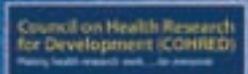


1st Latin American Conference on Research and Innovation for Health

*Conference report
Results and documents*

Rio de Janeiro, Brazil: 15-18 April 2008

Secretaria de
Ciência, Tecnologia e
Insumos Estratégicos
Ministério
da Saúde



Global Forum
for Health Research
ADVANCING HEALTH RESEARCH FOR THE WORLD



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Key Words:

Research and innovation for health, national health research systems, human resources for health research, financing for health research, Latin America, conference

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Main conference messages

- The strengthening and stewardship of National Health Research Systems (NHRS) along with regional cooperation are vital for facing ongoing health challenges in a context of inequality, delay in achieving the Millennium Development Goals, epidemiological changes, food crises, and significant demographic changes that are detrimental to the poorest countries.
- The stewardship and governance of NHRS are the responsibility of the State and should be actively pursued through the Ministries of Health, with support from other state actors and civil society. This is the only way to coordinate research and innovation with the priorities of social development and public health, and to guarantee consistency in the allocation of funds and training of human resources for research. Each country must act according to its needs, resources and opportunities. The review of some experiences in the region – in Brazil, Mexico, Argentina – shows that it is possible to achieve concrete results in the short and mid-term.
- In order for NHRS to be sustainable, a coordinated human resource development and training strategy is required. Researchers should be trained while working on projects that are related to NHRS priorities. Training should be more comprehensive and should be coordinated with the production sector. Research teams should be multidisciplinary and stable.
- With regard to financing, it is essential that there be consistency between the allocation of resources and NHRS priorities, and that innovative strategies to generate funds be sought out, such as levies on industrial products that impact the burden of disease and death. It is equally important to be aware of and evaluate how resources are allocated and used; this requires a public registry of all research activity.
- Cooperation within Latin America is crucial to supporting NHRS, correcting asymmetries and reconciling the interests of intellectual property with those of public health. In this regard, existing capabilities, resources, agreements and networks need to be assessed in order to take advantage of them effectively and efficiently, and to create strategies and plans based on common and complementary interests.
- International technical cooperation enables countries to overcome their limitations in information, financing and technology. There are many opportunities for sharing resources, training officials and researchers, exchanging experiences, developing and marketing drugs for neglected diseases, and accessing research funds.
- Health challenges can become opportunities through technological and social innovations that are not necessarily costly. Examples can be found within the region; from agreements that allow the Brazilian government to access information belonging to the private sector to partnerships through which new drugs for malaria have been developed and marketed at cost.

Executive summary

The First Latin America Conference on Research and Innovation for Health sought practical answers in order to confront a shared challenge in the region: how to ensure that research deals with the countries' health priorities and contributes to equitable development in Latin America (LA). To that end, emphasis was put on the creation, development and strengthening of National Health Research Systems (NHRS) as well as the use of regional cooperation as a means of taking advantage of existing resources and reducing asymmetries.

The meeting took place in Rio de Janeiro, Brazil, from April 15 to 18, 2008. Some 120 strategic actors attended: officials from countries in the region in the fields of health, science and technology (S&T); representatives from technical cooperation and development agencies; national, regional and worldwide research networks and organizations; and specialists from the Pan American Health Organization (PAHO) and the World Health Organization (WHO). Present at the opening ceremony were PAHO director, Mirta Roses; the representative of PAHO in Brazil, Diego Victoria; and the Secretary of Science, Technology and Strategic Inputs from Brazil's Ministry of Health, Reinaldo Guimarães.

The organizing of the event was the result of a partnership between the Brazilian Ministry of Health, PAHO, the Coordinating Commission for National Institutes of Health and High Specialty Hospitals of Mexico (INSalud), the Council on Health Research for Development (COHRED), the NicaSalud Network Federation and the Global Forum for Health Research (Global Forum). The conference was financed by

PAHO, the Brazilian Ministry of Health, the Wellcome Trust (London, UK), COHRED, the Global Forum and the UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR).

The Conference produced 14 reports on NHRS in different countries (see complete reports at http://www.cohred.org/main/publications/background_papers.php) which constitute the first reference material of its kind in the region; multiple work contacts between countries, networks, international agencies and funders; information regarding new programmes, scholarships and sources of support; a preliminary agreement for the sub-regional cooperation in Central America; and the commitment to hold a second conference in order to evaluate progress, with the venue and date still to be determined.

In four working groups, participants discussed and provided a series of definitions and recommendations regarding the conference's core points, which will serve as input for drafting national policies on health research and for defining strategies to develop and strengthen NHRS. The results from the conference can be used by governments and regional civil society organizations in order to agree on an input to the Global Ministerial Forum on Research for Health, which will be held in Bamako, Mali, in November of 2008. Conclusions from the meeting will also contribute to designing PAHO research policy as well as that of other international agencies concerned with health. A summary of the main recommendations can be found below (see complete reports in Appendix 3).

Two major responses placing health at the service of equitable development

The strengthening and stewardship of NHRS and regional cooperation are vital to facing challenges in health care and promoting equitable development in Latin America. Therefore, health research and the equitable distribution of its results and benefits must be a top-level priority in the national and regional political agenda, in a democratic environment and with citizen participation.

What each country can do

All groups agreed on one strategic vision: NHRS stewardship including research, development and distribution of technologies, is the State's responsibility and cannot be delegated. This is the only effective way to combine research and innovation with development and public health priorities.

In order to make this vision a reality, the following strategic lines of action were proposed:

- The State must exercise stewardship and governance of NHRS through the Ministry of Health and with the support of other state and non-state actors.
- NHRS must set and update research priorities to optimize resources and respond to the health system needs and national development objectives. The allocation of funds and the training of human resources for health research must be linked to these priorities through stable, participative and transparent mechanisms. It is also necessary to collect and evaluate information regarding resource allocation and use.
- NHRS must foster a political, legal and educational environment that favours

research focused on equitable development. This requires establishing regulatory frameworks that do not change according to the administration in power; integrating science, technology and innovation systems into the daily NHRS operations; using scientific information to create health policies in a participatory way; and offering incentives to work in research, with the goal of generating and retaining a critical mass of scientists.

The groups recommended specific actions on a number of fronts. In relation to the regulatory frameworks, there was a push for creating and enforcing laws that safeguard ethics in research and establishing bodies that monitor activity and guarantee the recording of information. Expanding the debate regarding the informed consent of indigenous populations and other vulnerable groups was also recommended.

With regard to human resources training, the following was suggested:

- Train and educate researchers through work on projects that are related to NHRS priorities.
- Establish evaluation systems for researchers that include new assessment criteria, such as a project's positive externalities from research projects.
- Form interdisciplinary groups with a broad vision for health research, promote stability of those teams, and promote training of scientific and non-scientific staff.
- Facilitate coordination with productive sectors.
- Provide more comprehensive training that aims at improving the methodological quality of proposals, respect for ethical

principles, project management, group work, and communication and use of the research results.

- Promote early education in science and technology.

In regards to financing with national funds, the following was recommended:

- Seek innovative strategies for obtaining funds, such as taxes on industries that increase the incidence of disease and death (tobacco, alcohol and automobiles).
- Include health research agreements in loans from multilateral banks.
- When allocating funds, the quality of projects should be taken into account; however training and academic qualifications should not be a hurdle to access.
- Raise awareness among healthcare administrators and managers, and decision makers regarding public health investments, about the strategic advantages and the added value resulting from research.

Regarding innovation, the following was recommended: strengthening drug regulatory agencies; providing transparency in the context of public procurement; promoting public access to products of social and technological innovation; and incorporating traditional medicines into the innovation cycle in an explicit manner, paying attention to the equitable distribution of the resulting benefits.

In order to organize NHRS, assessing available capabilities and creating national data bases regarding researchers, research groups and scientific and technological production were suggested. These steps were also considered useful for orienting human resources training, funding research and fostering innovation.

What can be done within the region?

The conference advocated a common strategic vision: regional cooperation is a key factor in supporting NHRS, reconciling the interests of intellectual property with public health interests and reducing asymmetries in information, funding and technology.

In order to implement this vision, lines of action have been laid out that seek to take advantage of existing capabilities, and specific actions have been proposed regarding these different lines. A summary of those proposals is shown below:

Create strategies and cooperative projects based on common and complementary interests. This requires actions such as the following:

- Catalogue, spread awareness of and utilize available cooperation agencies in order to train human resources, exchange experiences, access research funds and develop and market drugs for neglected diseases.
- Exchange experiences regarding research management, funding, researcher training, and processes and methodologies for defining priorities.
- Encourage multi-centre research projects that seek joint funding in order to favour international participation by NHRS.
- Promote studies on the burden of disease to help define priorities for cooperation in the region.
- Take advantage of and adapt the S&T information systems available.
- Establish a more fluid dialogue with technical cooperation and financing agencies to take advantage of the opportunities they offer for human resources training.

Face the challenge of reconciling the interests of the intellectual property and public health within the region. For this purpose, the following were proposed:

- Use as a reference the response model of the WHO Inter-Governmental Working Group on Innovation, Public Health and Intellectual Property (IGWG).
- Invite both the health sector and civil society to take an active role in discussing intellectual property rights and public health.
- Include in the discussion an assessment of measures protecting intellectual property and possible compensatory mechanisms.

Focus technology transfer on diseases that are not of commercial interest and affect those with the fewest resources. Among other actions, the following were suggested:

- Identify and optimize the region's pharmaceutical production capacity, and define cooperative actions.
- Facilitate access to products of good quality manufactured in the region, as occurs with the Revolving Fund for Vaccine Procurement and the Strategic Fund for medicines procurement, managed by PAHO.
- Support initiatives that promote free access to scientific information, such as registries for clinical trials and their outcomes, virtual libraries, etc.

Harmonize existing regulatory frameworks and processes in the different countries. For this purpose, the following were recommended:

- Coordinate the processes for regulating drugs and assessing products of innovation in the region.
- Create a Code of Conduct for international funders.
- Foster compliance with the International Clinical Trials Registry Platform and its extrapolation to other types of studies, with mandatory enrolment.

International agencies for technical cooperation, in particular PAHO, COHRED and the Global Forum, can accompany NHRS development and contribute to the continuity of multinational initiatives.

Introduction

Latin America (LA) is replete with contrasts and paradoxes that raise huge challenges when it comes to constructing a better future. The region shows macro economic stability, strong growth rates and democracies that are becoming stronger.¹ At the same time, inequality and extreme poverty persist.² Socioeconomic, developmental and educational indicators vary greatly between the countries and within each country. Health is not an exception: The burden of disease is heavier on those that have the least and the resources needed to reverse this are spread thin, underused and poorly distributed.³ Given this context, how can we improve the quality of life of Latin-Americans through health research, taking into account the needs of those with the least and the priorities of each country?

This challenge motivated the Council on Health Research for Development (COHRED) to propose the first consultation meeting with researchers and officials from various countries and international organizations that work in Latin America. The meeting was held in Antigua, Guatemala, in August of 2006, and therein was decided that a regional conference would be held, focused on the creation, development and strengthening of National Health Research Systems (NHRS) aimed at guiding, improving and evaluating research and health innovation in Latin America.

Organizers, participants and objectives

From this proposal was born the First Latin American Conference on Research and Innovation for Health, which was held in Rio de Janeiro from April 15 to 18, 2008.

The Brazilian Ministry of Health hosted the meeting and was the first to sponsor it. For the organization of the event, a partnership was created among the Brazilian Ministry of Health, the Pan American Health Organization (PAHO), the Council on Health Research for Development (COHRED), the Global Forum for Health Research (Global Forum), the Coordinating Commission of National Institutes of Health and High-Specialty Hospitals of Mexico (INSalud) and the NicaSalud Network Federation. These partners met periodically for a year and a half, in both face-to-face and virtual meetings, in order to determine the event agenda and format. The conference was funded by PAHO, the Brazilian Ministry of Health, the Wellcome Trust (London, UK), COHRED, the Global Forum and the WHO Special Programme for Research and Training in Tropical Diseases (TDR).

In order to guarantee a balance both geographically and institutionally, the meeting was by invitation only and gathered around 120 participants from all over Latin America; among them officials from Ministries of Health and science and technology institutions (S&T), representatives from funding agencies and members of organizations that work in health research and policies (see list of participants in Appendix 2). Although the meeting focused on Latin American countries, researchers from the English-speaking Caribbean also took part. The presence of PAHO director, Mirta Roses, in the opening ceremony confirmed the importance of the conference at a regional

¹ Development Centre of the Organization for Economic Co-operation and Development Latin American Economic Outlook 2008. Paris: OECDpublishing, 2007. Available at fiordiliji.sourceoecd.org/upload/4207041e.pdf

² Economic Commission for Latin America and the Caribbean. Social Panorama of Latin America 2007. Santiago de Chile: ECLAC, 2007. Available at <http://www.eclac.org/cgi-bin/getProd.asp?xml=/publicaciones/xml/9/30309/P30309.xml&xsl=/dds/tpl-i/p9f.xsl&base=/tpl/top-bottom.xsl>

³ Millennium Development Goals: La progresión hacia el derecho a la salud en América Latina y el Caribe. Economic Commission for Latin America and the Caribbean. Santiago de Chile: CEPAL, 2008. Available at www.eclac.cl/publicaciones/xml/4/33064/2008-172-ODMSaludcompletoFinal.pdf

level. The World Health Organization (WHO) regional director in Africa, Luis Gomes Sambo; PAHO representative in Brazil, Diego Victoria; the secretary of Science, Technology and Strategic Resources of the Brazilian Ministry of Health, Reinaldo Guimarães; and the chairman of the Oswaldo Cruz Foundation, Paulo Buss, among others, attended the meeting.

