechanisms that form the sound basis for assistance and collaboration within the region and from our international partners.'

'We recommend discussions with our development partners to chart the way forward in Africa through constructive engagement and in the spirit of equality and self-reliance.

We, the health research stakeholders in Africa, also have a major task to get support from our political leadership, to elevate research to a higher platform in decision-making processes, and to work towards creating the right environment for health research. The future has potential for success, but a lot of ground work needs to be done.'

The Asian Region

Chitr Sitthi-amorn, Thailand

'Equity in health, as the core value of health for all advocated by the World Health Organization, has not been achieved. Poverty is widening, and inequity prevails.

To look at the role of research in attacking inequity, the Asian Region has taken an innovative approach to the consultative process in preparation for this International Conference, with the introduction of an electronic dialogue tool coordinated by the College of Public Health, Chulalongkorn University in Bangkok. The dialogue tool has seen some 350 respondents actively participating in and contributing to the consultative process. An actual face-to-face Asian Forum was held in Manila in February of this year, in order to address the main objectives of the consultation and the action to be taken. The Forum attracted some one hundred stakeholders, including researchers, policy makers, health actors and others from a variety of fields related to health concerns of Asia and the role of health research in addressing them.

The dialogue identified the following as the key challenges of Asia:

- Population growth, old and new infectious diseases resulting from globalization and ecological changes;
- The increasing number of global actors and political influences;
- The cultural responses to the psychological, physical and social changes resulting from the massive influx of modern professional knowledge and their interaction with former lifestyle and value systems; and finally
- The non-communicable diseases with the rapid growth of medical technology and their implication on the cost of health systems, contributing to economic instability and eventually to economic crisis of Asia.'

'The Forum identified the old mentality of investment in health as the fundamental concern. This includes the top down donor-driven prescriptive approach, the ownership of knowledge and technical jargon by a researcher and the interest group, and the separation between knowledge and the good governance of health action. It proposed a change in mentality, or a paradigm guiding health research. The new

paradigm is characterized by equity and ethics of health cooperation, efficiency of knowledge management for good governance, transparency, partnership and trust between researcher and actors and the use of knowledge to empower stakeholders for good governance and accountability.'

'There are certain requirements for a desirable architecture at the national level, such as political commitment to equity, research priority setting and commitment to transparency. The regional and global structure can support and empower nations. The architecture at all levels should stringently avoid bureaucracy, predominance and excessive centralized decision-making, prescriptive or donor domination of research agenda, priority setting mechanisms and research architecture, a restrictive network that leads to isolation and in-breeding, exploitative consultation without technology transfer, excessive profit or market-driven forces, and over-reliance on non-transferable and expensive high technology. The creation of new institutions or structures under the guise of coordinating existing institutions should be avoided, unless a significant effort to refocus the existing mechanism is made.

A range of functions is considered important in an evolving architecture. These functions will require the development, use and refinement of tools and methodology. These too include evidence based quality, making priority setting, development of capacity for research implementation and measurement, resource mobilization and allocation based on research priorities, advocacy and promotion of research environment, improvement of communication skills of researchers for effective and timely dissemination, creation of ownership and utilization of research results, setting standards and norms, and fostering equal capacity building partnerships and international cooperation.

Information technology should be optimally capitalized to nurture the collaborative effort. A website summarizing the Asian voice and dialogue has been established. It is hoped that the cooperative network will produce high quality content to put in the infrastructure. The collaborators have to focus on the details and the ideals of equity in health for development, to be achieved by developed and developing countries, to initiate and report on real content and the different processes by which people collaborate. The potential of the evolving information and communication technology in this new architecture will be further developed.

Finally, the Asian Forum advocates the need for investment in leadership development. These are a new cadre of equity high performance research managers.

In essence, the information that we get from research should be distributed for the good governance of the health systems, which means the empowerment of the public, enhancement of the effectiveness of NGOs, enhancing the accountability of the executive branch, and allowing donors to national priorities .... of what we call the civil society.'

The Caribbean Region

David Picou, Trinidad and Tobago

'We have undergone an epidemiological transition, in which the burden of disease has moved away from the infectious diseases and severe malnutrition to the chronic non-communicable diseases such as diabetes, hypertension, obesity, cancer, and more recently the burden has shifted to emerging and re-emerging diseases such as

HIV-AIDS (the Caribbean has the second highest rate of HIV infection after sub-Saharan Africa), tuberculosis, and dengue fever.

However, because of our common legacy - our colonial past, our isolation, and our small size - we have come to depend on each other and over the years have developed regional mechanisms and cooperative behaviours to maximize our limited resources and to focus them to solve our common problems.'

'In 1948, the same year that the United Nations was formed and WHO was formed I believe, the University of the West Indies was also formed, and that was an important agent for sparking this regional movement that has included approaches in business, in sport, in commerce, and of course in health. And I believe that this is perhaps the most important message that we can pass on to other regions. We have found that in the development of our regional approach, for example to identify our health priority areas, which we have done over the past fourteen years, we are now developing, through our consultations, a regional health research agenda. I am not going to go into the details of that, but the way is not easy when you try to bring eighteen countries together to agree on anything, but I believe that this is the way to go and because, as I said, of our small size we feel that the regional approach is perhaps the most efficient way of using our small resources.'

Central and Eastern Europe and the Newly Independent States

Peter Makara, Hungary

'The Central European countries and the Newly Independent States are not a region in the same sense as Africa or Asia. Our common denominator is our past, the Soviet-style research system, the Soviet-type health services, the Soviet-style public health system, and the very rapid economic, socio-political change we had to face in the last decade.

I have to say, the preparatory process of the Bangkok Conference had a catalytic effect on our common relations, on our willingness to work together in this framework. Ten years ago, nobody from Poland would like to work with a Russian, or a Hungarian with a Kazakh, and now we were extremely pleased to be together and to rediscover that we have to face common challenges. Of course this new life is a bit more complicated than before. We are moving towards much more pluralistic systems, much more open systems, even, if I may say, very often more democratic systems, but with a higher level of fragility, with a higher level of uncertainty, with tendencies of marginalizing our health systems, our research systems. We are very often instead of in the centre now on the periphery. And all this with a huge variety, where at one end of the scale you can find the accession countries for the European Union, like Poland or Hungary, very near to the Western system. At the other end of the scale, you find Central Asian countries with totally collapsed health research systems, with poverty and even, in some, elements of corruption. So that's what we had to face, and we had the pleasure to work together and to shape some new elements of a new paradigm of health research in our countries.

On the basis of our regional consultation, the most important elements of this new paradigm are the creation of sustainable partnerships with politicians and policy-makers, focusing on advocacy to policy makers and hence coordination of resources

allocated by the State – the State having an overwhelming role in these countries. The improvement of the existing and rather high priority setting processes, including a strong stakeholder involvement very often missing in our countries, the development of interdisciplinary links between fields of health research to increase the effectiveness of both advocacy and resource utilization, and the development and strengthening of research management with a focus on the quality of research and research processes. Of course, we discussed a lot the need to develop strategies for human resource capacities, to increase the financing for health research, and as in our case it is also very important not to destroy everything from the past, to build on existing structures and the good heritage from the past. We have a lot of new proposals for regional cooperation in this framework and we are even intending to create a regional clearing-house for research projects and results. These should also be published.'

The Latin American Region

Delia Sanchez, Uruguay

'In the Latin American region, we had three meetings – one in Mexico, one in Cuba and one in Argentina, and we mobilized a large number of people - ….we are still, I would say, in the midst of the process.'

