

**Bridging the “Know–Do” Gap**  
**Meeting on Knowledge Translation in Global Health**  
10–12 October 2005  
World Health Organization  
Geneva, Switzerland



**Organized by the Departments of:**  
Knowledge Management and Sharing (KMS)  
Research Policy and Cooperation (RPC)  
World Health Organization

**With support from:**  
The Canadian Coalition for Global Health Research  
Canadian International Development Agency  
German Agency for Technical Cooperation (GTZ)  
WHO Special Programme on Research & Training in Tropical Diseases

© **World Health Organization 2006**

All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Printed by the WHO Document Production Services, Geneva, Switzerland

## Main Messages

- **Bridging the know–do gap** is one of the most important challenges for public health in this century. It also poses the greatest opportunity for strengthening health systems and ultimately achieving equity in global health.

- **Knowledge translation (KT)** is emerging as a paradigm to learn and act towards closing the gap. While knowledge is more than research evidence, knowledge translation strategies can harness the power of scientific evidence and leadership to inform and transform policy and practice.

- There are **pioneering efforts** as well as **exciting new initiatives** in various developed and developing countries with respect to knowledge translation. Countries (policy-makers, health workers, researchers and the community) can work together and share experiences and lessons in bridging the gap.

- Although there are ongoing innovations and learning by doing, **there is still no comprehensive framework** or common platform for better understanding the know–do gap and systems to address it.

- **WHO has a major role to play in bridging the know–do gap** and supporting countries through better knowledge management. Given the breadth and scope of this great challenge, WHO should focus on the following: strategic advocacy for KT; platforms for knowledge exchange and sharing among countries and within WHO; resource mobilization; support country initiatives on KT strategies for health systems strengthening.

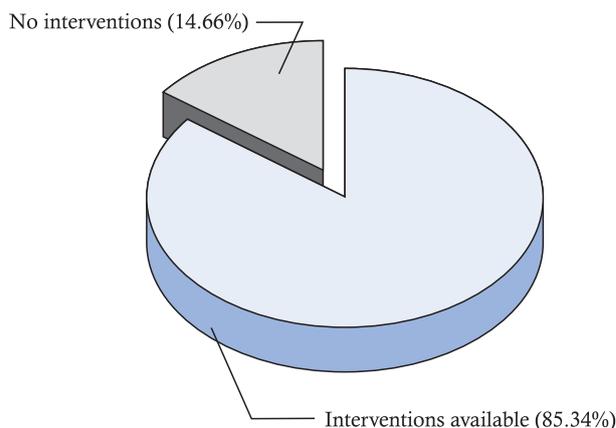
- For countries and the global community alike, **some initial recommendations for action** are: capacity development for KT, focusing on knowledge exchange and demand-side awareness-building; joint learning platforms for KT; research on improved methodologies for knowledge synthesis and exchange, and best practices on KT; KT-sensitive peer review and funding systems.

*“There is a gap between today’s scientific advances and their application: between what we know and what is actually being done.”*

*“Health work teaches us with great rigour that action without knowledge is wasted effort, just as knowledge without action is a wasted resource.”*

LEE Jong-wook  
WHO Director-General

## District disease burden addressable by available cost effective interventions



Derived from TEHIP/AMMP Cause Specific Mortality Data YLLs for Rufiji Sentinel District, 2000.

## Background and Meeting Objectives

In setting the tone for the meeting, **Tim Evans**, WHO’s Assistant Director-General, Evidence and Information for Policy, described the very complex health development landscape and the “grand challenges” of improving health systems in terms of scale, distribution and equity, protection and safety, and systems capabilities. He underscored the importance of harnessing knowledge to overcome health system constraints and to scale up effective interventions, echoing the call to action embodied in the Mexico Statement on Health Research.<sup>1</sup>

**Ariel Pablos**, director of the WHO Department of Knowledge Management and Sharing, discussed the challenge of the “know–do” gap and the opportunities to address it. Two aspects of the know–do gap were outlined: the gap from research to policy, and the gap from knowledge to action. Early efforts to bridge the know–do gap in public health were largely passive, focused on diffusion through journals. These evolved over the next two decades to “push” strategies in the form of knowledge dissemination and guidelines. Currently, partner and “pull” efforts have emerged, such as linkage and exchange processes. WHO has developed a knowledge management strategy that explicitly considers translating knowledge into policy and action.