As working objectives, the organizers proposed analyzing the successes and challenges in the development of NHRS; strengthening the links between the health research and other S&T sectors, determining strategies and actions for regional cooperation, stimulating partnerships to reduce inequity in health care, fostering development through research, and increasing interest from both foreign and national cooperation agencies and donors to support this process.

Seeking to turn these objectives into concrete actions, both nationally and regionally, organizers posed the need to obtain short and mid-term results that may be evaluated in a second conference. The summary of this report is intended for immediate use by the Ministries of Health of the participating countries and the region's civil society organizations to agree upon criteria that look ahead to the Global Ministerial Forum of Research for Health, scheduled to be held in Bamako, Mali, in November of 2008.

Format and working groups

The conference dealt with four central topics as well as one umbrella concern that tied in with all four: regional collaboration and collaboration with researchers and sources of support from the developed countries. The topics were:

- **National Health Research Systems**, including strategies to reinforce them; processes for establishing research priorities; development of research policies; system management; reference frameworks for

bioethics and coordination with other systems of science and technology.

- **Financing for research for health**, with emphasis on the identification of innovative strategies for the funding of systems and of national priorities, which includes and coordinates the public and private sectors.
- **Innovation, product development and access**. Interactions between health research and the production sector were examined. Ways to re-orient systems of innovation towards national priorities were analyzed, as well as how to improve the use of research results, with emphasis on equity.
- **Human resources for health research**. Methods were discussed to foster individual, institutional and systemic capabilities as well as to evaluate the outcome of these actions.

The sessions had an interactive format, which alternated between plenary presentations on global issues and case studies, with working groups that analyzed the proposed subjects (see Programme in Appendix 1), using the preparatory documents as a starting point (see http://www.cohred.org/main/publications/background_papers.php). The groups submitted their conclusions in a plenary session (see the text of the working group reports in Appendix 3).

In turn, the delegations from the different countries prepared and submitted reports on the current situation and perspectives regarding their National Health Research Systems (see http://www.cohred.org/main/publications/background_papers.php). Which allowed these experiences to be systemized (in some cases, for the first time), offered concrete points of reference at a regional level and contributed to the exchange of action oriented ideas.

1. The context and the challenges

Tuesday, 15 April 2008

The opening ceremony captured the essential paradox of Latin America, where a historical and philosophical inclination towards the value of solidarity has not been enough to reverse profound health inequalities. The speakers emphasized the need for national policies and regional collaboration that make the most of comparative advantages and allow for aligning the use of resources and research with the priorities of each country and the region. The case of Brazil shows the potential, limitations and challenges of the region.

The advantages of Latin America facing the challenge of NHRS

Carel IJsselmuiden, COHRED director

The COHRED director focused on the concept of National Health Research Systems as an appropriate tool to strengthen and evaluate research for health in Latin America. Likewise, the director proposed speaking about research for health and not research in health, a change of focus that incorporates the economic, social, historical and cultural determinants for health, and which fosters better coordination with other research areas, such as economics, science and technology.

IJsselmuiden highlighted that Latin America has some advantages that may facilitate the development of research and innovation for health: similarities among the official languages; several centres of excellence in the region and, therefore, less need for importing technology; a legitimate interest in collaboration at a regional level; and a tradition of solidarity that is critical when determining if the results of research will benefit all or just a

few. Therefore, he urged capitalizing on these strategic advantages in order to strengthen NHRS.

Link research with social demands

Mirta Roses, PAHO Director

Mirta Roses underlined the importance of the meeting for the discussion of regional health policies. With regard to this, she said that PAHO has been developing a strategy and a research policy for health for some time, in collaboration with the Ministries of Health in each country. This process was reflected in the Health Agenda for the Americas 2008-2017, where research is linked with at least eight of the central topics.⁴

Among the favourable trends for improving the orientation and the results of health research, she highlighted the growing interest of civil society in participating in the discussion about free trade innovations and agreements, and patents. She agreed with Carel IJsselmuiden regarding the comparative strengths of the region, and added that the countries are little by little tailoring human resources training towards research. But she also drew attention to new challenges for health, such as violence and aging; she recalled that Latin America “continues to be the least equitable region on the planet”; and she stated that the question about how to link research with social demands has not yet been answered. Finally, she called for making the most of the region’s limited resources for research.

⁴ See http://www.paho.org/English/DD/PIN/Health_Agenda.pdf

The relationship of developing countries to health research and innovation

Reinaldo Guimarães, Secretary of Science, Technology and Strategic Inputs, Ministry of Health, Brazil, on behalf of the Minister of Health, José Gomes Temporão.

After recalling that 97% of research and development activities (R&D) are carried out in 42 developed countries, Guimarães said that some developing countries, such as Brazil, India and China are seeking a more competitive position. Since the late 90s, Brazil has been following a policy aimed at developing its system for innovation. Thus the pharmaceutical industry and biotechnology were included among the priorities of industrial policy, two sectoral funds were created with public and private resources, and an Innovation Act was approved in order to regulate the partnerships between private industry and the universities and non-profit research institutes. Regarding vaccines and sera production, the aim is to move from self-sufficiency to competitiveness, supporting national

producers so that they may penetrate the international market, through technology transfer agreements and partnerships with universities and research institutes.

The scenario is different for the medicines market, where almost all production is private. Here the purchasing power of the State is applied through the Unified Health System (SUS), to foster domestic production and lower prices. At the same time, steps are taken to define which medicines are strategic, in order to produce them domestically, and attempts are made to apply the public health safeguards included in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The speaker talked about the difficulties involved in establishing partnerships with the private sector in a predatory market, in which multinational companies absorb those Brazilian producers that are innovative. "The relationship between the industrial complex and the health system is very complicated; but we must understand it and intervene with conviction in order to place the market at the service of public health," he said.

2. Challenges and trends in health research

Wednesday 16 April 2008

Chair: Susanne Jacob Serruya, Director, Department of Science and Technology, Ministry of Health, Brazil

The panel underscored the strategic significance of managing NHRS with strength and autonomy, in order to bring priorities into line with a vision of health as a social asset and a tool of economic development. The strengthening and stewardship of NHRS and regional cooperation are vital to facing health challenges in a context of delay in achieving the MDGs, epidemiological changes, food crises, profound demographic changes that hurt the poorest countries and growing urbanization without adequate structures. To promote health research and innovation, available in Latin America at costs which are too low, the countries must seek a balance between the priorities of public health and those of health markets, and take advantage of and enrich regional platform organizations, policies and networks.

Strengthening National Health Research Systems in the region

Francisco Becerra, Senior Advisor, COHRED, Latin America

Having defined NHRS (see Box 1), the speaker advocated for the active and autonomous management of NHRS essential functions. "If neither a country's government nor one of its organizations exercises governance and stewardship, then someone else will manage things from outside, with their own agenda," he warned. Given that, he called for defining a national policy that establishes priorities in a participatory manner, for transparency in linking financing to these priorities, for using new knowledge to outline health policies, for improving healthcare and for informing public opinion.

He called for partnerships between countries in the region, along with PAHO and other

organizations that are concerned with the issue, such as COHRED and the Global Forum, in order to support strengthening NHRS, share successful experiences and foster cooperation between national systems. The speaker noted that development of NHRS in the region has been very uneven. On the one hand, he highlighted advances and successful experiences in Brazil, Costa Rica, Mexico, Cuba and Argentina. On the other hand, he stated that most systems operate based on priorities, or else these priorities are established by the most powerful groups. He also pointed out that the diverse components within NHRS are overly extended and poorly coordinated and that financing plans are inefficient.

Box 1-What is a national health research system?

Individuals and institutions that govern, manage, coordinate, demand, create, communicate or use evidence resulting from research to promote, restore, improve, or maintain the state of health and development of a population.

Health research systems govern, steward, manage and finance research, they generate and utilize knowledge and develop capabilities.

Francisco Becerra, Senior Advisor, COHRED, Latin America.

"We have a huge number of building blocks thrown in a pile; we need to organize them and give them structure and resilience in order to build a strong and sustainable system," he said. "We need a plan to take on this task, though ideally, each country would strengthen its own system using its particular development plan."

Global panorama of health research

Stephen Matlin, Executive Director, Global Forum for Health Research

Stephen Matlin spoke about five global challenges in health and how they impact Latin America:

- Most countries are not on the path to achieving the MDGs. Reducing maternal and child mortality are the goals that are farthest from reaching. Malnutrition is the “forgotten MDG,” and has a large impact on children under five year’s old and pregnant women. Since 2007, the increase of the price of food has aggravated the problem on global scale. In this context, he highlighted conditional cash transfers as an important innovation, particularly in Latin America.
- The low and middle incomes countries are overwhelmed by a combination of communicable and non-communicable diseases, maternal and perinatal problems, and malnutrition. In the Americas, non-infectious diseases make up the largest part of the burden of disease. Demographic changes have a large impact: In the last 50 years, the world population doubled, and it will double again in the coming decades; in 68 countries, more than 40% of the population is under the age of 15. Since 2007, and for the first time in the history, there is a larger population in urban areas than in rural ones; however cities lack infrastructure and services, which increases the risk of infectious diseases. Global warming is causing an increase in weather-related disasters, with the strongest impact falling on developing countries.
- People are dying at progressively older ages, but there is great disparity

between countries. “Being rich does not mean living longer, but being poor does mean living a shorter life,” he said. This will cause resources to be absorbed by countries where there is a longer life expectancy. Along these lines, the speaker wondered aloud why some LA countries do not have the life expectancy that their average income would indicate. He also noted that in that region, “poor people receive more resources and attention in the public sector than rich people—but that doesn’t speak to the kind of resources nor the quality of attention they receive.”

- There is growing interest in building and strengthening health care systems, but the lack of data hinders this task. Many systems are poorly equipped and scarcely funded; furthermore, they do not use scientific evidence as the foundation for outlining policies and allocating resources.
- Resources for R&D increased a great deal in the last two decades, however, only a small percentage is allotted for the needs of countries with medium and low incomes. Furthermore, very few of these countries have fulfilled the recommendation made by the Commission on Health Research for Development, in 1990, to invest at least 2% of the budget in health and the 5% of development aid in health research.

After stating that “the wealth of a society is not measured by the income of the richest, but by that of the poorest,” Matlin went on to say that “the challenge is to see how research plays into this.”

Health research in Latin America

Luis Gabriel Cuervo, Research, Promotion and Development Team Leader, Technology, Health Care and Research Area, PAHO

According to an assessment carried out in the Americas in 2002, research to develop and apply innovative solutions is one of the most underdeveloped essential public health functions in the region. The study revealed large inequalities in the evaluated areas and a very low capacity for research planning.

In order to improve this situation PAHO, along with national Ministries of Health and other interested parties, is pushing a series of initiatives:

- A health research policy linked to the WHO's global research strategy.
- An international clinical trials registry platform, with transparent publishing of what will be researched and how it will be researched, and in which trials can be uniquely identified. Countries will receive support to develop their own registries, so they can in turn supply information to the international platform.
- A single portal to bring research information together in one place.
- Research networks such as the Evidence-Informed Policy Network (EVIPnet), which has 10 national teams to connect producers to research users⁵; the Ibero-American Ministerial Network Health Education and Research (RIMAIS)⁶ and the Pan-

Amazonian Network of Science, Technology and Innovation in Health⁷.

- Support the inclusion of health-related research on the health care agenda of countries in the region. A milestone in that regard was the 2004 Ministerial Summit on Health Research in Mexico. There, governments were asked for funding, research policies, NHRS, quality research and implementation of findings. Funding agencies were requested to make sure their lines of research coincided with countries' priorities. All parties were requested to make the results of the research known, "because there is a lot of repetition and many things are neglected." They were also requested to make use of those results and to distribute information about them in formats that are useful to communities. The Mexico declaration was endorsed in 2005 by the 58th World Health Assembly and the WHO fostered a series of initiatives to promote the requested changes. In the Americas, PAHO made its technical cooperation policy and its expected results consistent with those of WHO.
- Launching the Health Agenda for the Americas 2008-2017 in June 2007. "It is difficult to find action areas that are part of the agenda in which health research is not important," Cuervo said.

"These developments establish the political framework and the agreements upon which NHRS must now be strengthened," he concluded.

⁵ See http://devserver.paho.org/hq/index.php?option=com_content&task=view&id=168&Itemid=245&lang=es

⁶ See <http://www.ministeriodosalud.go.cr/rimais/>

⁷ See <http://www.otca.info/ep/Institucional/index.php?id=1534>

Innovation and health research: How to correct asymmetries

Reinaldo Guimarães, Secretary of Science, Technology and Strategic Inputs, Ministry of Health, Brazil

In the context of “brutal asymmetry” between the North and the South, developing countries have been searching for mechanisms and establishing strategic partnerships to develop their NHRS. However, constructing a system with sustainable innovation that is integrated into health systems is a complicated process, which is related both to the level of economic development of that country and to the potential of their health industry (public and private).