'The first point is that health research may contribute to development with equity and this is why we are working in it. It must be based on the following values - ethics, solidarity, social and gender justice, and human rights. It is therefore necessary to strengthen research oriented to the understanding and solution of social problems and population needs, and aimed at overcoming inequities.

Latin American presence in international literature is very limited, far more limited than is the actual production, 2.09% of world production registered in the database for the Institute of Scientific Information in the year 1996 and just 1.47% of articles registered in Medline. That is a problem, if we are producing knowledge and not accumulating and profiting by it. That was identified as a very important issue for us.

Latin American countries are very diverse in terms of infrastructure, human resources, availability of financing for health research and technological development. That is a situation that is common to all the regions, as you will hear. But this diversity is seldom recognized in the diagnosis made about the region by international agencies and that is a problem we have.

There is also a perception of attention between health research and health policies, one not really being based upon the other in either direction. Ethical intervention mechanisms must be created, and these include the democratization of information and knowledge, an increased community participation in the scientific structure, and the creation of spaces for interaction of different stakeholders in health research.

There has been an increase in funds available for research in general and health research in particular in our region in the past decade, but in spite of that, financial resources are still insufficient and not all the more relevant issues do obtain funding.

Coming to more practical issues, the tools generally used for priority setting are different at the national and international levels.

At the national level there is a greater weight of a mix of political will and researchers´ lobbying. At the international level, tools for priority setting are mainly disease based and need to be critically reviewed by all of us. This revision should, in our case, incorporate the theoretical and methodological contributions of each region, our region in this case, which are oriented to health determinants and to a democratization of decision-making processes. So the participants in our region's consultative meetings have proposed to strengthen health research that has a social approach - whether it is basic, applied or operational, since we do not see a contradiction among them - increasing its share of the total research budget, to speed up the trend of the past few years increasing the availability of funds for research, to the funds mechanism that facilitates the training of human resources, including researchers, decision makers, and research and science managers and this includes the creation of regional postgraduate courses and research methods programmes, but is not limited to it.

We need also to create a profit mechanism to stop brain drain, which is a problem that has been mentioned by the other regions again, and to create networks, both at the national and international levels, in order to ensure a greater visibility of research in the public health field.

We need also to ensure the exchange and accumulation of knowledge and the contribution of regional researchers and other stakeholders to priority setting. We need to strengthen also the appropriation of knowledge and decision-making on health research by general society, which is far from occurring, through the systematic dissemination of information. But we all know that it cannot be limited to that so we still have to find ways to ensure that our people do appropriate our work, and to consider among these strategies for dissemination of knowledge, the creation of a Latin American journal on public health research and to create mechanisms to retrieve much of the existing Latin American production in health research which is presently very difficult to access and to facilitate its dissemination.'

The Eastern Mediterranean Region

Tasleem Akhtar, Pakistan

'I have been asked to present the deliberations of the consultation held in Cairo for the EMRO Region.'

'The objectives of the consultation were to identify critical issues facing the development of health research in the countries of the region, and to initiate the development of a strategic plan for strengthening research capacities and promoting the role of research in health development. The consultation was also aimed at generating suggestions for an optimum framework for the governance of research at the national, regional and global levels.

The issues which came up for discussion included: challenges facing health development in the Eastern Mediterranean Region; the assignment of a clear role to research in meeting these challenges; and the specific issues of political commitment and funding of health research – the good news here was that most of the countries said that political commitment was increasing and funding for health research by governments was increasing. The utilization of the findings of research, the capacity for research, priority setting and coordination mechanisms and the

need for linkages and networking within and between countries of the region and globally were discussed in plenary and group meetings.

Of special concern to the majority of the participants was the overall absence of a research culture in the region and widespread misconceptions about research. One of the misconceptions is that research is a hobby of the rich countries and a lot of funds are needed so most of us cannot do research. And we use our poverty as an excuse for not developing and doing research.'

'It was generally agreed that WHO could play a role, as highlighted by a review made in the past year. This role may include the gathering and dissemination of information on advances in research, emphasizing the need for adequate allocations for health research and development, promoting and supporting essential national health research, helping build and sustain institutional research capacities, and helping establish and promote partnerships among the countries of the region and globally. Good research must be the critical underpinning for the WHO cooperative strategy in the region for the reduction of the burden of disease and risk factors of disease, development of better health systems and promotion of the health dimension of development policy. WHO must support the different efforts at country levels for establishing research as the foundation for policy. Only then can it expect to get anywhere with its agenda in the region.

The consultation came up with the following recommendations as regards the future strategic direction of health research in the region and these recommendations, as I have previously said, took into consideration the as yet low level of research development in the region. So there were recommendations for countries, at the regional level, and at the global level.

At the country level, where there are no research institutions these must be established, and in countries where some research institutions exist these need to be strengthened. Then, there is a need to establish national forums for periodically bringing together all stakeholders. Now some of our countries do have institutions, and they do have different organizations, but they all seem to be working in isolation. So we do need to have forums for bringing them together. Then there should be promotion of health research as an integral part of development. This is as yet not realized in many of the countries of the region, and this has to be very vigorously promoted as well as setting of research priorities, both at national and sub-national level, which is not being done at the moment. Collaboration between universities and health ministries and departments should be established. Multi-disciplinary research must be promoted to effectively deal with the broad social issues, and there should be development of explicit policies and procedures for reviewing, monitoring and evaluating research proposals and their implementation.

At the regional level, the consultation thought that networking must be established among the countries of the region. We seem to be far behind the other regions – the Africa Region has their network, the Asia Region has their network, and we have yet to develop a network in the EMRO region. There was also a suggestion that a research fund should be established at the regional level. We have many oil-rich countries and many rich organizations in the region and they could contribute to that fund.

At the global level, there were recommendations for WHO and COHRED and the Global Forum to document and disseminate country experiences to persuade policy makers and other stakeholders to recognize the importance of research; to facilitate and support collaboration among countries of the region; to support the

development of appropriate learning materials for enhancing research capacities; to support studies on resource flows for health research and also monitor health research allocations; and to give due recognition to regional diversity when formulating policies and programmes. The WHO Regional Committee for Health Research must be reconvened. Its membership must be multi-sectoral and sub-committees must be constituted to represent the different stakeholders and research teams. The feasibility of establishing a regional health research fund may be explored, possible donors could include the Organization of Islamic Countries and the Gulf Cooperation Council. The WHO country representative offices must be strengthened to support country level research promotion efforts. And COHRED's presence in the region must be strengthened.'

Wednesday 11 October: Inter-country Research Cooperation

Presentation of consultations and analyses

Stephen Tollman, Analytical Team

'As you will have heard yesterday, without exception every one of the regional consultations clearly stressed the issue of region. And in their case, the importance of a certain geographic concentration that can provide greater scale, greater scope and greater capacity for addressing some of the key challenges that are outlined in the discussion paper. The key challenges are... those relating to equity and to ethics... and those dealing with sustainable health research systems and with the wider research environment.

Now, if we were to follow and pick up in a substantive way this focus on region, what would follow would be a growing series of intermediate structures between the country or national level and the global level. And so the question that we must ask is, is this appropriate? Would this evolution of structures actually serve the research functions of stewardship, financing, output, as they are laid out in discussion papers and as you will be familiar with through your own work. Would they respond effectively to the goals and objectives of health research systems and particularly would these regional intermediate structures focus adequately and address effectively the key challenges as we are increasingly discussing in our morning workshops.