*“...despite 30 years of research in this area, we still lack a robust, generalisable evidence base to inform decision about strategies to promote the introduction of guidelines or other evidence-based measures into practice.”*

Grimshaw et al. 2004

<sup>1</sup> Declaration made during the Ministerial Summit on Health Research, held in Mexico, 16–20 November 2004.

Knowledge Translation is defined as the “*The synthesis, exchange and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health*” (derived from the Canadian Institutes for Health Research, 2001). Despite these developments towards active engagement of stakeholders in KT, many challenges remain. But the time is ripe to seize the opportunities for knowledge translation and make a real difference in solving global health problems and achieving better health. Hence the meeting on “Knowledge Translation for Global Health” was convened with the following objectives:

- 1) To learn from country experiences in bridging the know-do gap and to develop a typology of knowledge translation approaches in countries;
- 2) To clarify knowledge translation concepts and frameworks, and to identify effective and feasible practices and approaches; and
- 3) To identify priorities and mechanisms for knowledge translation research and action in global health.

## Evidence and Knowledge: Their Roles in Guiding Policy and Practice

A full day was devoted to clarifying KT concepts and frameworks and identifying good approaches and practices. This started out with **Jonathan Lomas** provocative presentation on “What is Evidence.” Lomas distinguished two concepts of evidence for guidance for the health system: (1) “*Colloquial*” evidence, which represents relevant information at a more personal and contextual level, e.g. experiential knowledge, societal values, political judgment, resources, habits and tradition; and (2) *scientific* evidence, which is derived from systematic, replicable and verifiable methods of collecting information and facts. Scientific evidence, he said, could be further categorized into *context-free* or *context-sensitive* evidence. The former ascribes to science “a sense of absolute truth” and is largely generalisable. Context-sensitive evidence, on the other hand, adopts a practical and operational orientation and considers the context in the guidance and the decision-making process. In addition to the different types of evidence that are considered in health system guidance, there is a need for transparent deliberative processes that explicitly integrate technical analysis of the evidence with stakeholder and lay public deliberation to make the final guidance feasible and implementable. “Deliberative processes are not neutral in their design,” said Lomas. “Some will favour one form of scientific evidence over another, others will favour colloquial evidence over scientific evidence or vice-versa.”

In contrast to Lomas, **Andy Oxman** contended that “all evidence is context sensitive” since all observations are

made in a specific context. On the other hand, judgments about the applicability of evidence go beyond the original context and should be made systematically and explicitly using good evidence, especially (but not exclusively) research evidence. He delineated the roles of global evidence and local evidence, stressing that while global evidence is useful for making judgments about effects and likely modifying factors, local evidence is necessary to make context-specific judgments, including the presence of modifying factors, the extent of the problem, availability of resources and prevailing values. Thus he proposed that WHO should focus on supporting countries to make context-specific policies by providing global evidence, frameworks for decisions and practical advice for incorporating local evidence.

**Mary Ann Lansang** referred back to the WHO/EIP goal of global health equity in considering the role of evidence in policy and practice. Given this goal, the tremendous challenges and needs of developing countries, and the problem-based and value-driven nature of policy-making, she supported the view that evidence is context-sensitive. However, for developing countries, the essential qualities of useful evidence for policy-making are often absent, i.e. available research evidence and other information may not be credible (invalid or unreliable), accessible or affordable, and it may be irrelevant to the needs of a specific country and hence not applicable. At the same time, there are unique challenges on the policy-making side, such as lack of demand for evidence, corruption, rapid turnover of policy-makers, traditional and top-down governance processes, and donor dependence.

In the discussion that ensued, most meeting participants agreed that evidence is context sensitive, in varying degrees, and that policies and decisions should be informed by good evidence that is contextualized. This implies that evidence is plural and that the implementability of good “global” evidence must be triangulated with local knowledge. Hence a key action point for WHO and countries is to ensure that the evidence base from countries is strengthened and built up, and that transparent and evidence-informed policy-making processes are promoted.