By analyzing some data and processes, it is clear that Brazil has a strong research system, where the Ministry of Health assumes a leadership role, with concrete results: 30% of the national research effort is for health. The drafting of the National Policy for Science, Technology and Innovation in Health, and of the National Agenda of Priorities in Health Research have been very important in this process. These came about through a broad participatory process involving roughly 15,000 people.

Still, the challenges are complex. Productive capacity in the health sector is not completely developed; the industrial balance for this sector is negative and there is little correlation between producing scientific goods and acquiring patents. To overcome

these challenges, the Ministry of Health formed the National Policy for Managing Technology in Health; it makes strategic partnerships (for example, with the National Economic and Social Development Bank) and is using the State’s buying power to promote the development of the national industries, according to the country’s priorities.

Referring to research to produce strategic inputs (medicine, vaccines, equipment), the government is trying to improve coordination between industrial, health and S&T policies, and to increase participation by the private sector in research, product development and innovation (currently, the State provides most of the funding). The Ministry of Health has been concentrating its efforts on strengthening national production in order to supply the domestic market at a low cost.

Guimarães also argued for intellectual property agreements that would benefit developing countries. “Brazil is against the TRIPS Plus agreement, because it impedes the construction of a proper NHRS and does not favour protecting public health,” he said. “Our position consists of institutionalizing the Intergovernmental Working Group on Innovation, Public Health and Intellectual Property (IGWG) within the WHO, so that countries can defend the health of their peoples.”

3. Case studies on conference themes

Wednesday, 16 April 2008

Chair: John Lavis, Associate Professor, McMaster University, Canada; President of the PAHO/WHO Advisory Committee on Health Research

These case studies confirmed that it is possible to achieve both short and mid-term benefits coordinating priorities for national development, public health and research. Every country must do so while paying attention to its particular circumstances; this includes even taking advantage of serious crises, as in the case of Argentina. Health challenges can become opportunities through technological and social innovations that are not necessarily costly. Research policies and systems should include civil society organizations as valuable resources for research and communication with communities. Using specified funds in order to guide research appears advantageous, but it requires more assessment. The importance of sharing successful experiences, such as state-funded production of medicine in Brazil, was gleaned from the discussion.

National Health Research Systems

a. Mexico case study

Rodolfo Cano Jiménez, Director of Health Research, Ministry of Health, Mexico

Health and health research are included in the National Development Plan 2007-2012 (NDP). One of the five central points of public policy drafted in this plan aims to ensure equal opportunities and four of its objectives are linked to health, among them, "guaranteeing that health contributes to overcoming poverty and to human development in the country." One of the strategies consists of "consolidating health research and knowledge in the medical sciences that are linked to creating patents and to developing the national industry."

The government put a National Health Plan 2007-2012 (NHP) into effect, adjusted to the NDP, which offers an overview of the

national health system for 2030. This is the first time a national plan aims to "strengthen health and education research in order to contribute to the development of knowledge and human resources." Simultaneously, the Secretary of Health and the National Council for Science and Technology have set the grounds for collaboration across sectors through the Special Programme for Science, Technology and Innovation 2007-2012, which details the steps Mexico needs to take in order to be at the forefront in science, technology and innovation for 2030. The Programme of Specific Actions Health Research 2007-2012 traces lines of action in areas such as biomedicine, clinical research, technological development, bioethics, and social sciences linked to public health. To guarantee financing, the government has established a Sectoral Fund for Research in Health and Social Security that has already approved 10 grant proposals totalling 88 million dollars.

In the operative plan, the Coordinating Commission of the National Institutes of Health and High-Specialty Hospitals supervises the work of 20 institutions dedicated to research. It proposes support policies and strategies, stimulates training of researchers and fosters ties with the private sector. Mexico also has a national indicator system to evaluate health services, programmes and systems.

"We have a well-adapted comprehensive system, where the Secretary of Health is the governing body," Cano said when asked about NHRS' level of organization. But he made clear that some aspects of the system are not yet integrated. "The registration of researchers is partial since each institution has its own registry," he said, as an example.

b. Argentina case study

Zulma Ortiz, Director of the Institute for Epidemiological Research, National Academy of Medicine, Argentina

In the last ten years, Argentina took on the job of creating and developing an NHRS. The starting point was the social, political and economic crisis at the end of 2001 and the beginning of 2002. The Ministry of Health saw an opportunity to innovate and formed the National Health Research Committee. This committee is made up of governmental and non-governmental representatives, whose objectives are to improve production of and access to scientific information, promote its use when making decisions, develop a system to set priorities, promote partnerships between key health actors and improve management of research policy.

The Commission has worked with clear short-term objectives. It has also started using technical tools to assign research priorities. In five years, the number of scholarships doubled and due to external evaluation, quality improved. Similarly, the Ministry of Health created a National Forum for Health Research where research priorities, financing, and ways to bridge the divide between evidence and action are debated. The provincial governments form a part of this fund, as well as the National Academy of Medicine and the PAHO.

Between 2002 and 2006, Argentina increased its investment in R&D, even though it is still far from the 1% of GDP recommended by the international community. Distribution of these investments shows a balance between the public and private sectors, although there is no data to determine if it is an equitable distribution. The proportion destined to health research, which had been maintained at close to 14%, fell to 13.6% in 2006. In the last five years, the percentage of applied research decreased vis-à-vis basic research.

The country is facing many challenges, including the following: readjusting investment

values for inflation; increasing national treasury funds and decreasing funding from loans; reaching 1% of the GDP; doubling the number of researchers; improving coordination between the Ministry of Health, Ministry of Education, and Ministry of Science, Technology and Innovation; and analyzing why scientific production is concentrated in 20 institutions. In response to a question, Zulma Ortiz said, "If you look at the minimal elements required to really be talking about a system, we currently have some of them, and others we don't." "I would say this system is under construction, in a federal country with multiple actors and many conflicts of interest. Since there is coordination between the Ministries of Health, of Education and of Science, Technology and Innovation, and a unified budget for research, we have shaped the foundations of the system. The provincial secretariats are also coordinated among themselves, by means of a council for science and technology agencies. Also, there is movement in the legislature to analyze the possibility of creating a single system."

Financing research for health

Chile sectoral fund case study

Fernando Muñoz Porrás, jefe del Departamento de Estudios del Ministerio de Salud, Chile

It is difficult to define health research and to separate it from other areas of research for development. This is important when analyzing funding for health research. Although Chile is trying to improve this proportion, it still only spends a small part of the GDP (0.7%) on development research. Specifically, the participation of private industries has increased.

In 2003, the National Fund for Health Research and Development (FONIS) was created. This fund supports research on issues that are relevant to the population. This criterion contrasts with what is called "curiosity-based" research.

One of FONIS' biggest difficulties is linking the defining of priorities to the country's public health objectives, because the latter are too general to use for an obvious allocation of resources. Given that, FONIS has concentrated on certain priority areas, such as diminishing the obstacles to equal access to health care and evaluating measures related to national health care objectives, health care determiners and other relevant regional public health care topics. Currently, the fund is making its fourth call for grant proposals and the majority of these projects are clinical research oriented.

"We have stirred up a tremendous demand for financing, particularly for clinical research, that we can't satisfy," the lecturer admitted. Another problem is the methodological quality of the projects, especially the clinical ones. To remedy this situation, FONIS has financed methodological training activities. "The FONIS pilot experiment is interesting, but it needs to be better evaluated," he said.

Human resources for health research

Nicaragua case study

Josefina Bonilla, Director, NicaSalud Network, Nicaragua

Nicaragua does not have a well functioning NHRS. Regarding the training of human resources for health research, they took advantage of some opportunities available in the 1980's, such as the creation of the School of Public Health in the National Autonomous University of Nicaragua, with its Centre for Research and Health Studies (CIES), and the shift in curriculum, in order to train health personnel in research. There was strong leadership from the Ministry of Health in this process, which allocated a budget for research, with emphasis on primary care and vital issues such as drinking water quality.

In the 90s, according to Josefina Bonilla, the department inside the Ministry of Health in charge of managing research—which acted as the counterpart of the universities—was weakened; the universities, in turn, focused more on teaching. During that time, many NGOs emerged or arrived in the country that were dedicated to promoting health and that contracted people from elsewhere to conduct research. Towards the end of the decade, the NicaSalud Network Federation was established and they looked for international donors to create the potential for research. "Right now we haven't established research lines," the speaker said when asked a question. "If we have started researching maternal-infant health, sexual and reproductive health and environmental health it is because we saw a need for it in our work."

In this context, specialists from the NGOs began to collaborate with community leaders and a strong capability for carrying out field work emerged. Currently, NGOs help with home surveys and other types of studies, evaluate programmes for the Ministry of Health, offer courses on data collection and analysis, and conduct cross-evaluations between NGO networks in order to avoid dependence on international consultants. NicaSalud manages the funds for 16 studies on tuberculosis and 12 on malaria, in order to evaluate the impact of the Global Fund's actions to fight HIV/AIDS, Tuberculosis and Malaria. The WHO has studied this model. The Global Fund and NicaSalud signed a new agreement including research activities.

"We need to popularize this research," she said. There is a lot of research that takes place in communities rather than in laboratories, especially preventive medicine. The researchers working in the communities are the ones who can give us the information we need when facing cultural issues. For that reason, we need to have the researcher as close as possible to the source of the problem being researched."

Innovation, development and access to products

Brazil case study:

Innovation and neglected diseases; challenges and opportunities

Carlos Morel, Director, Centre for Technical Development in Health, Fiocruz, Brazil

Improving health and reducing poverty are closely linked: health is a consequence of economic and social development, but is also a requirement in order to achieve development. Given this context, how can we analyze and attack disease? All illnesses are not alike. There are world-wide illnesses, such as cardiovascular illnesses and diabetes, which the pharmaceutical market takes care of. There are also neglected diseases, such as tuberculosis and malaria, which are much more prevalent in some areas, and which the market deals with partially. And there are diseases that are even more neglected, such as Chagas disease and dengue fever, which only affect poor countries and are of little interest to the market.

Innovation can contribute to tackling the three types of illnesses and can address health failures in general, whether these stem from knowledge, the markets or the public health system. For example, smallpox was eradicated through a combination of innovations in products (vaccines), processes (bifurcated needles), policies (use of underutilized staff and participation of community leaders) and strategies (vaccination in hotspots, i.e. vaccinating around those cases that appeared).

These innovations are not necessarily costly and exist both in industrialized countries and developing countries. The key is transforming

health failures into opportunities. Here are some examples:

- Failures in collaboration between the public and private sectors can be corrected, as in the case of the agreement between Fiocruz and the Genzyme Corporation in Brazil, which allows the government to access the company's information in order to fight neglected diseases.
- Alliances can be formed to develop new products for neglected diseases, such as the Drugs for Neglected Diseases Initiative (DNDC) and the Tropical Diseases Research Programme (TDR), which groups together the United Nations Development Programme (UNDP), the World Bank, the WHO and governmental health research organizations in Brazil, France, India, Kenya and Malaysia.
- This strategy can lead to the discovery of new drugs or combinations of drugs, such as the artesunate/mefloquine combination, developed and registered by Fiocruz in collaboration with the DNDi, to fight malaria.

"We need to think about the long term," Morel said in response to a remark about the difficulties in constructing NHRS around the management structures created by Ministries of Health and Secretariats in some countries in the region. "Brazil didn't have a research council until 1992. Our situation was similar to that of other countries. Furthermore, not all countries need to have a structure within the Ministry of Health. Each country should find their own structure and tools, according to their means."

4. Technical cooperation I

Thursday, 17 April 2008

Chair: José Luis Di Fabio, Area Manager, Technology,
Health Care and Research, PAHO/WHO

The experiences presented by the panel made clear the strategic importance of technical cooperation in all areas of research; from learning and exchanging regional experiences (RIMAIS) to partnerships offering financing (IDRC), as well as the promotion of networks and consortiums guided by the priorities of the national health system (Spain's Carlos III Health Institute) and access to funds from the European Union (LA-Spain). In the Caribbean, cooperation is the only road towards developing research and innovation. A common challenge among all initiatives is identifying shared and/or complementary objectives and priorities. Another challenge is incorporating health priorities in North-South and South-South agreements.

Ibero-American Ministerial Network for Health Education (RIMAIS)

Luis Tacsan, director of the Department of Health Research and Technology Development, Ministry of Health, Costa Rica

RIMAIS is made up of the Ibero-American Ministries of Health, and has the following objectives: to promote learning and research in public health in order to achieve the MDGs; to strengthen the ministries so they can steward these processes; and to stimulate initiatives for cooperation between countries in the region. Each ministry has a representation in the network, the function of which is to improve national research and education systems.

The RIMAIS executive committee consists of the presidency – currently in the hands of the Ministry of Health of Costa Rica – and the technical secretariat. The technical advising committee consists of PAHO, Andalusia School of Public Health (EASP), Latin American

and Caribbean Association of Public Health Education (ALAESP), Mexico's National Institute for Public Health (INSP), COHRED and Spain's Carlos III Health Institute.