Critical dimensions of regional and of inter-country relationships - we use the word inter-country as well because, at a level of lesser scale than global there are still a number of networks, alliances, associations that may focus on disease or risk issues in common, may focus on issues of concern such as public private mix and the like, so I don't see region or inter-country as only in a geographic sense - are those between North and South and those between South and South.... Those sorts of relationships ask very important questions about power, about fairness, about imbalance, whether this is intellectual, financial, or influential. There are a range of questions and imbalances that characterize not only health research, not only health

development, but broader social development and, as was said in yesterday's opening presentation, these have become the subject of G8 discussions and of the recent Millennium Summit in New York.

So clearly the issues and questions that I hope our panellists will stimulate are very relevant to this question of North-South and South-South inter-country relationships.'

Views from investors in the North

David Rothman, Colombia University (NY)

'My remarks this morning represent an attempt to take you into one particular organization, the National Institutes of Health…, an analysis (commissioned by NIH) that I hope will serve you as a case study.'

'NIH has spent about 2 billion dollars over ten years, in international collaborations. … It represents about 1–1 +% of the total NIH budget of $95.7 billion dollars over those nine years. Add another 15– 20 billion dollars in the upcoming budgets and you see an organization of major size. The funding comes from the United States Congress and NIH, in this sense, undoubtedly represents the largest publicly-supported research organization in the world.'

'Expenditures are on steady increase and those of you who follow American election politics will recognize that the likelihood of those lines continuing to increase is great. The second element, which I think is at least as important as the absolute dollars, is the steady state of the funding. The NIH has been, is, and will for a very long time continue to support international programmes. It is a resource that will be present for some time.'

'Collaborative partners with NIH are many, ranging from Brazil, China, Egypt, India, Mexico, Russia, Thailand, Uganda.'

'Running across all NIH programmes are fellowship training opportunities. … Again you will see widespread distribution in developing countries. Over fiscal year 1998, the Visiting Fellow Program at NIH had some 760 visitors. There was quite broad representation, including China, Korea, India, on down through Brazil, Hungary, Argentina, Slovakia. In sum, there were very considerable numbers and very considerable diversity.'

'NIH is a national health organization committed to basic research and to health outcomes, funded by the US Congress, as essentially a domestic programme in the name of health. The mandate is not an international mandate. It is a mandate that is geared to health research for health outcomes.

As I tried to link that national health organization to the motor forces that bring it into the international arena, I found myself coming back repeatedly to four considerations. They are: a basic humanitarianism; an effort to cope with infectious disease; science in the pursuit of international relations, and – in some ways the most important and most interesting – collaborations internationally, because the international setting provides a strategic research site.'

'Humanitarian impulse is, as you would expect, straight out humanitarianism. The National Eye Institute has devoted itself to the task of reducing blindness. It has

done research in this and implementation as well, helping establish Vitamin A as a cure for some forms of nutritional blindness in India. It has gone into the field to do surgery in a number of countries as well.

The infectious disease element is probably the one that needs least explanation to you. The vaccine development wings of the National Institute of Allergy and Infectious Disease is probably well-known to you in its specifics. NIAID, with research partners internationally, has created a series of vaccines, many of them useful in both developed and developing countries, some of them yet more useful in developing countries. The Hepatitis B vaccine that has come into developing countries is important; the Haemophilus influenzae vaccine you well know; the rotavirus vaccine, although now subjected to some re-checking in terms of efficacy, still represents a very important breakthrough and within the next several years, should be a major protection against infant diarrhea.'

'The infectious disease units coming out of NIH played a critical role in devising short course *AZT*, a critical role in *nevirapene*, and obviously, as we will be hearing at greater length in the next few days, it is playing a central role in HIV vaccine. Fogarty International Center itself has a training programme, much of which is devoted again to the world of infectious disease. The US is not nearly as populated with infectious diseases as, let us say, Africa, but if any lesson is apparent to anybody in and out of Washington, D.C., it is that pathogens travel, and the infectious disease element within NIH has been and will continue to be a fundamental source of moving it abroad.

I raise with you these thoughts on international relations because both in the past and in the present it does happen that science becomes a bridge between countries whose diplomatic relationships are in the process of thawing.… One might expect a little bit of unease among scientists when they are serving as a bridge. I found quite the contrary. There was an enormous amount of satisfaction by scientists on both sides of a particular dispute, in allowing themselves to become the bridge to greater international cooperation.

The fourth notion … involves the most intriguing of the aims of collaborations. A strategic research site will attract attention and funding from NIH in important ways. What defines a strategic research site? An effective research infrastructure. Thus, as I have heard again and again these last two days and in the document published in advance as well, the call for making countries so to speak more scientifically, culturally oriented is vital. And, from my perspective, I believe that this must be a critical item on the agenda for change….'

'As someone privileged to be able to look over NIH, I think I have come to at least the preliminary conclusion that it certainly does address some of the major health care needs of developing countries. Secondly, the NIH programmes, looked at to the degree that I've been able to do so far, do not seem to me to give priority to joint decision making. In terms of building research capacity and building research culture: I think in many ways NIH has proven to be the closest and one of the best of the allies in that effort. As one visits countries in the developing world that have collaborated with NIH, again and again you will find these outcomes. Standardization of measurement, quality control, encouragement and support for scientific publication, and training of investigators are all present to an outstanding degree.'

'…NIH has been and, by everything that seems likely, will continue to be a major resource for research in developing countries. Its efforts in the end will promote

more good than what one might have expected from an organization whose official mandate is to serve as a national, not international, health organization.'

Anna Karaoglou, European Commission

'In the global scene, the European Union (EU) is one of the major players in development cooperation. The goal of the new European Commission (EC) Development Policy is poverty reduction through coherent action on humanitarian, development, trade, education and research issues. Health is clearly identified as an important sector for support. Since 1990 European Community investment in Health, AIDS and Population (HAP) assistance has provided around 3.4 billion Euros through a variety of complementary financing mechanisms to more than 100 developing countries. Development policy thus is today one of the principal external actions of the EU. Equally, since research cannot be separated from the development process, it has been part of the collaboration with developing countries. Research on health, agriculture and sustainable use of natural resources holds an important place within the EC Framework Programmes on Research'.

'Today, science and technology are recognized as driving forces for human progress. For some people this means strictly economic competitiveness. For us it means addressing the human dimension. Science is a human creation which means that research has to address forcefully society's problems. Since all societies are in permanent development, there is no shortage of relevant research problems for science to worry about.'

'In addressing these problems we have to join forces, particularly forces of a transboundary nature, i.e. regional or global.

This concept means that we have to cooperate in science and technology for mutual benefit. Cooperation is therefore based on complementarity. We should not cooperate when we can do it ourselves – the principle of subsidiarity – but it is not justified not to cooperate when we need the collaboration of our peers, whoever they may be.'

'There are, in addition to the mutual interest as I pointed out above, two main conditions for effective scientific and technical cooperation: a) trust between partners; b) sound partnership, meaning that everyone has an equitable role, and that there is complementarity.'

To ensure the presence of these factors in scientific cooperation we have to make it fully independent of political pressures and of the donor recipient relation which characterizes many aid driven schemes.'

'The EC International Cooperation (INCO) programme has 17 years of existence; its mission is to strengthen and add value to ongoing research in European and developing country centres. Since the original programme of Scientific and Technical Cooperation, health research has been part of the collaboration with developing countries and continues to hold an important place within the current fifth framework programme. Health research is directed towards tackling the challenges to combat major health problems and related issues in developing countries. Challenges are to strengthen health policies for better health systems, to reduce mortality and morbidity among children and to improve reproductive health; to combat predominant infectious diseases; and to reduce the impact of non-communicable diseases.