## Country Knowledge at Work

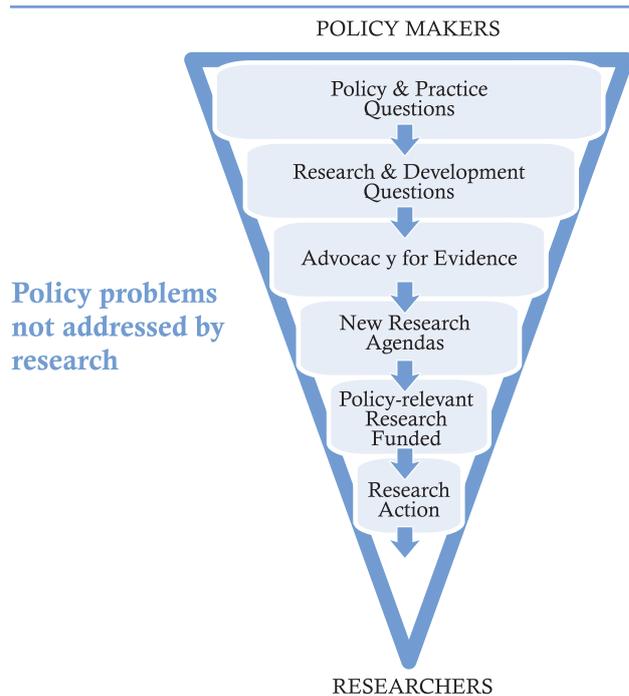
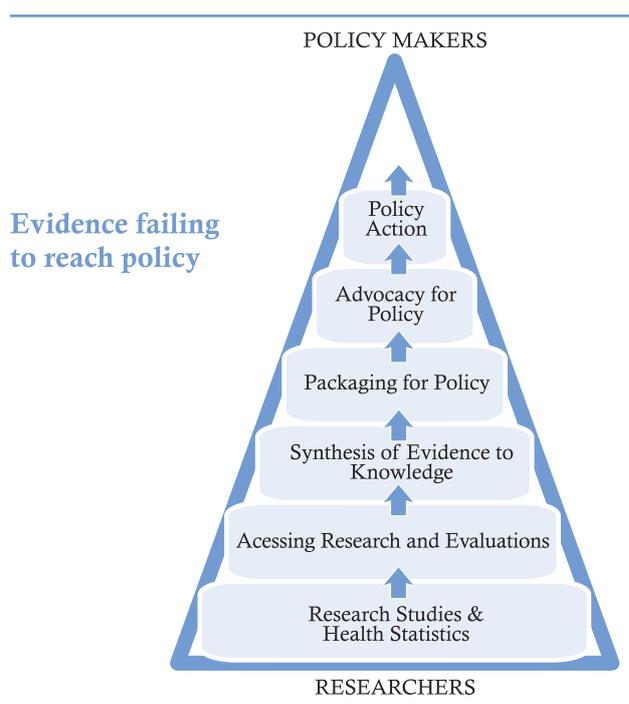
Recognizing that the experiences and efforts of countries to bridge the know-do gap are valuable in developing improved approaches for knowledge translation, a variety of initiatives and programmes at work or in progress in different countries were presented and discussed. The experiences from developed countries (EURO Health Evidence Network and Canada) and developing countries (multi-country studies on evidence – policy linkages, experiences and new initiatives in east Africa, Brazil, Bangladesh and Afghanistan, China and

Mali) demonstrated that there are exciting innovations in push, pull and exchange systems to address gaps in research-policy-practice in a variety of settings. At the same time, lessons learned from these concrete country and community experiences underscore the importance of continuous monitoring and evaluation of proposed approaches to bridging the know-do gap (see Table 1).