Ministerial links play a central role in coordinating the network within each country and in relations between countries. The network concentrates its energies on training officials, researchers and health professionals, in promoting the use of scientific evidence when making decisions, in creating policies and in reducing knowledge gaps through promoting education and research.

Among RIMAIS' main achievements are the approval of the network in March of 2008; the incorporation of 13 countries; the elaboration of an action plan for 2008 and 2009, which member countries are carrying out; the implementation of a virtual platform; and the proposal for a set of rules for the functioning of the network.

Policy promoting health research in Spain

Isabel Noguera, Deputy Director General, Department of International Research Programmes and Institutional Partnerships, Carlos III Health Institute, Spain

The speaker reviewed the main programmes that integrate the Spanish government's National Plan for Scientific Research, Technological Development and Innovation for the three-year period between 2008 and 2011. The Research Promotion Programme includes a call for different types of projects in the fields of clinical, epidemiological and pharmacological research, bioengineering and nanomedicine, and a specific component regarding the evaluation of public health technologies and health services. In addition, the programme

supports non-commercial clinical research, such as developing priority medicines and reducing resistance to antibiotics. The speaker highlighted researching paediatric medicines.

The Institute promotes a professional degree programme for national health system researchers, consisting of eight years of pre-doctorate and post-doctorate studies. It also finances 75% of contracts for researchers working in the autonomous communities during the first three years. Using that as a starting point, it proposes financing each part equally. The objective is to have researchers in all autonomous communities.

A relatively new tool in the national system is the cooperative research networks (RETIC), which are research teams, grouped around a main researcher or scientific coordinator, that work in specific areas. The networks are not recognized as a legal body and funds are managed by the institutions to which these groups belong. Also new are CIBERS, which are similar to the networks but with independent legal status. They focus on prevalent pathologies and strategic areas for the national health system. CAIBERS, created in the beginning of 2008, are consortiums that support clinical research in hospitals. Also new is the Institute's support of public and private consortiums that research techniques, technologies and procedures that are recognized by the National Health Service.

Regarding cooperation with Latin America, the Institute emphasizes institutional strengthening and the collaboration with CIBER networks for biomedical research, such as training in research methodology and management.

Another line of action is incorporating countries within the region into projects that

are coordinated by Spanish authorities and financed by the European Union (EU). Along these lines, the speaker admitted that there are problems with the network of national points of contact for science and technology. "The EU has designated contacts, but that does not mean that those contacts are effective," she said. Spain is heading a project in the EU that manages health care contact points within Latin America, and the Carlos III Institute has asked PAHO to collaborate on this project. The official asked the countries' health authorities to name their contact points and to communicate them to the EU.

Technical cooperation and contacts for research in the Caribbean

Donald Simeon, Director, Caribbean Health Research Council, Trinidad and Tobago

The Caribbean presents a unique case, possessing 18 very small or medium sized countries that are very vulnerable to natural disasters. This poses specific needs in terms of capabilities and resources for health research.

In 1956 the United Kingdom's Medical Research Council (MRC) created the Caribbean Health Research Council (CHRC) alongside research centres in Jamaica that focused on major public health issues, such as malnutrition. This system is still in operation. There is a strong tradition of quality research in Jamaica, at the Caribbean Epidemiology Centre (CAREC) in Trinidad and Tobago and in medical schools in Barbados and Guyana. However, other countries in the region lack infrastructure and little research is conducted.

CHRC is the centre of reference for facilitating and coordinating research in the region; but the multiplicity of small countries without resources complicates the task. CHRC receives some funds from MRC and the Wellcome Trust. COHRED is

an important member in the region, especially since launching the Essential National Health Research strategy (ENHR) in 1995.

The speaker highlighted initiatives such as developing a research policy for the Caribbean that aims to foster cooperation and networking among countries in the region, with the support of PAHO and COHRED. At the suggestion of the Global Forum, the launch of a research forum in Latin America and the Caribbean, with the participation of Brazil, Cuba, Ecuador and Mexico was attempted, but the lack of resources has delayed this project.

Health at the Canadian International Development Research Centre (IDRC)

Christina Zarowsky, Project leader, IDRC, Canada

The IDRC was founded in 1970 by the Canadian Parliament with the mission of supporting the creation and use of scientific knowledge for economic and social development. One of the institution's strengths is that it receives its funds from the Parliament and is not affected by changes in government. The IDRC also works in alliance with other research funding agencies, for which it tries to harmonize or complement the donor's interests with a country's priorities.

Regarding health, the IDRC supports research programmes on governance, equality and health; health and the environment; translation and knowledge transfer; and tobacco monitoring at the international level, among other issues. In addition to these specific focuses, health is a concern common to all areas of interest of the IDRC, including information and communication technologies. "This is challenging for researchers since they have

to decide where to submit their requests when the research is focused on other areas but touches on health-related topics," the speaker said.

The IDRC offers technical support in order to increase local capacities and funding in areas where catalysts and/or exploration are needed. Funding for these activities typically runs between \$50,000 Canadian dollars and \$500,000 Canadian dollars and is allotted for five year periods. These amounts, which are relatively small in an international context, mean that funding partnerships are particularly important in IDRC's strategy, whether these are with other donors or with the countries where the research is taking place. "One of the big challenges we face is how to finance these networks when we have limited resources for research and innovation," the IDRC representative concluded.

In response to a question from the audience, Christina Zarowsky admitted that there is tension when it comes to establishing research priorities for North-South cooperation. "Programmes develop after a long consulting process, but there are restrictions that are determined by the donors' policies," she said. "In general, we try to find complementary interests. Our partners in the South set out their priorities and present their lines of work; we require that the research teams show us that their work is in line with the country's priorities. Sometimes we finance research projects that go against these priorities, but the researchers must show that their proposals make sense for the country. When Canadian researchers participate in the proposals, we seek assurances that the initiatives come from the South and are not manipulated by the Canadian agenda."

5. Technical cooperation II

Thursday, 17 April 2008

Chair: Stephen Matlin, Executive Director, Global Forum for Health Research

The panel highlighted new opportunities for technical cooperation (RICYT), training and development of regional resources (AMSUD-Pasteur), financing (Wellcome Trust) and cooperation in the development, registration, manufacturing and distribution of medicine for neglected diseases (DNDi). At the same time, it presented challenges that appear as a result of cooperation, such as incorporating health indicators into the measurement and analysis of scientific and technical production (RICYT) and the need to rely on financial contributions from countries in the region in order to increase the impact of programmes that promote research (AMSUD-Pasteur).

The Ibero-American Network on Science and Technology Indicators (RICYT)

Rodolfo Barrere, Member, RICYT Technical Team, Argentina

The RICYT was founded in 1995 by the Ibero-American Programme of Science and Technology for Development (CYTED), with the goal of developing tools to measure and analyze scientific and technological production (S&T) in Latin America, in a framework of international cooperation. Twenty-eight countries are currently incorporated in the network and systematically provide indicators for R&D, scientific production and innovation. It is a heterogeneous network made up of S&T organizations, universities and international organizations. RICYT seeks to standardize methodology, strengthen national capabilities, and produce and distribute information regarding S&T.

In recent years, the network has begun incorporating R&D indicators into the health field. This presents an operative challenge because it creates an overlap

between two different systems; that of the ministries of science and technology and that of health systems. These systems operate in separate institutional environments, with different actors and focuses. Traditional R&D indicators do not cover the cross-sectional approach of health R&D; therefore, new tools are required in order to collect and analyze this data. "It is not easy to figure out which information is health-related using our indicators. Health-related matters can be found in three socioeconomic indicators," said the speaker.

The challenge becomes greater because the member countries are at different levels of R&D development (90% of investment is concentrated in four countries) and have different research agendas, which impacts the indicators. It is also difficult to form a network of experts and researchers that don't always speak the same language and that "speak different languages even within the same health system."

In order for the network to function properly, it is essential to develop a methodology that reflects the interests of the region and that takes available information sources into account. It is equally important to develop data collection and analysis skills in those countries, and to show the impact of this information in practice. "The indicators cannot remain simply numbers, instead they must be used in decision making," Barrere said.

A suggestion from the audience was to inform the Technical Teams from RICYT member countries of the results of the discussion on how to define indicators. "We have to evaluate the first stage with PAHO," Barrere said. "One of the main issues is that where health starts and ends is not clearly defined."

Technical cooperation between France and Latin America, AMSUD-Pasteur programme

Annick Manuel, Regional Coordinator, Health and Health Research for Brazil and the Southern Cone, French Ministry of Foreign Affairs, Chile

The official described the AMSUD-Pasteur initiative as “a special programme, very productive and efficient with relatively little money.” The network is made up of 56 institutions from five countries in the Southern Cone, and the Pasteur Institute in Paris, one of the most prestigious research institution in France. The network has a coordinating committee with representatives from all participating countries. The secretariat of the programme is headquartered in the Pasteur Institute in Montevideo, which was created in 2007 in order to establish a regional reference centre to promote regional collaboration regarding education and research.

The programme’s mission is to develop a biological, biomedical, and biotechnological hub that promotes the coordination of universities and research and public health institutes in the region, both among themselves and with the Pasteur Institute. AMSUD-Pasteur also promotes high level professional scientific training. Between 2002 and 2007, they carried out more than 20 courses and regional meetings, biotechnology programmes (regional award for biotechnological development, bio-business conferences), and scientific exchange initiatives. More than 500 students receive support in order to study in laboratories throughout the region and in the Pasteur Institute in Paris. They also support projects that incorporate research conducted in the region, such as genomic analysis of *Aedes aegypti* and *Trypanosoma cruzi* as well as a biological study of emerging hemorrhagic viruses.

AMSUD-Pasteur receives financial support from the Pasteur Institute in Paris, the French regional cooperation office headquartered in Chile, the Inter-American Development Bank (IDB), the UNDP, the French embassies in the Southern Cone, the UNICEF headquarters in Uruguay and the Uruguayan Ministry of Public Health. Responding to a question regarding the possibility of expanding operations in other regions of Latin America, Annick Manuel said, “in order to grow, we need funding from the countries.” “In principal, there are no rules that decide where AMSUD-Pasteur can work. Proposals are submitted and from that we make a decision. But if the number of institutions increases and the funds do not, then there is a problem. That is why it is important for those countries to contribute new funds.”

Drugs for Neglected Diseases Initiative (DNDi)

Shing Chang, Director, Research and Development, DNDi

The DNDi is an international initiative that acts as a catalyst for R&D on neglected diseases, through partnerships with public and private organizations. More specifically, the DNDi applies its energies to developing medications for diseases that remain marginalized in the market and to generating research, production and marketing potential for these drugs in developing countries.

Initially, the alliance opted to focus on three neglected diseases in the region: Malaria, Chagas disease and Leishmaniasis. The organization has registered two medicines to treat Malaria: ASAQ (artesunate-amodiaquine) in 2007 and ASMQ (artesunate-mefloquine) in 2008. Both medicines combine two drugs into one tablet, which reduces the amount of

pills to take, improves adhesion to treatment and facilitates paediatric use. Studies in Brazil show that ASMQ has caused a 60% decrease in incidence of new cases of malaria and a 57% reduction in the number of days hospitalization is required. In 2007, the DNDi completed a project on Leishmaniasis that was headed by Peruvian and Canadian scientists. “We are doing our best to minimize duplication of effort, since there is a lot of financing for some illnesses, such as AIDS and Tuberculosis,” Shing Chang said, in response to a question from the audience.

The DNDi is headquartered in Switzerland and employs project managers around the world who serve as their regional links. The organization does not have its own laboratories; rather it uses countries’ existing infrastructure and creates multilateral partnerships with other actors. Depending on which stage the R&D process is in, the type of operation changes. In some cases, the DNDi finances the laboratories completely, in other cases it contracts with agencies dedicated to clinical research, and yet in others, it forms technical and financial partnerships with other agencies, companies and institutions. In the basic and discovery research stage, the DNDi sets up associations with universities, research institutions and companies that provide their knowledge and infrastructure in order to take full advantage of the most promising drugs. These societies are essential during the clinical trial, registration, fabrication and distribution of drugs. In the case of ASAQ, the DNDi has a partnership with the multinational pharmaceutical company Sanofi Aventis, which agreed to produce and market the drug at cost. The Far-Manguinhos/Fiocruz Institute in Brazil also agreed to develop and market ASMQ.

Operative model of the Wellcome Trust

Jimmy Whitworth, Head of International Activities, Wellcome Trust, United Kingdom

The Wellcome Trust subsidizes some three thousand researchers in more than 50 countries for about US\$1 billion per year. International activities are expanding and they cover many aspects of health, such as public health, health service research, clinical trials, non-profit technology transfers and reporting of scientific evidence. The fund has new scholarships to promote research on tropical diseases and public health. These scholarships cover a wide range, from masters’ candidates to established researchers.

“Our philosophy consists of identifying the best candidates, who want to research relevant issues, and supporting them in the long run when they are successful and the work is interesting,” Whitworth noted. “The idea is to create and finance teams that are based around these individuals, and eventually programmes and international networks.”