This covers a range of research themes from research on health policy and health systems to tools such as vaccines, drugs and diagnostic products and the biological, clinical and epidemiological aspects of disease management. National authorities are involved in defining priorities and experts from developing countries sit on panels that decide regional priorities and project selection.

The programme favours equitable partnership where resources are shared, and it targets projects with a regional dimension bringing scientists together from developing countries and the EU into a working multi-disciplinary and inter-disciplinary partnership leading to innovative and productive links.

These mechanisms have given a new dimension to North/South relations, in which partnerships have been established and researchers from the EU and developing countries work with each other. It is open to all developing countries and deals with current problems common to all developing countries.'

'However, for this partnership to be viable, each partner must play an appropriate and active role in the research process and must be open to exchange information, to collaborate and to give input.'

'Since the programme started 17 years ago over 3000 teams in the health sector have received EC support. Half of those are from developing countries.'

'In recent years consensus has grown on the need to address health as a part of broader social and human development. In the context of globalization, scientific research is now expected to play an increasingly important role as a strategic factor for development. For the EU and its main developing country partners, the current negotiations on future relations provide a timely opportunity to update their cooperation on health and human development.'

'We are now entering an era of action. We have the tools and now the political will. There is a commitment to support research on health and emerging diseases. Research should be more integrated in public health policy, and effort and must also be made by the developing countries. Disease control should be put in a societal perspective, through the use of appropriate health systems. This action should be interactive and it is also up to you to give science and technology a much higher profile.'

Views from the South

Mohamed Said Abdullah, Kenya

'When we say North/South collaboration, what form of collaboration do we actually have in mind? My own interpretation and that of many people in the South is that we are collaborating in:

- Health development;
- Health research; and/or
- Health research development;
- Development of competencies; and
- Development of resources.'

'The Southern partners, when entering into international partnerships have the following vision:

- The North will provide the resources required for the research envisaged;
- The South will provide the "laboratory" situation in the field;
- The North will provide the expertise as "senior" partners and the South will often be recruited as junior partners to learn from their northern partners;
- Partners from both sides will own the process jointly;
- The North will share results with the South after analysing them in the North; and
- The North will provide long term transfer of technology to the South.'

'The Northern partners often believe that:

- They are collaborating on an equal footing in terms of provision of resources for the immediate project. But hidden costs born by the South are often discounted;
- They are not expected to cover costs of personnel, facilities or administrative costs;
- They are there on a short term project mode and not to invest in the long term needs of the Southern partners; and
- They are going to take care of the interests of the North.'

'Despite these limitations.... there are many good examples of North/South collaborative initiatives and Southern capacity achievements'.

'However, there are concerns. In the first instances these have to do with three things:

- *International values:* Equity issues, in terms of distribution of programmes and resources, are of concern to both parties. Globalization often means transfer of norms and practices of the North to the South, irrespective of whether this is acceptable to the South. .... Rules of partnerships and consensus building often tend to be dominated by the North and the South seems to be passive. Ethics in international collaboration is matter of serious concern and there is often violation of ethical norms by either parties. Priority setting is not always determined by the needs of the South but at times by the desire of Northern partners.
- *Enabling environment:* Political commitment, policy and legal frameworks, resource allocation and good governance are some of the factors that create an enabling environment for good research collaboration. But once again there is no harmony between the needs of the North and those of the South when addressing these issues.
- *Systems development:* This involves governance of research and institutional development, information management and the definition of the roles of various stakeholders. Due to severe constraints in resources and enabling environment, the South acknowledges the need for additional assistance from the North to help solve problems in these areas.'

'There is lack of in-depth understanding of the problems in the South by the Northern partners. There is lack of skills in the South to negotiate on an equal footing. There is an unconscious desire in the North to perpetuate the situation. There is a gap in information about the realities on the ground. There is inaccessibility to the corridors of power in the North by Southern partners, which leads to a reduced level of influence of the South. The political divide in the North has a lot of impact in the South. There is insufficient political commitment by the North to help the South. The cultural divide between the North and the South hinders effective interaction.'

'What are the possible solutions to these concerns:

- Exploit the existing good-will on both sides to improve the situation;
- Increase advocacy and promotion of the positive attributes of the South;
- Study the current situation more intensely and more objectively, identify the gaps and work out appropriate solutions;
- Increase the voice of the South in the global dialogue on health research organization;
- Increase global investments in health research in the South, *directly* rather than through intermediaries, and address issues of global inequities;
- Increase resources towards the development of Southern institutions, their leadership and networks;
- Provide consistent and long term support to national development programmes rather than short term project support, using existing national structures rather than creating parallel foreign structures;
- Facilitate and enhance South/South collaboration;
- Identify affirmative action issues and act on them;
- Rearrange the global architecture and modus operandi in health research; and
- Northern investors should invest not only their funds, but also their confidence and good-will. They should trust that the South has a minimum critical capacity to deliver.'

Thursday 12 October: International Health Research Cooperation

Presentation of consultations and analyses

Mary Ann Lansang, Analytical Team

(Please see section C4 of the Conference report which builds on Dr Lansang's presentation. Some brief excerpts of the presentation follow below.)

'Who matters most in the global health research scene? From the few days that we

have been gathered together, the overwhelming answer has been that the people matter; i.e., national health research bodies and the country stakeholders have the most at stake. The regional consultations also show that the regional networks have an important role to play.'

'…In the real world there is power at play, mostly played out by the health research investors, the international and global networks and partnerships, and international initiatives. In contrast, the national groups and regional networks are weak. Here lies the crux of the problem.'

'One might ask: "Why change the current institutional arrangements? Aren't we doing some things right? Look at the advances in health research in the past ten years." Along this line of reasoning, the simple answer to the global architecture for international cooperation would be to have incremental improvements in each of the health research organizations in the field.'

'Or we could have new international arrangements for the international health organizations. In the consultations, there were complaints of fragmentation, that health research organizations usually do not coordinate with each other.'

'Whatever option we choose to take, the guiding principle should be that these stakeholders really engage with each other. Reference to 'top - down' or 'bottom - up' approaches merely serves to polarize people and make enemies of friends. We propose the concept of a 'round table', where people engage with each other and abide by rules of engagement that have been agreed upon . Stakeholders around the table will have their separate interests and missions and goals, but they have, within this circle, common objectives. Before having common objectives, however, they must have a shared vision, a vision that will pull them through in the long term, fifteen to twenty years, and perhaps common objectives that will pull them through in the next five or ten years.'

'Besides the requisites of a shared vision and agreement on common objectives, the success of the institutional arrangements and structures we propose will depend on the building blocks for excellent and relevant health research, or "ERHR". Hence we need to strengthen university capacities and partnerships, as well as research institutions. In addition, there are loose and informal networks and coalitions as well as formal legal partnerships, initiatives and alliances. All these, if strengthened and coordinated, form strong building blocks for ERHR. In addition, there is the other building block, that might be used periodically or bi-annually, or annually, which will be consultations, councils or forums around common interests of people.'

'Conclusions:

- There is a diversity and complexity of health research players that simply reflects complex and intersectoral health problems in the world.
- Global health research is indeed important, but it must be rooted in local realities. Therefore we should "think global but start local".
- The requisites for a good structure and architecture for the future will be for us to agree, in this Conference and perhaps in the next few months of work, on a shared vision and common objectives. Only then can we really decide on a good architecture for institutional arrangements.'

Role of an International Research Center

David Sack, International Centre for Health and Population Research (ICDDR,B) Bangladesh

'ICDDR,B is a model of conducting relevant high-quality research in very important topics.'