“What factors explain whether and how the producers and users of research support the use of and/or use health research as inputs to decision-making?” asked *Tikki Pang*. He then presented the ongoing WHO collaborative work with 10 developing countries, which attempt to help answer this question.<sup>2</sup> This research has identified several “push” factors (such as a tailored approach to target audiences, credible messengers/brokers), “pull” factors (notably access to searchable databases), and exchange/linkage activities (e.g. long-term partnerships). There has also been interest in the launch this year of the Evidence-informed Policy Networks initiative (EVIPNet), which aims to support health decision-making and health policy formulation through better access to evidence, the promotion of linkages among producers and users of research and capacity building. The initiative has started with proposals developed in Asia but the networks will be extended to Africa in 2006. In closing, Dr Pang suggested that EVIPNet could become the vehicle for an integrated approach by WHO (through RPC, KMS and the Health Metrics Network) in its support to countries that are trying to address the know-do gap through improved health policy and action.

*Don de Savigny* talked about the development of the Regional East African Community Health Policy Initiative (REACH Policy), an innovative mechanism to institutionalize knowledge brokerage in order to access, synthesise, package and communicate evidence for policy and practice in East Africa. A joint prospectus from health policy-makers and researchers in Kenya, Uganda and the United Republic of Tanzania was developed through a series of national and regional consultations, workshops and case studies dating back to 2001 and endorsed by the East African Sectoral Council of Ministers of Health in July 2005. The prospectus is being finalized for a donor’s meeting in January 2006 and the legal framework is under development.

The experiences of BRAC (Bangladesh Rural Advancement Committee) were presented by *Mushtaque Chowdhury* specifically the successful adaptation of the BRAC model from Bangladesh to Afghanistan. Grounded on village organization as the building block, programmes in health, education, microfinance, agriculture, national solidarity and capacity development were initiated in Afghanistan in 2002 and have already been scaled up to cover 18 of 34 provinces in the country. The BRAC ex-



perience demonstrated that experiential knowledge on poverty alleviation programmes, coupled with good systems management and built-in research and evaluation, can be shared, translated and successfully scaled up.

*Ramesh Shademani* presented the work of the Health Evidence Network (HEN)<sup>3</sup>. HEN is a network of 35

<sup>2</sup> China, Ghana, India, Iran, Kazakhstan, Lao PDR, Mexico, Pakistan, Senegal.

<sup>3</sup> HEN website: [www.euro.who.int/hen](http://www.euro.who.int/hen)

**Table 1 – Examples of Country and Regional Experiences and Plans for Knowledge Translation**

<b>Country/Region</b>	<b>KT Objectives</b>	<b>KT Lessons</b>
WHO/RPC-sponsored initiatives: (1) 10-country study on research – policy linkages; (2) EVIPNet (Asia)	(1) To determine the factors influencing whether and how health research is used for decision-making; (2) To support health policy formulation through improved access to evidence, policy–researcher linkages and training	Indigenous research evidence is more likely to influence practice. Increased access to evidence and increased investment in capacity development for KT are needed.
REACH Policy Initiative, East Africa	To access, synthesise, package & communicate evidence for policy & practice and for policy-relevant research agenda	A proposed institutional mechanism for KT through knowledge brokerage was developed through country-wide and regional consultations and workshops.
BRAC, Bangladesh	To translate the development knowledge from the Bangladesh experience to programmes and action in Afghanistan	Development knowledge can be successfully shared, adapted and scaled up, using village organization as the nucleus of the intervention.
Health Evidence Network, Europe	To answer questions from policy-makers and to provide easy access to evidence	Demand-driven evidence seems to work. It takes time, money and a wide collaboration of partners to get timely answers to policy maker questions.
Rural Internship on Collective Health, Estado de Minas Gerais, Brazil	To integrate scientific evidence, local tacit knowledge and the capacity to implement policies through social participation in local health systems.	Dissemination and sharing of user-friendly information and knowledge promotes social participation in local health systems planning and management.
Efforts to link research to action in Canada	To link research to action, with a focus on healthcare management and policy-making	A framework to assess country efforts on KT emerged (see boxed item) and will continue to evolve with further dialogue. Several push, pull and exchange strategies are in use in Canada, but large-scale KT platforms are lacking.
Use of knowledge in support of health sector reform, Mali	To use knowledge for refining approaches and solving problems related to health sector reform	Political commitment and managers’ experiential knowledge were key factors in the formulation and implementation of the health sector reform policy in Mali. Research evidence has contributed to the refinement, further planning and systematic documentation and exchange of experiences and also served to “contain donor impatience”.
Knowledge management in China	To establish an efficient system for the capture and use of pro-poor evidence for health policy-making in China	Still at the planning stage. Capacity building of all stakeholders on knowledge management and sharing is recognized as a major challenge.