The Trust also operates by means of partnerships, such as the Infectious Disease Initiative, which was launched in 1998 and has given subsidies and scholarships in the amount of £18 million. This society operates via trilateral collaboration with the United Kingdom and the United States or Canada, and the projects focus on developing countries. In Latin America, they have financed studies in Peru in order to control taeniasis and cysticercosis and to prevent sexually transmitted diseases; in Mexico they focused on the pathogenesis of Leishmaniasis; and in Colombia regarding clinical response and resistance to drugs to fight Leishmaniasis. “Historically, the Wellcome Trust has not worked as much in Latin America as it has in Africa or southeast Asia,” Whitworth said, in response to a question. “Currently we are increasing our support in the region.”

6. Report from working groups

Friday, April 18, 2008

Chair: Moisés Goldbaum, professor, Department of Preventive Medicine, Universidad de São Paulo, Brazil

The working groups agreed that stewardship and institutional governance of NHRS is an issue of State and should be actively carried out. That is the only way to coordinate research and innovation with the priorities of social development and public health, and to guarantee consistency in funds allocation and human resources training. The state should encourage citizen participation in setting priorities; establish clear rules for funding, ethics and the evaluation of research; promote the use of evidence when designing policies; and ensure access to the benefits from research for the entire population. At a regional level, it was urged that existing capabilities be taken advantage of and shared in order to correct asymmetries, and that the challenge of intellectual property related to public health be faced as a group. Partnerships with the private sector are seen as possible but difficult; it was recommended that countries use the public health safeguards present in the TRIPS agreement, that they facilitate access to those products that are safe and high-quality which are produced in the region, and that they call on industry to respect regulations and ethical protocols. The groups provided practical ideas for the different thematic areas, from mechanisms to guarantee transparency in public purchases to new sources and strategies for funding.

6.1 National Health Research Systems

*Introduced by Zulma Ortiz, moderator
(see Appendix 3 for complete report)*

The group concluded that there is no perfect health research system and that it is necessary to consider the individual characteristics of each country. With regard to system stewardship, it

is useful to separate the role of the State from that of different governing administrations, in order to preserve systems in the long term. The stewardship of NHRS is the responsibility of the State. The Ministry of Health, although it is not the only state actor in the system, has a responsibility in stewardship which cannot be delegated. This leadership includes communication with the different components of the system and coordination among them. Political will is essential, but requires critical support from outside of the Ministries of Health.

In order to be relevant, NHRS must integrate the national systems for science, technology and innovation, and they must relate their priorities with the social and economic development of each country. To be sustainable, they should be financed with public and private resources, although private contributions should be regulated.

NHRS need to and should generate a favourable climate for research. Setting priorities is a core issue in this regard, because avoiding the duplication of efforts allows money to be saved and helps to standardize research. It is also important to define how these priorities will be set; otherwise, when data coming from the field of research determines what to analyze or not, or when there is not enough information to prioritize, it can result in a vicious cycle. At the same time, a balanced distribution of resources should be achieved between priority and what could be called “curiosity-based” research (one of the participants objected to the use of this expression, because it could be misunderstood as research with no useful purpose). When establishing priorities, participation of multiple state and non-state actors contributes to transparency.

To assess the performance of NHRS it is necessary to evaluate the researchers; but the evaluation methods, currently centred on how much they have published, should be revisited to include other criteria, such as the positive externalities of the projects—for example

the inclusion of medical equipment—which strengthen the health system. From the audience it was noted that the area of public health should have more publications in order to increase its visibility, and it was proposed to start with intensive training in writing articles. It was also recommended that research systems be evaluated and it was said that this task is the responsibility of those who establish priorities.

In order to optimize NHRS, the group recommended having sound regulatory frameworks, especially regarding research ethics. In most countries, ethics committees lack a regulatory framework and are overcome by demand. Accreditation and training of committees must be promoted, existing rules must be shared among countries, it must be determined if the committees should analyze the quality of projects, and the discussion regarding the informed consent of indigenous populations and other vulnerable groups should be expanded.

NHRS members should get to know one another to exchange experiences. Towards that end national databases should be developed on researchers and research groups and countries' scientific production. At a regional level it is worthwhile to create a comparative table on national systems that may serve as a benchmark.

International participation is another requirement for proper functioning and consolidation of NHRS. Reinforcing national regulatory frameworks is suggested so as to favour this participation, develop multinational research projects with a joint search for funding, and exchange experiences on management of research, funding, researcher training, and processes and methods for defining priorities. International agencies, especially the PAHO, can support the development of NHRS and contribute to the continuity of international initiatives.

6.2 Financing research for health

*Introduced by Fernando de Hoz, moderator
(see Appendix 3 for complete report)*

A main issue with financing is consistency between funds allocation and agenda priorities. In this regard, experiences in the region vary widely. Consistency is very high in Brazil; in Columbia there are funds without priorities and in Central America there are no specific funds for research. The following was suggested in order to increase consistency: institutionalizing research, with strong management coming from the administrative authority for public health; maintaining realistic and updated priorities; and sharing experiences between countries. The quality of projects must be a criterion for the allocation of funds.

International-funded research, particularly in the realm of industry, tends not to take national priorities into account nor be subject to ethical oversight. Creating a Code of Conduct for international funders is suggested.

There are barriers to accessing domestic funds. Although there are calls for public input, training and academic prestige usually define who wins. It is difficult for funds to be assigned to someone who neither holds a doctorate nor has published in peer-reviewed journals, except in less-developed regions. International funds have the same barriers, to which language is added (proposals are nearly always requested in English) and the matching domestic resources which sometimes are required by funders. From the audience it was suggested that financial resources be aimed at strengthening the institutions and that direct agreements with researchers should not be made.

The group emphasized innovative strategies for generating funds, such as lottery taxes in Colombia and charging royalties to international companies that exploit natural resources in Brazil. Other alternatives were also suggested, such as including agreements for health research in loans from multilateral banks and taxing industrial products that influence

morbidity and mortality, such as tobacco and alcohol as well as cars. Partnerships with the private sector are possible, but they are legally difficult to manage in the region. Furthermore, the private sector has the tendency to invest in research that could bring short or mid-term economic returns. One of the participants remarked that “rather than fighting over funds, we should guarantee a budget line, equitable distribution, and the ability to monitor the results and the use of these findings. If we do not do it, we are contributing to inequality.”

The group recommended having regional priorities before assigning large amounts of funds, advocating for research (for example, Brazil has a publication for managers that explains why health research should be carried out) and assessing available resources, a step that is related with setting research priorities. There was a comment from the audience that pointed out the usefulness of tailoring research and resources to the MDG in order to favour the funding of areas that will be priorities until 2015. PAHO officials recalled the fact that the agency is developing its policy on research and said that now is the appropriate moment to hear the recommendations of the countries on the grant programme, given that grants are very important in dealing with neglected issues. Along these lines, it was stated that the PAHO is designing a plan to eliminate the threat of some contagious diseases; this plan could contribute to setting priorities in the region.

The group also made recommendations for gathering information on resource allocation. First of all, what constitutes health research needs to be defined, because this has a direct impact on which information is recorded. The group also recommended creating bioethics legislation and committees to call for record-keeping, and suggested recording

more than just what is given to researchers (for example, post-graduate theses consume resources). At a regional level, resources can be taken advantage of and adapted such as the information system of the National Council for Scientific and Technological Development (CNPq) in Brazil and the databases of the Colombian Institute for Scientific and Technological Development (COLCIENCIAS). The use of the BIREME library and the web pages of the countries' science and technology councils in order to distribute project results was also suggested. The international platform for unique registry of clinical trials could be extended to other types of studies, with mandatory registration. This could be done in the region through the Latin American Ongoing Clinical Trial Register (LATINREC).

6.3 Human resources for health research

*Introduced by Ernesto Medina, moderator
(See Appendix 3 for complete report)*

Few countries in the region have a defined strategy for training human resources to carry out research. Additionally there are strong asymmetries that increase inequality, by diverting resources to countries with greater capabilities. At the same time, there is great potential for regional cooperation. New forms of cooperation need to be identified that allow these resources to be used for the common interest. A more consistent dialogue with agencies for technical cooperation is needed, to take advantage of the opportunities that they offer for training human resources.

Changing a situation which is characterized by the lack of incentives, migration of talent and gender inequality poses many challenges. At the national

level, professional training and development processes must be institutionalized via the creation and/or strengthening of NHRS and the coordination of human resources training strategies with research priorities. In particular, it was proposed that researchers should be trained via work on projects that look to resolve specific health problems, in a training-research-action format, and not only via theoretical learning.

Other goals include setting up interdisciplinary teams with a broad vision of health research, giving these groups stability, and encouraging the training of scientific and non-scientific staff for these teams. Training should be more comprehensive and aim to improve the quality of proposals, the respect for ethical research principles, teamwork, project management and the use of the results. Encouraging early education in science and research and coordinating scientific training with industry was also recommended.

From the audience it was stressed that there is not always agreement regarding who is responsible for human resources training. "In Argentina, it is being discussed what role the Ministry of Health has in training," one of the participants commented. "The provinces often say that it is the responsibility of academic institutions. For some matters, such as the development of technical guides, responsibilities can be shared."

At a regional level, the group recommended cooperation in the training of human resources based on common and complimentary interests, and urged taking advantage of and sharing existing capabilities to correct asymmetries. In

particular, it was recommended that networking be encouraged, as well as developing cooperative projects to train human resources, and making more efficient use of channels for institutional communication between countries. "There are bilateral or multilateral mechanisms, but often we are unable to go beyond the formality of the agreements or there are inherent hurdles in the agreements themselves," explained the moderator. One of the participants emphasized that 'South-South' cooperation is possible and said that Brazil is now training human resources for Portuguese-speaking African countries. Regarding working in networks, another participant remarked that "training in managing them is lacking" and suggested "holding a workshop on network management."

6.4 Innovation, development and access to products

*Introduced by Rodrigo Salinas, moderator
(See Appendix 3 for complete report)*

There is great disparity in the region in terms of discovery, development and distribution of products, with some very advanced countries like Brazil and Cuba, and others that are not yet up to the task. Capabilities do exist for working in complementary fashion, including coordinating bodies such as the PAHO. To advance in this regard, the existing capabilities and talents in each country must be mapped out, and technology transfer must be focused on diseases that are not of commercial interest. This strategy must comprise not only technologies with industrial production, but also others such

as organizational technologies, which are particularly relevant when implementing the products of innovation.

Regional cooperative efforts in areas that are outside of the scope of commercial interests require defining a “business model,” whether they are publicly-owned or a public-private partnership. For this model to be equitable, it must be guaranteed that intellectual property rights are not a barrier to access technologies nor information about their effectiveness and safety. This challenge must be confronted at a regional level, as it occurs with the WHO’s Inter-Governmental Working Group (IGWG), and with the active participation of the health sector.

The group suggested, among other national and regional lines of action to promote research, the development and distribution of technologies that benefit the health of the general population:

- Have a political-legal framework that is independent of changes in government.
- Incorporate scientific information into the development of health policies, with participative mechanisms. A participant commented in this regard that “sometimes we forget about participation by the general population, which is the foundation of the health system pyramid. In Latin America we are strengthening democracy, but sometimes we want to manage the system from our position as researchers.”
- Assess regional capabilities to use them in complementary fashion.
- Create a dynamic and free access science and technology inventory that includes cooperative agendas, policies, regulations and initiatives.
- Focus technology transfer on those diseases that are not of commercial interest and that affect those most impoverished.
- Facilitate access to safe, high-quality products which are produced in the region, such as occurs via the Revolving Fund for Vaccine Procurement and the Strategic Fund for the purchase of medicines, both of which run by the PAHO.
- Confront the challenge of intellectual property at a regional level, such as occurs with the answers to the IGWG, with the active participation of the health sector.
- Maintain an open discussion about intellectual property rights and public health, stimulate participation by civil society in this debate and include issues like the evaluation of the impact of protective measures and possible compensation mechanisms.
- Coordinate at a regional level processes for regulating medicines and evaluating new products. This topic generated a lot of interest in the audience. Some participants stressed that the countries must call for the regulations, protocols and ethical guidelines aimed at research to be respected. Efforts towards pharmacological oversight for new uses of medicines were also proposed. “With regard to clinical trials, in the region we are not used to taking precautions against adverse or lethal side effects in individuals. This should be discussed at a regional level,” remarked one participant. It was also noted that there is a growing number of phase III clinical studies in the region and that strategies should be discussed to share the success and the benefits of these drugs. Comments regarding these issues were always aimed at “generating a culture of

charging the real costs of services provided for clinical trials, so that public health does not have to finance industry.”

- Promote studies on the burden of disease in order to contribute to defining priorities for cooperation.
- Identify and optimize the region’s capacity for pharmaceutical production, and define cooperative actions, especially regarding neglected diseases.
- Join initiatives that promote free access to scientific information, such as registries for clinical trials and their results, virtual libraries, etc.
- Disclose the results of research and favour the equitable distribution of its products. Towards this end, alliances with civil society were emphasized. From the audience a recent experience was mentioned with regard to establishing

prices and availability of essential medicines in El Salvador. One of the participants told the following story: “We were very careful with the use of methodology, so that the data would be scientifically unquestionable; we submitted the data to the country’s social movements, to civic organizations and the decision-makers. The officials paid no attention, but other sectors put pressure on them and now there are four legislative proposals to impose the use of generic drugs. In places where governments are not liable to generate policies to favour the most vulnerable sectors, as researchers we should make alliances with civil society. That is why it is important to ‘translate’ the data so that people can use it.”