'I will attempt to provide a brief history of the institution, some characteristics and advantages of an international centre and describe somewhat of the evolution from a focused centre based on research on cholera and diarrhoea to becoming a more global institute on health and population. I also want to describe a few of the constraints and difficulties that have arisen over the years.'

'The Centre has been in existence now for forty years, starting first as the Pakistan SEATO cholera research laboratory. ... In 1978 the ICDDR,B, was formed as an international institute to conduct research and training in diarrhoea, nutrition and population.'

'There are a number of factors, which have led to the Centre's success over the years. It has successfully blended service, in which patients are treated, …along with research and training. … We have … successfully blended the national and the international scientists into teams. We have included the clinical laboratory and field research as part of our objectives. We have strong administrative and financial controls… High ethical standards have been a part of the Centre since its very inception… And there are scientific activities based primarily on local initiatives, but we certainly have many, both national as well as international collaborations...'

'…Our Centre can look back at … accomplishments in the development of oral rehydration solution, the impact we have had on cholera vaccine policy, in population studies and family planning, nutrition interventions, and the creation of a scientific environment , which I believe spreads beyond our own institution to the rest of the country...'

'Why is this Centre based in Bangladesh? … It's a matter of taking the science where the problem is. And … there is a favourable climate for medical research in Bangladesh … a crucial factor.'

'Other reasons for the success has been consistent and generous core support from multiple donors, and … an impressive list of alumni which continue to support the Centre...'

'Our scientific agenda has continued to evolve. We started as a cholera centre, but certainly we have evolved into new and exciting fields .... It's a unique institution in being able to define a problem in the clinic, look at it in the laboratory, see how much of a problem it is in the field and then apply it in the country.'

'Very important to our success has been the support from the Government of Bangladesh, with whom we collaborate actively.'

'What makes the Centre international? First of all we have an international ordinance, we have an international Board of Trustees… We have the capability of hiring international scientists and our research standards are considered international. We also have the ability to carry out research of international relevance. Certainly we do research which is important in Bangladesh, but we

attempt to make this relevant to the world as well. Even though the bulk of our activities are in Bangladesh, we do have the potential for working in multiple countries.'

'Still, the ICDDR,B addresses the needs of Bangladesh first. And I would just say that in order to have a successful international centre, you need to have excellent facilities, productive scientists and staff, a mission that addresses the research needs, and measurable problems that stare you in the face.'

'What have been some of our constraints? The Centre was founded on a great idea, that scientists from around the world could work collectively to address the major issues that are facing developing countries. …but this was not backed up with money, at least not in terms of an endowment…. Our service and support activities have been largely unfunded. …even though we are treating 120,000 patients a year in our hospital, most of our donors see this as a drag rather than as a benefit... Our patient care activities, our service activities, our training are a crucial part of our Centre's activities and our research benefits because of that. But donors do not generally see the benefits...'

'Many of our donors have been unwilling to be educated regarding the needs for indirect costs... There is also a problem with shifting priorities of donors who may be working in the health field and then later they will … suddenly leave the health sector… We also have to compete for good scientists and we lose good scientists through brain drain just like other institutes'

'Over the last five years our core support has dropped by 50%, and this is basically because of changing policies within the donor community.'

'Ethical issues are critical. Our ethical review committee has been in place since 1977. It's independent, it represents the community, and I think would meet any standards. I think this is also a critical part of our Centre.'

'The Centre has chosen not to do a few things, and I think these are also important issues. … It has not become an ivory tower. It faces problems day-to-day on a real term basis. And there is an agreement between the centre and the Ministry to remain as an international centre, so it has chosen not to become nationalized.'

'… I believe the Centre has been a successful and unique example of an international research centre. It may serve as a model for other centres.'

Perspectives from a developing country

Nelson Sewankambo, Uganda

'I want to start off by pointing out that, in the discussion paper that was circulated for this Conference, there is a statement regarding the vision for health research in development, that this vision should be driven by equity… and that there is need to forecast some country needs and priorities and that these should be within an interactive regional and global framework.'

'We, the international community, need to have a shared vision for health research, a vision to which we feel a belonging, a sense of ownership.'

'We should agree on the underlying values and operating principles of the health research system. There needs to be a strengthened capacity of all stakeholders to

contribute, but in particular, the developing countries and regional networks that primarily comprise the *doers* and beneficiaries of health research.'

'Regarding the North South cooperation … there are different agendas … and this is an area which in itself, I think, requires research to inform us what is the motivation regarding those who collaborate. What is the motivation behind those who fund research of this nature? There are different perceived goals and benefits by people in the North and the South, which might contribute to the different agendas that people have. North-South cooperation or collaboration is characterized by … neglect or perpetuation of imbalances, neglect of the fact that people or organizations do not think critically about health research for development as it relates to the developing world, … that not enough is done to fund or facilitate research in the developing countries where we know the greatest burden of disease occurs, that we in the developing world are put into situations where we have choiceless choices. We find ourselves between a rock and a hard place.'

'South to South collaboration… is an area that we haven't paid enough attention to in terms of what it can offer, and yet I believe there is a lot of potential in South to South collaboration. The full potential has not been exploited. There are benefits of international exposure for people in the South, for example by taking somebody from Uganda to come to Thailand and visit and see what the Thai people can do. … We need to build capacity for effective South to South collaboration. … We need to think of ways and means of how we can mobilize the resources for promoting South to South collaboration.'

'Competition is not unhealthy if that competition works towards reduction of the 10/90 disequilibrium. That is the kind of competition we would like to see… But partnerships are also important if healthy competition is going to be achieved. When I look at COHRED and the Global Forum, maybe it's through my own ignorance, I can't quite see where the dividing line is between them. Maybe there is a need for the Global Forum and COHRED to join forces and become partners and drive an agenda forward.'

'…there are many things that we do as organizations, as institutions, as development partners that we don't quite think about and yet in so doing we may be denying a voice to people from the developing world. … This forum, a global forum, should serve as a starting place, for giving a voice to the developing world. … Many of us, many organizations, live in the name of doing good for the developing world in terms of health research. But then there should be accountability to the South. There should be evidence at the end of it, taking stock of what in fact the organization has had in these places.'

'Of course I have tended to say more regarding the North and less regarding the South. We know we have our own weaknesses. We know that at times money is given for health research and yet there is no product. … or, money has not been accounted for.'

'We need more support for the institutions and networks that are addressing the health problems of the developing countries. These institutions or individuals should be facilitated directly. Why should we have to send money to an institution in the developed world if we can actually send that money directly to the institution in the developing world? The cost of doing whatever needs to be done will be much less because there are a lot of overheads for the institutions in the developed world. Let there be direct facilitation of the institutions that are in the South. And then we should be able, if we get this direct facilitation, to invite, to make a choice on our

own, as to which institution or which individuals we would like to work with in terms of health research for development.'

Role of an international research programme

Carlos Morel, Tropical Diseases Research Programme (TDR), World Health Organization

'TDR was created in 1975 and it is a co-sponsored programme supported by three United Nations organizations, the World Health Organization (WHO), the United Nations Development Programme (UNDP) and the World Bank, and several other partners…with a very simple and clear mandate: to provide new tools for a group of major tropical diseases and to do capacity building in relation to these research projects.'

'The areas of TDR are basic and strategic research, product research and development, intervention development and implementation research, and research capacity building. I am going to give some brief examples in each of these areas.'

'Let me start with basic and strategic research. The molecular entomology project … had the first breakthrough in 2000: the transformation of Anopheles by genetic technology, opening a completely radical new way to study the mechanisms why for instance some mosquitoes can be a factor for malaria and others cannot, and opening new ways to interfere in this mechanism. So it is an example of a very basic research that we plan to move quickly into getting some crucial information on vector mechanisms in malaria.'