European government agencies and other public institutions as well as health-related UN agencies that collaborate to answer questions from European policy-makers and to provide easy access to the best available evidence for improving public health. This is achieved through the following avenues: 10-page synthesis reports and 1-page summaries in response to questions raised, a rapid-response HEN e-mail box, and selected policy-relevant documents and databases on the HEN website. There has been increasing demand from policy-makers over time, with one new synthesis produced per month, one new summary from HEN partners per month, and about three responses from the HEN e-mail box each week. The HEN experience shows that evidence tailored to suit policy-maker's specific concerns and timing is an effective KT strategy.

**Francisco Panadés Rubió** and **Ulysses Panisset** presented the experiences and lessons learned in managing and utilizing local knowledge through social participation, as demonstrated in the Rural Internship on Collective Health programme in the state of Minas Gerais, Brazil. It was noted that local decision-makers had no experience in working with evidence and technical information. However, a two-way interactive process for learning was developed involving decision-makers, health practitioners, the communities as well as federal, local and state funders. Information technology resources, in addition to human resources, were deemed to be essential tools for social production, sharing and use of knowledge.

**John Lavis** provided a useful framework for assessing country-level efforts to link research to action (see Box 1), applying it specifically to Canada. He cited the

CHSRF and the Canadian Institutes of Health (CIHR) as examples of institutions established in recent years with explicit mandates to support knowledge translation as well as excellence in research. Regarding models for linking research to action, several push efforts in Canada supportive of knowledge translation were: identification of actionable messages tailored to user groups, credible messengers, media releases for systematic reviews. Examples of pull efforts were: use of the Cochrane Library by provincial governments, maintenance of a one-stop shopping for evidence at the Canadian Cochrane Network and Centre, a policy-maker-targeted response unit for health technology assessment, and continuing education programmes for health programme managers. In terms of exchange efforts, partnerships have been developed in response to requirements by funding agencies like CHSRF and CIHR for linking research to action. Despite Canada's many efforts on KT, it was observed that there are still gaps, notably the lack of large-scale KT platforms to facilitate exchange efforts.

**Fatoumata Nafu-Traoré** discussed a policy maker's view of the role of research evidence in the health sector reform movement in Mali. Although in the initial stages, policy formulation for health reform was mainly based on experiential knowledge of the factors contributing to the crisis in Mali, Dr Nafu said that there was increasing use of research evidence during the scale up of health programmes, particularly on health service delivery models, simulation models for sustainability, systematic documentation of process and

*“Policy-makers often regard “research” as the opposite of “action” rather than the opposite of “ignorance””.*  
Martin Surr

### Box 1 – General Framework for Assessing Efforts to Link Research to Action

*John N. Lavis – McMaster University, Canada*

Assess elements, programmes, processes or activities that are supportive or unsupportive (gaps) of efforts to link research to action in terms of:

- The general climate for linking research to action: What elements or actions support efforts to link research to action? What is not being done? What more can be done?
- Production of research: What elements or actions support efforts to undertake systematic reviews that are responsive to needs of policy-makers and other stakeholders? What are the gaps? What more can be done?
- Mix of models to link research to action: What approaches have been used to link research to action in a given setting and for different user groups? Is there an optimal mix of models? What more can be done?
  - Producer/purveyor-push efforts
  - User-pull efforts
  - Exchange efforts
- Approach to evaluation: Are there rigorous evaluations of efforts to link research to action?