7. Summary and outlook

Panel of all the organizers – Friday, 18 April 2008

Chairs: Suzanne Serruya, Director, Science and Technology Department, Brazilian Ministry of Health, and Carel IJsselmuiden, director of COHRED

The organizers emphasized that the conference opens up opportunities for action, because it brings ideas to put forth in each country and at a regional level. In that regard, they urged participants to take advantage of the momentum that had been generated and push for change from their workplaces, based on the agreed-upon recommendations. They also made an appeal to increase participation by civil society in research and actively seek out regional cooperation. A second conference to evaluate advances was proposed, to be held at a date and venue still to be determined.

Stephen Matlin opened a round of reflections by highlighting that the ‘added value’ of the conference comes from a process that began with the 2004 Ministerial Summit in Mexico. Since then, health research has been gaining space on the regional agenda. “This conference opens up an opportunity for collective action,” he said.

For Matlin, the result of the meeting demonstrates that there is a growing awareness of the significance of research systems. “Research is not enough if we don’t use a systematic approach; in other words, who is going to use it, and how. The working groups were aware of this relationship,” he underscored. The challenge for participants is to implement the ideas that came up. “We need to take advantage of the momentum in order to keep making advances. There won’t be a lack of opportunities. The Global Forum in Cuba, in November of 2008, is one of them, given that innovation will occupy an important place on the agenda,” he concluded.

Francisco Becerra stressed one of the working group’s central definitions about NHRS. “The goal is to gradually shape the system to the needs of the country,” he said. “There is no ideal system—each country has to do what it can with what it

has.” After highlighting the organizational efforts for the conference, he agreed with Matlin that the participants were left with the challenge of implementing the agreed-upon ideas, with the technical support of the organizers wherever possible. In this regard, he suggested taking advantage of regional experiences with bilateral relations. “Each country should know what door to knock on, according to what each one can contribute,” he said.

Carel IJsselmuiden described the concrete results of the conference (see Box 2) and also put emphasis on the collective responsibility to build on the results of the conference, stating that it constitutes a milestone, not the end of the road. “Now we must think about how we can move the process forward as a group, rather than one organization having to do so by itself.” Along these lines, Ernesto Medina, President of the Universidad Americana de Nicaragua, said that a group of participants from Central America decided to create a working instrument to move forward with the conference recommendations. The members of the group drafted a preliminary agreement which is to be shared with the health authorities in the countries of that subregion.

Carel IJsselmuiden proposed a Second Latin American Conference on Research and Innovation for Health. This meeting will be convened by the majority of the organizers from the first conference, and the Ministry of Health of the host nation. The Brazilian Ministry of Health and COHRED each announced contributions of US \$30,000 for the event. The purpose of the conference is to evaluate the progress achieved since the first event in the following areas: reducing the regional disparities in NHRS; generating changes in policies on human

Box 2-Outcomes of the Rio Conference

- 14 reports on NHRS in different countries (See http://www.cohred.org/main/publications/background_papers.php) that represent the first time systematization of these experiences and give a frame of reference for comparing and exchanging ideas in the region.
- Unanimous acceptance that NHRS are vital both for improving research and innovation related to health, and for making sure these advances are consistent with public health priorities and with the economic and social development of nations.
- A series of recommendations and ideas for developing and strengthening NHRS which are listed in this report and that serve as input for designing the WHO's policy on research and for developing national policies on health research and innovation.
- A platform for assessment and guidelines for action in order to support the presentations by Latin American Ministers of Health and by civil society at the Global Ministerial Forum on Research for Health that will take place in Bamako, Mali, on November 17-20, 2008.
- Numerous working contacts between health and science officials from countries, research institutions, agencies for technical cooperation and organizations that fund research.
- More thorough knowledge of available programmes, organizations and networks to socialize resources, train officials and researchers, exchange experiences, access research funds, and develop and market drugs for neglected diseases.
- A preliminary agreement for subregional cooperation among researchers from Central America.
- The commitment to hold a Second Latin American Conference on Research and Innovation for Health, at a venue and date yet to be determined, and with the help of all of the Rio Conference organizers; the second conference will evaluate advances in the creation and consolidation of NHRS and in regional cooperation.

resources, funding, and competition; achieving improvements in innovation, production of medicine and technology; and advancing regional and subregional cooperation.

Luis Gabriel Cuervo said that the issues discussed at the conference “get at the heart of what PAHO is, and what it does,” and he mentioned that this organization was very happy with the results, “because we focused on looking for solutions rather than just making a list of problems.” The speaker suggested incorporating the conference report in the process of developing PAHO research policy and urged that milestones like the Rio meeting be taken advantage of so as to promote changes in the countries of the region. “We must find creative ways to promote research and emphasize the aspects that are the most important to decision-makers,” he said. He mentioned the example offered by Carlos Morel regarding the use of the balance of payments in Brazil to promote research and development, and made reference to the British Caribbean,

where political support was achieved for research on diarrhoea which showed the impact of this health problem on an economy based on tourism.

Josefina Bonilla, of NICASALUD, emphasized the importance of meetings like the Rio Conference in allowing individuals working on research who are part of civil society to network with other actors. She also urged including the scientific production coming out of NGOs in the inventories of research in the region. At the same time, she emphasized knowledge transfer to communities, so that people can see and master this information and make use of it. “The ability of other sectors of society to participate in research is a challenge,” she stressed.

Suzanne Serruya closed the meeting in the name of the Brazilian Ministry of Health, making reference to the concept of solidarity as the inspiration and foundation of many initiatives that were born during the conference. “Solidarity is a hallmark of this region and we need to respect that,” she concluded.

Programme

1st Latin American Conference on Research and Innovation for Health

Rio de Janeiro, Brazil 15-18 April, 2008

Tuesday, 15 April

- Arrival of participants and registration
- Afternoon: Briefing session for chairs, facilitators and rapporteurs for the event

7:30 pm: Official opening

- Carel IJsselmuiden, Director, Council on Health Research for Development (COHRED)
- Mirta Roses, Director, Pan American health Organization (PAHO/WHO)
- José Gomes Temporão, Minister of Health, Brazil

Reception

Wednesday, 16 April

9.00 – 10.30: Opening plenary

- Towards the strengthening of National Health Research Systems in the region, Francisco Becerra, Senior Advisor, COHRED, Latin America
- Global panorama of health research, Stephen Matlin, Executive Director, Global Forum for Health Research
- Health research in the Latin American region, Luis Gabriel Cuervo, Team Leader, Research, Promotion and Development, Pan American Health Organization (PAHO/WHO)
- Innovation and research for health, Reinaldo Felipe Nery Guimarães, Secretary of Science, Technology and Strategic Inputs, Ministry of Health, Brazil

Chair: Suzanne Jacob Serruya, Director, Department of Science and Technology, Ministry of Health, Brazil

10.30 – 11.00: Break

11.00 – 12.15: Plenary: Case studies on conference themes

National Health Research Systems:

- Mexico case study, Rodolfo Cano, Director, Ministry of Health, Health Research, Mexico
- Argentina case study, Zulma Ortiz, Director, Training and Research, Epidemiological Research Institute, National Academy of Medicine, Argentina

Financing for research for health:

- Chile sectoral funds case study, Fernando Muñoz, Director, Research and Studies, Ministry of Health, Chile

Human resources for health research:

- Nicaragua case study, Josefina Bonilla, Director, NicaSalud Network Federation, Nicaragua

Innovation, product development and access:

- Brazil case study: Innovation and neglected diseases - challenges and opportunities, Carlos Morel, Director, Centre for Technological Development in Health, Fiocruz, Brazil

Chair: John Lavis, Associate Professor and Canada Research Chair, McMaster University, Canada

12.15 – 12:30 Introduction of working groups:

Process and expected outcomes, questions and clarification, Analía Porras, Research, Promotion and Development Project, Technology, Health Care and Research, Pan American Health Organization (PAHO/WHO).

- 12.30 – 14.00 Break
 14.00 – 15.30 Working groups: Session 1
 15.30 – 16.00 Break
 16.00 – 17.30 Working groups: Session 2

Thursday, 17 April

9.00–9.45: Plenary: Technical cooperation I

- Luis Tacsan, Director, Department of Research and Technological Development for Health, Ministry of Health, Costa Rica
- Isabel Noguer, Deputy Director General, Department of International Research Programmes and Institutional Partnerships, Carlos III Health Institute, Spain
- Donald Simeon, Director, Caribbean Health Research Council (CHRC), Trinidad & Tobago
- Christina Zarowsky, Team Leader, International Development Research Centre (IDRC), Canada

Chair: Jose Luis Di Fabio, Area Manager, Technology, Health Care and Research, Pan American Health Organization (PAHO/WHO)

9.45 – 10.30: Plenary: Technical cooperation II

- Rodolfo Barrere, Technical Team Member, Network on Science and Technology Indicators (RICYT), Argentina
- Annick Manuel, Regional Coordinator for Health and Health Research for Southern Cone and Brazil, French Ministry of Foreign Affairs, Chile
- Shing Chang, R&D Director, Drugs for Neglected Diseases Initiatives (DNDi), Switzerland
- Jimmy Whitworth, Head, International Activities, Wellcome Trust, UK

Chair: Stephen Matlin, Executive Director, Global Forum for Health Research

10.30 – 11.00: Break

11.00 – 12.30: Working groups: Session 3

12.30 – 14.00 Break

14.00 – 15.30: Working groups: Session 4

15.30 – 16.00: Break

16.00 – 17.30: Working groups: Session 5 (last session for each group)

Evening: Conference dinner

Friday, 18 April

9.00 – 10.30: Plenary session: Report back from working groups

- National Health Research Systems (Zulma Ortiz, moderator)
- Financing for research for health (Fernando de la Hoz, moderator)
- Human resources for health research (Ernesto Medina, moderator)
- Innovation, product development and access (Rodrigo Salinas, moderator)

Chair: Moisés Goldbaum, Professor, Department of Preventive Medicine, University of São Paulo, Brazil

10.30 – 11.00: Break

11.00 – 12.30: Plenary session: Discussion on report back from working groups

Chair: Moisés Goldbaum, Professor, Department of Preventive Medicine, University of São Paulo, Brazil

12.30 – 13.15: Plenary: Summary and outlook

Panel of all the organizers

Chairs: Suzanne Serruya, Director, Department of Science and Technology, Ministry of Health, Brazil; and Carel IJsselmuiden, Director, COHRED

Lunch

Appendix II

AMERICAN CONFERENCE

List of Participants

Last Name	First Name	Position/Title	Department	Division	Organization	Country/City
Abreu	David	Consultant	Science and Technology	Knowledge Management	Ministry of Health	Brazil
Achí	Rosario	Director	Instituto de Investigaciones en Salud (INISA)		University of Costa Rica	Costa Rica
Acosta	Cristina	Project Assistant			Network for Health Systems and Services Research in the Southern Cone	Brazil
Aguirre	Janette	Health Coordinator			Organización del Tratado de Cooperación Amazónica (OTCA)	Brazil
Alger	Jackeline	Physician	Clinical Laboratory	Parasitology	University Hospital	Honduras
Allen-Flores	Patricia	Project Director of National Health Institute	Coordinator of Programs and Projects		Instituto Costarricense de Investigación y Enseñanza en Nutrición y Salud (INCIENSA)	Costa Rica
Alvarez	Luis	Technical Director	Research and Development	r&D Projects and Programmes	Secretaría Nacional de Ciencia y Tecnología	Guatemala
Álvarez-BLANCO	Adolfo S	Head	Research for Development	Science and Technology	Ministry of Public Health	Cuba
Andrade	Priscila	Consultant	Health Surveillance and Disease Management	Regional Research Program on Communicable Disease	Pan American Health Organization (PAHO)	BRASILIA
Angulo-Tuesta	Antonia	Advisor	Secretariat of Science, Technology and Strategic Inputs		Ministry of Health	Brazil
Arana	Byron	Co-Director	Center for health Studies		Universidad del Valle de Guatemala	Guatemala
Aranda	Eduardo	President			Bolivian Academy of Medicine	Bolivia
Barrere	Rodolfo	Technical Team Member			Red de Indicadores de Ciencia y Tecnología (RICYT)	Argentina