'In another area we have been working with groups of scientists of several developing countries to develop rapid epidemiological mapping…of disease….moving towards large scale control of lymphatic filariasis.'

'Another area of TDR is capacity building… Centres in Africa are participating in the multilateral initiative for malaria projects. We have over a hundred projects in this area and all of them led by African scientists themselves. They are responsible for selecting their own partners. So I think the voice of the South, as we heard a few moments ago, has been heard. They are the ones who select the projects, select the partners and do the job.'

'In terms of the action of TDR in Africa, there was this year a nice report from the Welcome Trust … and we are very pleased that TDR was at the top of the list in terms of acknowledgement of support to research and training projects.'

'TDR has been working as an incubator of initiatives and I just quote here two of those that were completely incubated and grew inside TDR. … The Global Forum was a result of the Ad Hoc Committee that was convened by TDR and one of the key proposals was to create a place where people could meet and talk. And the second one was the Medicines for Malaria Venture, which was fully incubated inside TDR. The first round of proposals was called for, judged and implemented through TDR until we could have the MMV as a Swiss not-for-profit organization launched.'

'I cannot today in 10 minutes tell you all about TDR so I would stimulate you to go and read the December issue of Parasitology Today, where we wrote a paper on

what we have done in these first 25 years, which kind of products we have developed. … To stimulate your curiosity, TDR has a list of products in terms of drugs, new tools, new interventions, like for instance the multi-drug therapy against leprosy, like bed-nets, like Ivermectine, which all the partners acknowledge. … We are proud of this record in 25 years.'

'We are very proud that TDR is a virtual network which supports groups of scientists all over the world. I think we have strengthened partnerships and sustainable collaboration between North and South, South and South.'

Donor Perspectives

Sigrun Mogedal, Ministry of Foreign Affairs, Norway

'Last year in the Global Forum it was noted that *not* many political decision makers were present. Now that I am in the political arena, this meeting has remained part of my programme, to help me keep in touch with reality and to keep me accountable.

In a political perspective, my message is that I am no less convinced of the role of research in development and international health. We need expanded knowledge and new technologies, and we need to use such knowledge more effectively at all levels in order to improve policy and practice.

I want to stress three main points:

- Overcoming poverty and inequity means focussing on the issues and questions arising from poverty and inequity.
- The way we shape these questions and turn them into research and feed the results back to policy is essential.
- The way we conduct our relations with our partners in cooperation is critical.

We talk a lot about globalization these days. The potential of knowledge in linking up and producing global public goods is obvious. Research partnerships have shown us how to overcome political barriers and instability, but they need to be nurtured.

At a meeting in Oslo in May 2000, participants from a number of donor countries and organizations met to present and review their programmes of support for research in developing countries. The participants shared the view that the North-South knowledge gap cannot be bridged unless more consideration is given to development issues in regular research funding, *and* to research in regular development funding. In addition, national institutions in the South should have a much greater opportunity to participate actively in setting priorities and in defining the international research agenda. In this respect great responsibility rests with the research funders to pave the way for closer and more coordinated dialogue between all stakeholders in research. And a great responsibility rests with the research community to engage in dialogues which policy makers can understand.

The global dialogue about new structures for international health research - thoroughly debated in the preparations for the Bangkok conference - is of great importance. The research donor community *must* take an active part in this discussion and must be willing to adjust its priorities and strategies. In the

preparations for Bangkok, a number of regions reported great problems when relating to the rather complex structure of funding and policy institutions.

I am not entirely sure that we have reached a point where major reforms have to be implemented. But the right questions are now being asked. What is essential is an arena for bringing the many stakeholders together, to facilitate an exchange of views, to assign priorities and to foster synergies and accountability. All the mechanisms do not necessarily have to be money bags. What counts is links and commitment to make major actors like the WHO fulfill its potential and role. This has to be backed up by a true commitment to the task of avoiding duplication and clearly defining the distribution of labour and responsibility.

What we are discussing this morning cannot be reduced to a question of a donor–recipient relationship. I represent a *partner* in global research. It is not *we and you*, but rather *ω*. To make the research relevant, and in order to facilitate the utilization of research results for health improvement and poverty reduction, a true partnership is needed. Through genuine partnership, creativity, new perspectives and real commitment, the research conducted will prove to be of great relevance for the health challenges being addressed so extensively at this conference. We need the creativity and the urge, and even the anger, to move the 10/90 agenda forward.

We all relate to health research for development both bilaterally and multilaterally. The large variety of instruments and mechanisms in itself could be a strength, making the international system for research funding flexible. There is, however, a need for better synergies and stronger links, and for a more coherent approach to partnership.

There is also a clear need to address the problem of the national and international fragmentation of research funding. I am not ready to offer a "global grand scheme" for research support in the health field. In our task of further developing the international health research architecture, I would, however, like to underline the need for more concerted action, the need for maintaining regular meeting places, the need for exchange of information, and not least, the need for basing cooperation on local and national priorities. This is also what has been stressed in the 10/90 Report, that is: the task of helping to build health research capacity at the national level, through collaborative efforts. There are new opportunities in public-private partnerships in various areas, such as vaccines and drugs, which need to be used to their full potential.

To be able to take on this responsibility, more attention should be given to the national dialogue between the research community, institutions of higher learning, decision-makers and local administrations. From Bangkok we would like to see a sound follow-up at the national level. We have to ask ourselves how the plan of action can be integrated into national health plans and national R&D strategies. The development of appropriate national mechanisms for priority setting, such as national research councils working in close cooperation with universities, must be supported. Based on our experience, we are confident that North-South academic collaboration programmes, and not least South-South cooperation, linking research and training, are important measures.

The Bangkok conference and its convenors have put new energy into health research for development. We have focussed on ethics in health research in a broader perspective. The Conference will now set the global health research agenda for years to come. Consequently, I think it is extremely important that we agree on ways and means to safeguard national ownership of the process and its outcome,

and remain accountable to poor people in the way we exercise stewardship over knowledge. This is necessary in order to fully realise the human capacity.'

Berit Olsson, Swedish International Development Cooperation Agency, Sweden

'We in the Swedish delegation are very pleased to participate in this very exciting event. Sweden has been a solid and faithful contributor to the process we celebrate this week, ten years after the Nobel Conference.'

'Following the work of the Commission we have been, and we are, committed to increase our support for national health research and research capacity. We have been able, to some degree, to develop ways of directly supporting a limited number of countries in their efforts and we have been able, in recent years, to extend such support to a few more countries. We believe that without national level research, they will not have access to the global world of knowledge and to participating in the very important global research. I cannot refrain here from saying how pleased we were yesterday when two of the Awards were given to scientists which had utilized our support in such a way.

We are not altogether pleased. We have come to spend more efforts, more staff resources and more funds on the international level, in spite of our ambition to support more at the national level. Our ambition was, and is, to find one coherent mechanism for supporting international health research with the following central functions:

- Providing an overview of what is known and substantiated
- Keeping track of research efforts and indeed research opportunities
- Identifying under-researched areas in relation to relevant health needs
- Promoting and, in exceptional cases, orchestrating research efforts in such areas of central importance, and in areas where concentrated international efforts may be the most efficient solution'

Finally, we are interested in finding legitimate actors in promoting commitment for research among country authorities in the developed and developing world.

We were, and we are, impressed by the networks organized and led by the specialized programmes and we did expect WHO to take a leading role for these functions that I mentioned in the field of health research. But we were in those days disappointed and came to support a number of new initiatives, which indeed have made important contributions in a good direction.