## Box 2 – Enabling and Constraining Factors in Translating Knowledge to Policy and Practice

### Break-out Group Outputs

#### Enabling Factors

##### *Push factors (supply side)*

- Production of relevant and good evidence
- Timely and understandable repackaging and synthesis of the evidence; evidence-based actionable messages (EBAMs)
- Credible knowledge mediators/brokers/messengers, opinion leaders
- Availability of and access to knowledge
- Knowledge mapping
- Donor/funding agencies’ support for KT

##### *Pull factors (demand side)*

- Political commitment and local knowledge champions
- Political mapping and understanding of the socio-political environment
- Problem-based evidence and user-initiated policy questions
- Integration of social actors in local decision-making bodies (social participation)
- User-friendly access to knowledge and searchable databases

##### *Exchange*

- Education of and dialogues with users and media on high-impact stories on the use of knowledge
- Innovative ways of knowledge sharing, esp. tacit knowledge

#### Barriers

##### *Push factors (supply side)*

- Lack of a common framework for knowledge translation
- Limited integration of quantitative and qualitative methods for synthesis of evidence
- Costly and slow process of knowledge production and synthesis
- Lack of and poor access to relevant evidence
- Competing sources of knowledge that may be distorted and biased
- Donor-driven research agenda

##### *Pull factors (demand side)*

- Low demand for scientific evidence by policy-makers
- Different paradigms for evidence and policy among decision-makers, practitioners and researchers
- Political and/or financial reasons for not acting on good evidence

##### *Exchange*

- Lack of interactive communication between producers and users of scientific evidence
- Lack of knowledge sharing, especially with policy-makers and the community

outputs and systematic exchange of experiences. She concluded that scientific evidence played a role in mobilising donors and political support, but that the driving force for change consisted of the managers, their experience and political commitment. She added that it was difficult to find financial support to fill the knowledge and intervention gaps.

**Gao Jun** described the plan for knowledge management to improve health policy-making in China. Although much has been done in China with respect to health management information systems and information technology, the Ministry of Health has articulated the need for an efficient capture and synthesis of pro-poor evidence that could be used for policy in a timely manner. Strategies proposed for the new knowledge management for health policy and strategic planning project in China are: improving access to health information; sharing and applying experiential knowledge; creating an enabling environment for knowledge management; and using knowledge translation strategies.

In the break-out groups, the meeting participants discussed the different country experiences presented as well as their own experiences in order to identify key factors for success and constraints/barriers in knowledge translation. They agreed that the factors identified (see Box 2) were common knowledge and applied to most countries, even though the context and degree to which these factors operate may vary.

#### **The major conclusions and recommendations from the plenary discussion on Day 1 were:**

1. There is no satisfactory and common terminology and framework for KT.

- Many, but not all of the participants, believed that a conceptual framework is needed before a coherent programme of action for WHO and its partners can be developed.
- Most of the participants agreed that a broader definition of “knowledge” should be adopted, going beyond a

linear view of translation of research evidence to policy and practice to the inclusion and consideration of other valid information that contributes to decision-making and problem solving.

2. Innovations to improve knowledge translation strategies should be encouraged, especially those aimed to improve the know–do gap in developing countries. Monitoring and evaluation of future KT projects and programmes should be developed up front. Learning by doing, coupled with knowledge sharing, is a key strategy of learning organizations and initiatives.

3. Capacity building and knowledge exchange are important for all stakeholders (policy-makers, health workers, the community and civil society, and researchers) involved in knowledge-based enterprises.

## Expanding the Knowledge Translation Toolkit

On Day 2, an overview of different practices used in knowledge translation were discussed, with the end in view of enhancing the competencies of those committed to integrating KT in their work. Knowledge topics that were presented were:

- Knowledge mapping
- Knowledge value chains
- Diffusion of innovation in clinical practice
- Health service management and organizational learning
- Strategic advocacy
- Community mobilization and social entrepreneurship
- Knowledge brokering
- Quality improvement

### Knowledge mapping

*Steve Ebener* provided a conceptual framework which integrates knowledge mapping to identify potential opportunities and gaps within the knowledge translation process by providing a picture of the knowledge assets, their locations and flows in the system. It is a tool to help decision-makers quickly understand and manage complex systems and networks and therefore supports knowledge translation. WHO/KMS plans to collaborate with interested developing countries in conducting knowledge mapping and audits, develop guidelines and protocols and to map existing expertise in WHO's Collaborating Centres and other networks to foster global knowledge networks in WHO priority areas.