Becerra-Posada	Francisco	Joint Director-General Federal Hospitals	General Directorate for Federal Hospitals	Coordinating Commission of Nationals Institutes of Health and High Specialty Hospitals	Ministry of Health	México
Berger	Martine	Senior Advisor			Council on Health Research for Development (COHRED)	Switzerland
Bickis	Tara	Consultant	National Health Research System		Ministry of Health and Sport	Bolivia
Bonet	Mariano	Director-General			National Institute of Hygiene, Epidemiology and Microbiology	Cuba
Bonilla	Josefina	Executive Director			NicaSalud Network Federation	Nicaragua
Boussard	Hélène	Scientific Officer			Bamako 2008 Secretariat	Switzerland
Brito	Pedro	Area Manager	Health Systems Strengthening		Pan American Health Organization (PAHO)	Washington DC
Brown	Melanie	Programme Adminis- trator	Meetings Unit		Global Forum for Health Research	Switzerland
Buss	Paulo	President			Oswald Cruz Foundation (Fiocruz)	Brazil
Cano	Rodolfo	Director	Secretariat of Health, Research in Health		Comisión Coordinadora de Institutos Nacionales de Salud y Hospitales de Alta Especialidad	México
Carmago	Erika	Technical Assistant	Department of Science and Technology	Health Technolo- gies Assessment	Ministry of Health	Brazil
Carvalho	Jose	Vice President	Presidency		Oswald Cruz Foundation (Fiocruz)	Brazil
Castro	Regina	Coordinator	Health Scientific Communication		BIREME	Brazil
Chang	Shing	R&D Director			Drugs for Neglected Diseases initiative (DNDi)	Switzerland

Clark	Maria Luisa							Pan American Health Organization (PAHO)	Washington DC
Coluchi Mareco	Norma Beatriz	Projects Manager and Technical Director	General Direction	Projects	Laboratorio Central de Salud Publica				Paraguay
Cuervo	Luis Gabriel	Team Leader	Research Promotion and Development	Technology, Health Care and Research Area				Pan American Health Organization (PAHO)/World Health Organization (WHO)	Washington DC
De Haan	Sylvia	Head	Projects and Programmes					Council on Health Research for Development (COHRED)	Switzerland
de la Hoz Restrepo	Fernando	Associate Professor	Public Health	Epidemiology				Universidad Nacional de Colombia/Advisory Committee on Health Research for PAHO	Colombia
de la Puente	Catalina	Secretary	Secretariat of Science and Technique					Universidad ISALUD	Argentina
Di Fabio	Jose Luis	Area Manager	Technology, Health Care and Research					Pan American Health Organization (PAHO)	Washington DC
Espinoza	Iván	Public Health Physician	General Direction for Health Promotion					Ministry of Health	Honduras
Espinoza	Eduardo	Researcher	Master in Public Health	Faculty of Medicine				Universidad de El Salvador	El Salvador
Gerstenbluth	Izzy	Head of Unit	Epidemiology and Research Unit					Medical and Public Health Service/Advisory Committee on Health Research for PAHO	Netherlands Antilles
Goldbaum	Moisés	Professor and Doctor	Preventive Medicine					University of Sao Paulo/Advisory Committee on Health Research for PAHO	Brazil
Gómez	Xinia	Chief	Health Research Unit	Direction on Research and Technological Development in Health				Ministry of Health	Costa Rica
Grabois Gadelha	Carlos Augusto	Vice-President of Innovation						Oswald Cruz Foundation (Fiocruz)	Brazil

Guerra-Romero	Luis	Scientific Advisor	International Research Programmes			Instituto de Salud Carlos III	Spain
Guimarães	Renata	Consultant	Science and Technology Department	Knowledge Management		Ministry of Health	Brazil
Guimarães	Reinaldo	Secretary	Secretariat of Science, Technology and Strategic Inputs			Ministry of Health	Brazil
Gutiérrez Arboleda	Juan Manuel	Assessor	Vice-Ministry of Health and Welfare			Ministerio de Protección Social	Colombia
Handal Vega	Erlinda	Executive Director	Council of Scientific Research	Superior Direction		Universidad de El Salvador	El Salvador
Ijsselmuiden	Carel	Director				Council on Health Research for Development (COHRED)	Switzerland
Iza	Peter	Scientific Research Director				Secretaría Nacional de Ciencia y Tecnología (SENACYT)	Ecuador
Izquierdo	Jorge	Scientific Coordinator	Center for Environmental Health and Susceptibility (CEHS)	School of Public Health		University of North Carolina at Chapel Hill/Advisory Committee on Health Research for PAHO	United States
Jara	Jaime	Programme Manager	IADB Programme 'Development of Science, Technology and Innovation'			Consejo Nacional de Ciencia y Tecnología (CONACYT)	Paraguay
Jiménez	Edward	National Secretary of Science and Technology	Main Office			Secretaría Nacional de Ciencia y Tecnología (SENACYT)	Ecuador
Jupp	Susan	Head	External Relations			Global Forum for Health Research	Switzerland
Kasamatsu	Elena	Research Coordinator	Research Coordination	Instituto de Investigaciones en Ciencias de la Salud (IICS)		Universidad Nacional de Asunción	Paraguay

Kochen	Silvia	Researcher	Epilepsy Center Hospital 'R Mejia'; Centro de Estudios Farmacológicos y Botánicos (Cefybo)	Faculty of Medicine, University of Buenos Aires	Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)	Argentina
Lacayo	Edilberto	Director		Human Resource Development and Health Research Division	Ministry of Health	Nicaragua
Laucirica	Jorge	Science Writer				Canadá
Lavis	John	Associate Professor and Canada Research Chair	Knowledge Transfer and Exchange	Clinical Epidemiology and Biostatistics	McMaster University/Advisory Committee on Health Research for PAHO	Canadá
Lemmens	Trudo	Associate Professor	Faculty of Law and Medicine		University of Toronto/Advisory Committee on Health Research for PAHO	Canadá
Lopes	Rosane	Social Communications			Pan American Health Organization (PAHO)	Duque de Caxias
Magaña Valladares	Laura	Academic Dean			Instituto Nacional de Salud Pública	México
Magris	Magda	Researcher and Head	Malaria Unit		Centro Amazonico de Investigación y Control de Enfermedades	Venezuela
Malirat	Vivane	Advisor in Molecular Biology	Pan American Foot-and-Mouth Disease Center (PANAFMOSA)	Laboratory	Pan American Health Organization (PAHO)	Duque de Caxias
Manuel	Annick	Regional Coordinator for Health and Health Research	Regional Delegation for Cooperation with the South cone and Brazil		Ministry of Foreign Affairs	Chile
Marques Maia	Renata Cristina	Consultant	Department of Science and Technology	Knowledge Management	Ministry of Health	Brazil
Matlin	Stephen	Executive Director			Global Forum for Health Research	Switzerland

Medina Sandino	Cristian Ernesto	Rector				Universidad Americana (UAM)/ Advisory Committee on Health Research for PAHO	Nicaragua
Messina	Luiz Aly	National Coordinator	Rede Universitária de Telemedicina (RUTE)	Projects		Rede Nacional de Ensino e Pesquisa	Brazil
Millones	Socorro	Manager	Central Management of Human Resources	Management of Personal Develop- ment		Seguro Social de Salud Essalud	Perú
Morel	Carlos	Director	Centre for Technological Development in Health (CDTS)			Oswaldo Cruz Foundation (Fiocruz)	Brazil
Moreno	Aida	Researcher	Health Systems, Environ- ment and Society	Research		Instituto Conmemorativo Gorgas de Estudios de la Salud	Panamá
Motta	Jorge	Director				Instituto Conmemorativo Gorgas de Estudios de la Salud	Panamá
Muñoz	Fernando	Head	Research and Studies			Ministry of Health	Chile
Muñoz	Sergio	Professor	Centre for Research and Training in Epidemiology	Public Health		Universidad de La Frontera	Chile
Noguer	Isabel	Deputy Director-General	International Research Programs			Instituto de Salud Carlos III	Spain
Olifson-Houriet	Sylvie	Health Economist	Research and Programmes Unit			Global Forum for Health Research	Switzerland
Oliveira de Albuquerque	Itajaí	Assessor	Secretariat of Science, Technology and Strategic Inputs	Department of Science and Tech- nology		Ministry of Health	Brazil
Ortiz	Zulma	Manager	Training and Research	Institute of Epide- miological Research		National Academy of Medicine/ Advisory Committee on Health Research for PAHO	Argentina
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Working group on National Health Research Systems

What is a national health research system?

- National Research Systems / National Health Research Systems
- There is NO ideal system
- Particularities of the countries, especially the smaller ones
- Role of the State / Role of the Government
- Ministry of Health: accountability vs. leadership
- Integration into the Science, Technology and Innovation System
- Relationship with social and economic development
- Political will for stewardship / coordination
- Financing with public / private funds
- “Researchers have no communication with the Ministry of Health and are unaware of the ethics committees”
- “The difficulty is with aligning the kind of language used between the Ministry and researchers; There is little understanding between the two”
- “Everyone agrees that political will is essential, but with support (critical masses). We shouldn’t just look inside the Ministry of Health.”

Favourable Climate for Research

- Priorities are necessary because resources are limited and they are adjusted as the situation changes
- Priorities save money, avoid duplicating efforts and help to standardize research
- It is much more effective to coordinate work between sectors, with the participation of different tiers of government
- What is important is to understand the role of the State, how it ensures transparency when multiple actors are involved
- Prioritizing priorities
- Vicious circle: In order to define priorities data is used, which was gathered by researchers, therefore it is the researchers that determine what is investigated
- Role played by “curiosity-based research”

Evaluating Researchers’ Performance

- Discussion of the traditional ways of evaluating performance. Just based on publishing?
- The externalities of research projects as an additional criterion for evaluation

Optimization of the system

- The need for a sound regulatory framework, especially regarding research ethics.
- In most countries it is a process that began in the ‘90s.
- Problems with the functioning of Research Ethics Committees Composition, use of time, training, accreditation.
- It is being discussed whether or not Research Ethics Committees should deal with scientific issues
- It was suggested that countries share their existing regulations with each other
- Discussion about consent by indigenous peoples and vulnerable populations

Getting to Know Each Other / International Participation

- The need to get to know each other within each country. Databases on research and research groups and on scientific production
- The importance of exchanging experiences with research management, ethics regulation, financing, training of researchers, processes and methodology for defining research priorities.
- Creation of multinational research projects with a joint search for funding.
- International agencies can support the development of NHRS. Special role of the WHO.
- Reinforced regulatory frameworks as an advantage for international participation

Working group on financing for research for health

1. Domestic Funding

Consistency between allocation of domestic funds and agenda priorities.

- There is a great range of experiences in the region, from unfunded systems to highly-developed level of organization approaches
- Consistency between approved projects and the agenda is very high in Brazil
- Quality is also a very important criterion

Interactions to increase consistency and coordination between relevant groups in the area so that health research deals with the problems of the most vulnerable part of the population.

- Institutionalization of research
- Well established and updated priorities
- Sharing of experiences between countries. (WHO, others)
- Not all models can be extrapolated to all countries

Accessibility of funds, hurdles to access, characteristics of researchers who are most successful in gaining access, access via open competition.

- Training, prestige and quality, geographic barriers
- In Brazil, Chile and Colombia all funding competitions are public
- Researchers must have a doctorate (Brazil) except in less developed regions

Do funds help to develop and maintain human resources for health research?

Yes, they allow for the training of new human resources and payment of salaries to researches

Do these funds cover the administrative costs and infrastructure development?

Yes, with differences in the amounts funded

Consistency between allocation of international funds and agenda priorities

We have to differentiate between different types of international funds.

- Non-Profit Agencies
 - Industry
- Frequently the researcher should take into account the interests of the funding provider.
Concern over ethical aspects of projects financed with international funds

2. International Funds

Accessibility of all funds, barriers to accessing them, profile of researchers who gain access to them the most, access via open competition

- Compensation
- Language
- Training of researchers
- Nationality

Do funds help to develop and maintain human resources for health research?

Yes, but not necessarily in line with the needs of the country

Do these funds cover the administrative costs and infrastructure development?

Yes

3. Innovative strategies for financing NHRS and research priorities

Lottery Taxes

- Charging royalties to foreign companies that exploit natural resources
- Multilateral bank loans
- Having a critical mass is necessary
- Partnerships with the private sector are possible, but they are difficult to manage legally in Latin America

4. Data Access and Collection

- Countries with funds have incomplete information regarding type of research being funded
- Problems in classifying different types of research
- Investigating all of the types of research and their sources is expensive

5. Recommendations

- Determine a list of regional priorities (the Millennium Development Goals can serve as a guide, as can those functions that are essential to public health)
 - Improve the quality of human resources, offer viable alternatives for young researchers and avoid brain drain
 - Create bioethics legislation; in order to do so a partnership between educators and health professionals is essential
 - The research policy of the PAHO can serve as a guide and can help in acquiring research funds
 - Advocacy is fundamental and Brazil has a publication for managers that explains why health research should be carried out
 - Mapping available resources and the elaboration of the profile of these resources is also an important first step and is related to research priorities
 - Information Systems:
 - A universal definition of what constitutes health research could be developed prior to or concurrent with the beginning of clinical trials registration; The Frascatti manual can help to define what health research is
 - There are regional initiatives on the design of information systems to collect information on what happens with research; the information system that the CNPq and COLCIENCIAS use is available in Spanish and Portuguese,
- BIREME's resources can help to distribute the results in the region; better use should be made of the CONACYT websites as well. Registry of clinical trials and then expansion to include the other studies; LATINREC.