Now to my questions for the working groups. I have briefly mentioned the problems of a funding agency, to follow and deal with a multitude of initiatives.

1. To what extent are these perceived as positive pluralism among the developing country actors, and to what degree do they rather create problems of fragmentation?
2. Is it desirable, and is it possible today, to find a simpler and more efficient way of supporting international health research at the centre?
3. To what extent should, and could, WHO assume such functions. If the answer is "maybe", what action would be needed to strengthen the role of WHO in health research? Do we have other alternatives?

4. I also have two questions to the working groups, of a slightly different nature. Our funds are earmarked for research, but we do provide core funds for research programmes and organizations. This can only, and will only, continue if all actors are behaving in such a way. If earmarking is the order of the day, we will also be forced towards earmarking to specific projects within programmes. Is it realistic to continue core funding? Can we insist on doing that, or do we have to give in to all these earmarking efforts?
5. My last and fifth question concerns the balance in funding. If we experience cuts in funding, should we then cut funds for national capacity and national research efforts? Or should we cut support for international research? Or both?

These are real questions which funding agencies have to deal with. They are not hypothetical, they are real.

Fortunately, the question we have to deal with today is the reverse. Based on the conviction that knowledge and analytical capacity is essential to all countries to guide their development, Sida has decided to increase funding for research. It leaves us with the same options of course. Where should we direct added funds? Should we do more in support of national efforts, enhancing their capacity to participate and influence global research, and their capacity to defend their interests? Or should we divert resources to regional level programmes, supporting the sharing of experience for networking and other things that could best happen at regional level? Or finally, should we increase support for many worthy international ambitions and, again, could we find a central way of doing that which would facilitate our life?

We look forward to your advice.'

ANNEX 5 – CONCLUDING REFLECTIONS: TAKING THE HIGH ROAD: OUR JOURNEY IN HEALTH RESEARCH FOR DEVELOPMENT

Lincoln C. Chen, The Rockefeller Foundation

Introduction

How do I summarize a conference of 800 participants from 100 countries that over 4 days contained 5 keynote presentations, 6 conference panels, and more than 70 group and parallel sessions? Should I cite inspirational speeches or highlight debates and consensus? Do I review the daily gazettes, check the polls, visit the poster boards, or click-on the website? How do I incorporate dozens of satellite meetings or capture the "buzz" in the hallways?

Marian Jacobs, the chief rapporteur, framed this conference as one event in a process - a "milepost" in a journey - like a refueling stopover of our boat travelling down the nearby Chao Phraya River.

My reflections are organized into three parts. 1) From where did the journey originate? (the commission remembered) 2) What happened at Bangkok? (some conference observations) 3) What about the road ahead? (navigating the curves, hills, and bumps).

The Commission

The Commission's recommendations are well known, but what really mattered was people. Commissioners Ade Lucas and Ramalingaswami are here. John Evans admirably spearheaded the initiative. Gelia Castillo, Sune Bergstrom, Doris Calloway, I. Ezzat, Walter Kamba, Adolfo Martinez-Palomo, and Saburo Okita, were other leaders. Youth from around the world, many here this week, contributed. We were hosted in Southern Africa by Steve Tollman, in Thailand by Chitr Sitthi-Amorn, in Japan by Eiji Marui, in Brazil by Carlos Morel and Christina Possas. In Mexico, we were introduced to outstanding young scientists including Julio Frenk and Jaime Sepulveda. Chris Murray, Catherine Michaud, and Sunil Chacko began their careers in the secretariat. David Bell, who passed away last month, worked tirelessly offering his guidance and wisdom. He is remembered today with gratitude, respect, and deep affection.

The commitment, indeed passion, of these people forged the Commission. Our goal was to harness the power of knowledge for good health. We defined "research" as an inclusive process pursued as much by scientists in white laboratory coats as farmers planting seeds side-by-side to see which grew better or mothers trying different cough syrups to cure their children's cold. Research is a learning process, a search for truth, an endeavour unique to the human species. While we adopted a global vision of the human family, our concern focused on the huge health disparities among and within countries. That is why we emphasized national research development for advancing equitably global health. Historically and in retrospect,

the Commission marked the closure of "neo-colonialism" in health research. The period of exclusive knowledge production in the North for technology transfer to the South was ending, opening a new era of bringing together research producers and users in the South to join the world health research system.

Conference Observations

One decade later, much progress has been made. The work of COHRED, the Global Forum, and a revitalized WHO is acknowledged. The Bangkok conference was designed as a marketplace for dialogue of diverse perspectives and exchange of new ideas by the gathered participants. Of the 800 attendees, 600 are from so-called developing countries, about the same proportion as the world's population. The faces of Bangkok reflect the world's many peoples. Most impressive were the calibre of participants, the quality of dialogue, and the candour, at times even brutal honesty, of the exchanges.

Three observations about the deliberations

Firstly, the importance of health research is beyond debate. Research is essential, not a luxury, for achieving good health. Health is fundamentally knowledge-based and socially-driven. In today's knowledge-based global economy, few would question the power of research unlike the scepticism of a decade ago. All here appreciate knowledge as a global public good. Our shared goal is global health equity, social justice, and health as a basic human right. Gender is an indispensable component of these objectives. The "research divide" is less between basic-applied, global-local, or producer-user and more between whether research serves the rich and privileged or meets the health needs of the world's poor and excluded.

Secondly, we are coping with enormous diversity. Plainly evident are marked differences in research capabilities, performance, and constraints. In some countries, health research has advanced significantly. Others have been left behind, suffering from decaying or even collapsing infrastructure. Alarmingly, disparities in health research capacities may be widening. Harmonization of such diversity has been a major conference challenge.

Thirdly, we are failing to overcome in the poorer countries the same key constraints identified by the Commission - weak human resources, institutional infrastructure, and financing. Research is a human enterprise that requires motivation, skills, career structures, and an interactive critical mass. Infrastructure is necessary to provide an enabling environment that nurtures a research culture. Flexible financing is required. The Commission focused on mobilizing public funds from the countries themselves supplemented by foreign development assistance. Continuing donor dependence one decade later is both troubling and clearly unsustainable.

Health research for development, therefore, is a two-way street. Not only does health research advance development, but social, economic, and political developments are preconditions for health research. Only with balanced development will many of these basic constraints be ultimately overcome.

The Road Ahead

Bangkok lifted the fog and shined a light on the road ahead, preparing us for the long haul. Just as Ade Lucas applauded Dr. Brundtland for the "cardiopulmonary

resuscitation" of WHO, Bangkok provides a tonic, multi-vitamins, or Gatorade in our journey of health research for development.

Changing Landscape

Our world is changing. Globalisation is overwhelming national boundaries — facilitated by a revolution in science and technology and driven by private markets. The compression of time and distance is not only transnationalising economic relations but also politics, culture, and human affairs, including health. The generation of unprecedented wealth along with massive impoverishment underscores the defining phenomenon of our times — global inequality and human insecurity.

Joseph Schrumpeter, an Austrian economist, predicted that the combination of markets and new technologies would unleash the forces of "creative destruction." A tidal wave would sweep away the old and usher in the new. For the health research development community, we face a fork in the road. Will we go down the path of the old and fade away? Or will we recharge, retool, and launch a renewal?

Opportunities, Resources, and Capabilities

To take the high road, we must exploit more effectively new opportunities, new resources, and new capabilities.

Fortunately, health is rising to the top of the development agenda. The World Bank is focusing on poverty eradication, and health is moving from the periphery to the core of its priorities. The WHO is being revitalized, assuming its rightful world leadership role. The declaration of the recent UN Millennial Summit emphasized poverty reduction, including global health.