As an example, *Maylene Beltran* described the ongoing knowledge mapping in the Philippine Department of Health (DOH), which is being conducted as part of a Knowledge Audit project supported by GTZ. The au-

### A commitment to a knowledge management strategy:

*“We envision a system that enables DOH workers to quickly access the right information they need to make prompt and effective decisions and to provide quality services for our internal and external clients. Along this vision, we intend to develop a world-class DOH Portal that will serve all DOH units and attached agencies, as well as external stakeholders and partners of the Department.”*

Department Memorandum  
2005.07, Dept. of Health,  
Philippines, 3 June 2005

dit is one of several knowledge management initiatives of the DOH to support its health sector reform agenda. Using questionnaires, interviews and workshops, the knowledge resources and assets as well as gaps and weaknesses in policy-making have been mapped in the context of the DOH vision, mission, culture and the different core process of policy-making. Findings from the knowledge mapping exercise suggest that knowledge utilisation in the DOH is not systematic and not yet an integral part of the health system, particularly with regard to the devolved local government units. It was observed that knowledge mapping is resource-intensive, requiring dedicated full-time staff. As such, it should be integrated within an overall plan for knowledge management that addresses, resource requirements, capacity building, incentives for workgroup collaboration and performance commitment.

### Knowledge value chains

*Réjean Landry* defined a knowledge value chain (KVC) as “the set of knowledge-creating activities to move from concept up to the production of new or improved products and services, delivering added value for clients”. He criticized the oft-held assumption in knowledge transfer strategies that knowledge stocks of managers and health professionals are very low, leading to a heavy emphasis on knowledge inflows without considering knowledge stocks and knowledge outflows. The KVC adds value by focusing on the processes of knowledge acquisition, creation, sharing/dissemination, utilisation/application and performance assessments within the context of the strategic goals of the health system.

*Robert Ridley* discussed the lessons learned in applying KVCs in pharmaceutical R&D, and how these might apply to public health. He stressed that the “chain” is not a linear process but involves many feedback cycles from concept to product to policy and implementation. Unlike the pharmaceutical development chain where there is a clear dollar value to its products, the added value in public health knowledge chains goes beyond the

“product” to actual implementation and use in specific settings. Hence in TDR, the knowledge value chain extends from “innovation to impact”, i.e. from basic strategic research and product development to implementation research and action.

In the break-out group discussions, an understanding of the KT chain was recognized as very useful for researchers, decision-makers and other stakeholders to improve how knowledge could be used for different types of decision-making. The KT chain can vary with the context in which decisions take place.

## Diffusion of innovation in clinical practice

Strategies for effective diffusion of new knowledge in clinical practice were discussed. In his review of the best evidence on methods to change clinical behaviour (printed materials, practice guidelines, educational materials, CME courses, audit and feedback, outreach, continuous quality improvement, opinion leaders, mass media, pharmaceutical policies, and pricing and purchasing policies), Dr Andy Oxman concluded that there are “no magic bullets”. Passive dissemination (e.g. printed materials) is often not effective, but there have been moderate improvements with more interactive strategies (e.g. audit and feedback, outreach). *Peter Tugwell* presented the work of INCLIN (International Clinical Epidemiology Network) on the Knowledge “Plus” Programme, which incorporates applicability and equity lenses in the translation of knowledge through evidence-based practice guidelines.

In the ensuing discussions, participants volunteered their own experiences and methods for diffusion of knowledge, ranging from training manuals, locally responsive tele-education, to a package of interactive strategies. However, few of the local stories had been formally evaluated. A notable problem cited in these settings was the lack of access to information, including the persisting digital divide. There was a consensus that diffusion of innovation in clinical practice required a lot of collaboration, resources and time, particularly when scaling up beyond a project mode. More realistic evaluations on KT strategies applicable to local settings in developing countries are also needed.