Working group on human resources for health research (HRHR)

Background

- Latin America suffers from enormous inequality in the distribution of resources particularly with regard to access to health care and well-being. Health research as well as the development of HRHR can be a tool which facilitates change. Therefore, we must consider the topic of HRHR development from a systemic perspective and in the context of the entire health system. Many of the problems with HRHR development stem from the deficiencies of the health system in general.
- At present, only a few countries of the region have a national research system in place, even fewer have a national strategy/system for HRHR development.
- There are asymmetries among countries. These deepen inequities by perpetuating the diversion of resources to those countries with greater capabilities.
- There is great potential for regional cooperation and collaboration (South-South) due to the cultural context as well as common problems and areas of interest. Mechanisms are yet to be identified that allow us to develop HRHR in a collaborative manner.
- Furthermore, we must think about what opportunities exist for international collaboration. The agencies present in the meeting suggested a very interesting range of opportunities for collaboration in HRHR development. These opportunities must be taken advantage of and further developed.

Goal

- The goal must be production of knowledge, processes and products, and the utilization of these to improve the health of the nations of the region. The focus on the subject of HRHR must FIRST be derived from this general goal.

Issues

Training must be comprehensive, meeting the needs of all the stages of research in order to solve the deficiencies that are being noticed, including the following:

- Methodological aspects of the projects
- Management, finance and communication of results
- Use of knowledge and its application to health decisions
- Respecting principles of research ethics

Other problems

- Migration of Talent
- Geographic concentration in urban centres
- Insufficient number of researchers (lack of critical mass)
- Insufficient number of multidisciplinary teams
- Inequities of gender persist and equal representation of women in positions which imply responsibility is not facilitated
- Financing is insufficient
- Research is not an attractive option for many young professionals due to low salaries and a lack of involvement in better-paying sectors
- Lack of continuity in policies and funding undermines the sustainability of the system.

Challenges

- Give priority to the topic in the context of NHRS
- Develop national and regional plans for HRHR development
- Coordinate strategies for HRHR development with other components of NHRS and of the health system, paying attention to health research priorities
- Foster regional cooperation regarding HRHR development, on the basis of common interests
- Contribute to the development of capabilities via projects that allow specific health problems to be dealt with (training/research/action model)
- Ensure science and research training in early education to contribute to creating a critical mass of researchers
- Form interdisciplinary teams with a broad perspective on health research
- Improve funding for HRHR development
- Foster coordination with the private sector
- Promote the stability of research groups and talent retention and repatriation
- Foster the development not only of professionals but also of all the participants on the research teams
- Promote comprehensive training to improve all stages of the research process, including the use of results by managers
- Strengthen the operation of institutions as well as the educational model (theoretical-practical)

Proposals:

- Institutional Level
- Strengthen professional and cross competences in the training of the research team
- Develop strategies that take into account the new methodologies and technologies that allow for increasing the quality and quantity of HRHR

National level

- Institutionalize processes by means of the creation and / or strengthening of a:
- National System of Science and Technology for Health that supports the training of researchers for the planning, production and use of new knowledge and products (work training) within the framework of an HR development programme
- Implement programmes to increase and retain the critical mass of both researchers as well as other members of the research team, utilizing, among other strategies, the early incorporation of students into the research process
- Develop organization and coordination mechanisms of the national institutions—governmental and non governmental—that deal with health-related science and technology, in order to establish sustainable policies for HRHR development

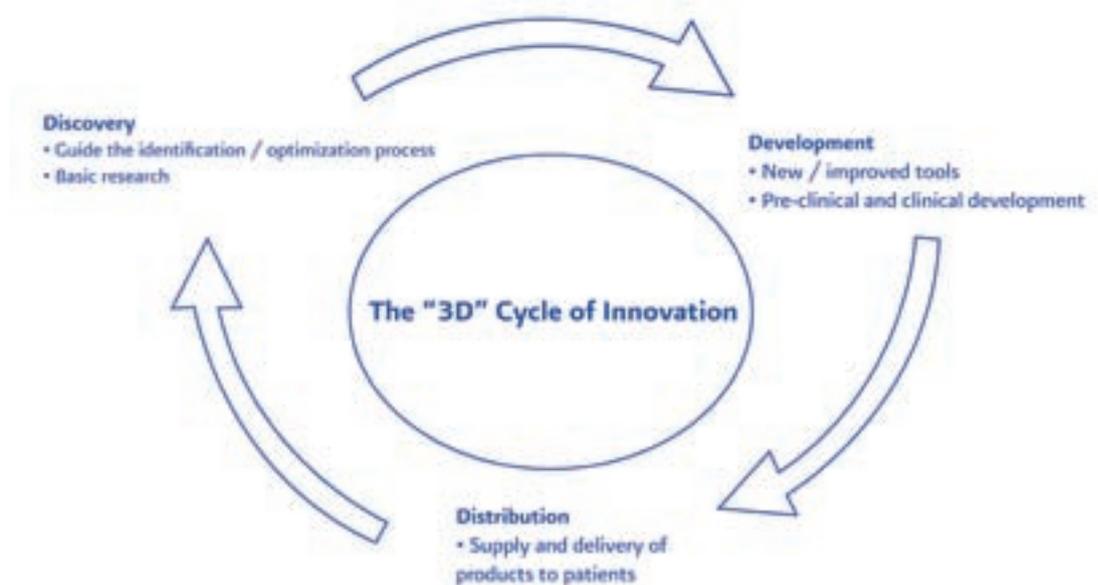
Regional level

- Strengthen and make more efficient use of the channels for inter-institutional communication in order to bolster cooperation in the region
- Correct asymmetries in the region by means of South-South cooperation as well as cooperation with other regions and international bodies
- Promote networking in order to share strengths and overcome weaknesses
- Develop HRHR by means of collaborative projects among countries that have problems in common, so as to optimize resources and capabilities
- Make use of the opportunities for HRHR development that are offered by international bodies

Working group on innovation, product development and access

Elements to take into consideration when defining Research and Development priorities

- Political-Institutional Framework
- Suggestions



It is impossible to generalize about the capabilities of the countries in the region due to considerable disparity in terms of discovery, development and distribution, with some countries that are highly advanced in the development of health science, such as Brazil and Cuba, and others where the necessary talent to carry out these tasks has yet to be developed.

In spite of the above mentioned, as a region we have the ability to bring together cooperative efforts that allow us to act in a complementary fashion and to benefit from the comparative advantages of each country—in terms of developed talents, resources and political/regulatory frameworks that are oriented towards the needs of health R, D & D (Research, Development and Demonstration).

The comparative advantage that we have as a region to achieve this objective is the tradition of cooperation that exists among countries and the existence of coordinating bodies, such as the PAHO, that can act as catalysts in the process*.⁸

For this to happen, the mapping of existing capabilities and talents in each country is necessary, keeping in mind that one feature that must exist in all of them is the ability to transfer technology that allows for the distribution of research products; this must be done equitably and with priority given to those with the fewest resources.

Preferential concern for those with the fewest resources implies a priority focus on those diseases that affect our region and are not of interest to commercial laboratories. This research focus must be comprehensive, taking into account the development of strategies for prevention, diagnosis, treatment and rehabilitation.

⁸ There was no general agreement regarding whether this tradition really existed, though there was agreement that the possibility for cooperation does exist.

In all R, D & I projects, from the time of their conception, the associated strategy for technology transfer and distribution must be considered a necessary and integral part of the process, as this is what provides social value and the justification for public policy. This transfer obliges the development and strengthening of health systems as well as a close and dialectical collaboration between health systems and health research systems. It is through this dialogue that priority problems are identified. The culture of research, development and distribution should include not only those technologies that have a relationship with industrial production, but also those that—from a different perspective, including organizational technologies—seek to identify successful strategies for facing the health problems of our populations.

These strategies, sometimes called non-technological, are of particular relevance when designing public policies for the implementation of products of innovation, and achieving adherence to these policies. Technological and so-called non-technological innovations are, therefore, complementary and necessary for achieving a cycle of innovation, development and distribution. A regional cooperative effort in technological development, in areas that are not primarily within the scope of commercial interest, requires defining a “business model,” whether publicly-owned or public-private, that gives the project feasibility. The intellectual property rights that arise from these initiatives must always benefit the public interest and should never result in a barrier to access to developed technologies for those with the least resources, nor in a barrier to access to information about the effectiveness and safety of technologies for the public in general.

To guarantee that this happens, it is necessary to face this challenge regionally, as has been occurring with the response to the IGWG proposals, with the active participation of the health sector. It should be taken into account that the timing of the research, development and distribution cycle is different from the political calendar. The time required to develop a technology is longer than the life cycles of most ruling governments. In the same way, often projects that appeared promising at the beginning must be abandoned during the research and development process, which means an additional political commitment to assume that responsibility, and a judicial-political framework that maintains the health research system in the meantime. A political-institutional framework that promotes innovation, product development and access must necessarily take the following elements into account:

- The existence of a democratic climate in which citizen participation is considered a core element in the definition of agenda priorities for research, development and distribution of the technologies aimed at improving the health of populations.
- The incorporation of the health agenda into an inclusive development policy, at a national level (as in the case of Mexico) and, ideally, at a regional level, which provides a context of inter-sector and international cooperation.
- The structuring of health systems so that they have explicit and efficient mechanisms for incorporating scientific information into the process of designing public policy, oriented towards the efficient and effective use of resources, allowing for the optimization of care for the most marginalized classes.
- The strengthening of the agencies that regulate medicines by means of harmonizing their regulatory frameworks and the powers they are given, so as to achieve regional homogeneity in the product evaluation process thereby maximizing their quality.
- The regional or subregional integration of the process for evaluating products of innovation, such that it strengthens the capabilities of the various countries, maximizes the use of resources, and eventually leads to the creation of a common agency to carry out this function.
- The harmonization of development processes so that they allow the generated products to be incorporated into the WHO prequalification strategy early on for international agencies' (e.g. UNITAID, the Global Fund) central purchases by making sure that the requirements of these organizations do not become barriers to access.
- The incorporation of clinical trials registration and of outcome reporting into global strategies, so that timely access to information is available when making decisions regarding the distribution of products of innovation.
- The explicit incorporation of traditional medicines into the innovation cycle, reclaiming ancestral wisdom oriented towards self care and the recovery of health, while ensuring the equitable distribution of benefits that stem from it.
- The transparency of mechanisms for public procurements (for example, online inverted auctions), so that the danger resulting from conflicts of interest can be dealt with and strategies for regional procurements can be organized. In addition to taking advantage of economies of scale, this would allow opting for regional innovations of good quality, as occurs, for example, with the Revolving Fund and Strategic Fund of the PAHO.
- The need for expedited support and funding mechanisms for incubators that allow for the development of enterprise—be it public, private, linked to the academy or not—oriented around the invention and development of health technologies (industrial, organizational, or other kinds) that serve the health needs of the populations, while guaranteeing equitable distribution.

- Awareness of the legitimacy of the efforts invested in the invention and development of technologies, including, when applicable, the need to guarantee protection of intellectual property associated with the invention—without losing track of the fact that the invention must serve the health needs of the people.
- The exchange of experiences, among countries, of strategies for the use of the safeguards and flexibilities in TRIPS/ADPIC or other agreements and, using these as a starting point, generating joint strategies such as the incorporation of these safeguards and flexibilities into local law.
- Stimulate North-South and South-South management, evaluation and technology transfer, in a manner consistent with the interests of public health.

Taking into account the above-mentioned, we suggest the following (G=government; IO= International Organizations; NGOs= Non-Governmental Organizations; CS= Civil Society; A=Academia):

- Give the highest level of priority in the political agenda to the innovation, development and distribution of technologies aimed at the welfare of the general population (health) - G.
- Identify spaces for meetings, dialogue and exchange that serve to crystallize cooperation initiatives in this area, using the “consensus–agreement–follow up” structure - G, IO, NGOs, CS, A.
- Connect national and international health systems with initiatives aimed at democratizing open access to scientific information, such as the registries for clinical trials and their results, virtual libraries - G, A, I, IO, CS.
- Incorporate scientific information into the development of public health policies, by integrating it into those systems that meet people’s health needs in an equitable fashion, through the use of participatory mechanisms at the national level - G, A, CS.
- Perform an exhaustive diagnosis of those capabilities available in the countries of the region which, through research and development, may generate technological answers to health needs - G.
- Develop a dynamic inventory of science, technology and innovation that is freely accessible and that includes the cooperative agendas, policies, regulations and initiatives, aimed at fostering technological innovation - G.
- Promote the development of burden of disease studies in the region, in order to contribute to defining priorities for cooperation activities - G, IO, A.
- Identify and optimize the capacity for pharmaceutical production in the region, including chemical synthesis and biotechnological products, defining cooperative actions between countries and their respective sectors (government, industry, academia, civil society) - G, I, CS.
- Develop and use mechanisms that facilitate access to good quality, safe products produced in the countries of the region - G, IO.
- Promote initiatives for the development of talents and institutional capabilities for development and innovation - G, I, A.
- Distribute the results and favour the equitable distribution of the products of research - G, I, A, SC.
- Announce the conclusions from the Conference in the countries of the region: G, IO, P.
- Promote populations’ access to products of innovation (social and technological) – G.
- Identify sustainable, alternative sources of funding, complementary to existing ones, which allow a response to the challenges for innovation in a setting with limited resources - G.
- Continue supporting the discussion about the relationship between intellectual property rights and public health, including an evaluation of the impact and possible compensatory measures, stimulating the participation of civil society in this exchange - G, IO, CS, A, I.