We can anticipate an infusion of new resources. At Okinawa, G8 leaders pledged about $5 billion in global efforts to combat AIDS, malaria, and tuberculosis, including health research and the strengthening of basic health services. Several bilateral aid agencies are reporting welcomed increases of their health research budgets. New foundations are emerging. The more prominent are the Wellcome Trust and the Gates Foundation, each with budget sizes approximating WHO. We are likely to witness the entry of additional health philanthropies over the coming decade.

Options are also expanding due to stronger capabilities in emerging economies. Thailand is an example, but there are also India, China, Brazil, Mexico, and South Africa. These countries have large and capable cadres of scientists and research institutions that could play stronger local and global roles in addressing health problems afflicting the majority of the world's people.

The Search for Partnerships

The central theme of this conference, in my opinion, is the search for partnerships. In all conference interactions, there was an eagerness for making connections. Reaching out was exciting in part because of our diversity and quality. Underlying our seeking behaviour, however, was the implicit recognition that no single group can do it alone. The problems are too tough and too complicated. And there are changing actors and social arrangements. The Commission focused on the responsibility of government and tapping innovation among non-governmental

organizations. The past decade has witnessed enormous growth of private business and the emergence of vibrant civil society groups.

Private markets are penetrating all aspects of health. Global ground rules promulgated by the World Trade Organization and intellectual property regimes are increasingly privatising the ownership and purpose of health research. How private interests and public purpose will be balanced remains unclear. In the United States, we have a powerful alliance of public financing of basic research matched by private industry's R&D to bring new health products to the marketplace. Drugs, diagnostics, and vaccines are being developed at a dazzling pace. This apparent efficiency, however, is generating growing public concern about equity, access and costs. Affordable drugs for the elderly has become politicized in the presidential campaign, underscoring this unresolved dilemma. The private sector is the "800 pound gorilla" mostly absent from this meeting. For global health equity, how do we harness the power of industry? How can we structure public-private partnerships (PPP) to advance the public purpose?

The emergence of civil society is also challenging governance and stewardship arrangements. Two often-posed questions by conference participants: Who are making the decisions? How is the agenda being set? Although the term partnership sounds good signalling cooperative attitudes, successful arrangements must harmonize different interests. Effective partnerships require adroit bargaining and negotiations along with the responsible exercise of power. What are the ground rules? How can we instil confidence and trust? Many partnership configurations — networks, alliances, coalitions — can be expected to emerge over the coming years. Only time will confirm their social effectiveness.

An Action Agenda

Because the changes are rapid and profound, there is urgency for action. Past efforts have been insufficient; more and better work is needed. We must translate lofty ambitions into strategic practicalities for immediate action.

Ten years after the Commission, we still have an "information gap." We must collect more data, conduct better analyses, and monitor changes in human resources, institutional infrastructure and financing. As scientists, we are taught to respect the "evidence-base," but we must practice what we preach in health research for development! Unless we can track progress, or regression, we cannot expect to do more or better into the future.

Improved information and understanding would enable us to develop more effective strategies. No longer mysterious are what developing country researchers need and want. We must move beyond a first decade of meetings to a second phase of identifying specific audiences (actors), specific objectives (more flexible resource flows to developing countries), specific modalities (arrangements), and specific outcomes (quality, relevance, and volume of research output).

To be more effective, donors and the facilitating groups (COHRED, Forum, WHO) must "get their act together!" The buzz in the corridor is that global promotion is too fragmented and too Geneva-centric to leverage sufficient leadership by and support for developing countries. Limited donor funds must be invested wisely to catalyse larger public and commercial flows. While respecting the autonomy of each agency, donors must foster coherence rather than fragmentation, build people and institutions rather than projects, and invest as shareholders working in cooperation with all stakeholders.

Conclusion

Just as the Commission marked the end of neo-colonialism, the Bangkok conference, I believe, will represent the first step towards the "democratisation" of health research on a global scale. Bangkok expanded space for voices from diverse participants who communicated with mutual respect. Democratic processes can help harness the powerful forces of globalisation towards health equity. Like the oriental martial art, "jujitsu," we must flip destructive tendencies into creative forces. To do so, the promotion mechanisms should support and unleash the leadership of participating scientists in developing countries. We must move from elitism and hierarchy towards horizontally constructed democratic alliances, coalitions and networks. We must globalise our common values, thereby strengthening our resolve to advance our shared vision and mission. In other words, health research for development must grow from a program to a social movement.

All of us will soon begin our real, not metaphoric, journey home. At Bangkok, we witnessed the passing of the torch from the Commission to the Bangkok follow-up mechanism. The Commission began by extensive consultations in developing countries. In the past decade, the action shifted between Geneva and the developing world. As the Bangkok agenda was shaped by extensive regional consultations, follow-up action should be led by the developing world, the pillar of the global movement. In 2-3 years time, we should convene again perhaps in Africa or Latin America.

Unknown at this time is the impact of this conference. Only time can provide the answers. Did we gain fresh insights? Was our resolve strengthened? Have we made lasting connections? Will the follow-up mechanism result in more effective advocacy?

For orchestrating this magnificent conference, we have many to thank - the attendees, the sponsoring agencies, the organizing committee, background paper writers, participants at the regional consultations, and the funding agencies. None deserve more praise than our Thai hosts. Like Her Royal Highness, the Princess of Thailand, who graced our conference banquet, the Thai organizing committee provided classic Asian hospitality, topped off by managerial efficiency and responsiveness. Please join me in conveying our deepest appreciation.

Thank you and travel well!

ANNEX 6 – CONFERENCE COMMITTEES AND ADMINISTRATION

International organising committee

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Secretary: Lennart Freij, Consultant, COHRED

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Charas Suwanwela, Chair COHRED, representative of Local Organising Committee
Louis Currat, Executive Secretary, Global Forum for Health Research
Maureen Law, Sector manager for Health, Nutrition and Population, the World Bank
Tikki Pang, Director, Research Policy and Cooperation, WHO
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International Steering Committee

Chair: Gro Harlem Brundtland, Director General, WHO

Members:
World Health Organization
The World Bank
Council on Health Research for Development
Global Forum for Health Research
Alliance for Health Policy and Systems Research, Switzerland
Blair Research Laboratory, Zimbabwe
Caribbean Health Research Council, Trinidad and Tobago
Council for International Organizations of Medical Sciences, Switzerland
Commonwealth Secretariat, UK
Directorate General for International Cooperation, the Netherlands
European Commission, Belgium
Global Initiative for Traditional Systems of Health, UK
Harvard Institute for International Development, USA
Institute for Medical Research, Malaysia
International Development Research Centre, Canada
International Centre for Diarrhoeal Disease Research, Bangladesh
International Clinical Epidemiology Network, USA
International Council of Nurses, Switzerland
International Federation of Pharmaceutical Manufacturers Associations, Switzerland
International Forum for Social Sciences in Health, Venezuela
International Hospital Federation, UK
International Women's Health Coalition, USA
Joint United Nations Programme on HIV/AIDS, Switzerland

Latin American and Caribbean Women's Health Network, Colombia
Ministry of Health of South Africa
Ministry of Public Health of Thailand
National Institute of Medical Research, Tanzania
The Network: Community Partnerships for Health, the Netherlands
National Institutes of Health, USA
Norwegian Agency for Development Cooperation, Norway
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Swedish International Development Cooperation Agency/SAREC, Sweden
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Permanent Secretary, Ministry of Public Health (MOPH)

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Permanent Secretary, Ministry of Finance
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