## Health service management and organization learning

*Somsak Chunharas* set the context around which knowledge is used for more effective health service delivery

and organizational management. The main contexts where decisions take place are: (1) decisions made by health facilities managers aimed to improve overall services management and resources utilisation; and (2) decisions in services delivery made by individual health workers. For this, health service managers and works will use both *explicit knowledge* on how health services should be organized (derived from research and information systems) and *tacit knowledge* of affected stakeholders and decision-makers involved in the decision process. He referred to the model of the “triangle that moves the mountain” within which effective knowledge management operates, with the triangle consisting of: knowledge/evidence, social mobilization (stakeholders), and political involvement (actors). These elements increase the receptivity of intended users, inform and involve stakeholders for more effective implementation, and ensure continuous learning through interaction. Dr Chunharas reiterated the value of the KT chain in health service management. A problem-solving cycle, starting from problem identification and situational analysis to evaluation and iterative planning, can be used as a “chain” to identify the various types of knowledge that will inform the next steps of the cycle. The interactive learning process of KT should then make use of the problem-solving cycle to involve decision-makers in the use of research evidence – in contrast to the old paradigm of researchers trying to create their own KT chain based on research evidence alone.

The meeting participants emphasized the importance of awareness-building and demand creation for effective knowledge translation in health service management. Information rather than research evidence was said to be the major source of knowledge for service managers, but the existence of some management infrastructure and an enabling environment were also deemed essential. Finally, the development of a critical frame of mind in dealing with knowledge was recommended as integral to management training.

## Quality improvement

Closely related to health services management and organizational learning is the process of quality improvement. The “Collaborative Improvement Model” was presented by *M. Rashad Massoud* as an effective method of knowledge management. This has been successfully demonstrated: in Russia, for example, with regard to improvement of interventions for neonatal hypothermia and pregnancy-induced hypertension, and in Rwanda for HIV/AIDS care. The model involves incremental improvements and adaptations through multiple “Plan-Do-Study-Act” cycles, i.e. a facilitated process of collaborative learning and sharing. It was clarified that this is offered as a model for good practices and scaling up interventions through multiplicative learning and sharing, rather than as a conceptual framework for KT.

### PROGRESS (Vulnerability to Inequity)

- Place of residence
- Race/ethnicity
- Occupation
- Gender
- Religion
- Education
- Socioeconomic status
- Social capital/resources

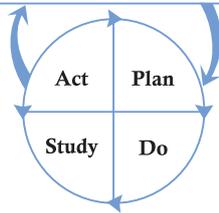
---

### Model for improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?



---

## Knowledge brokers in translating evidence to policy

*Jessica van Kammen* discussed the role of knowledge brokering, citing the experience of ZonMw as a broker in synthesizing six studies on subfertility care in the Netherlands. The results of the studies were complemented with a systematic review, and an analysis of the major concerns of user groups and of the policy context was provided. ZonMw then creating a collaborative environment in which researchers and user groups could interact and come to evidence-based, context-informed recommendations for action. Thus, she said, the focus in knowledge brokering was not on transfer of the results of research but on organizing the interactive process. She emphasised that rigid models have no place in knowledge brokering and likened the process to jazz music where “well-informed improvisation” is the key.

In the general discussion, participants agreed that transparency was essential in the interaction between researchers and users, as a way to ensure the quality of the recommendations and to build relations of trust among participants in the process. The practice of a “safe harbour”, where “no-holds-barred” discussions are held behind closed doors, was raised as a way of building trust among different parties while explicating relevant issues involved as well.

With respect to WHO, it was observed that WHO (particularly its regional offices) has a valuable brokering role to play with ministries of health, but could also be limited by its accountability and negotiations with 192 member states. Funding and development agencies, consultants and initiatives similar to HEN are also potential knowledge brokers. On the other hand, others suggested that “in-house” brokers might be better than external brokers since the latter have a tendency to be more concerned about knowledge per se rather than informing decision-making in the local context. Further studies on the effectiveness and impact of knowledge brokering in low- and middle-income coun-

tries (LMICs) would need to be done. The way research evidence is communicated also needs to be evaluated in these settings (see figure below).

## Strategic advocacy

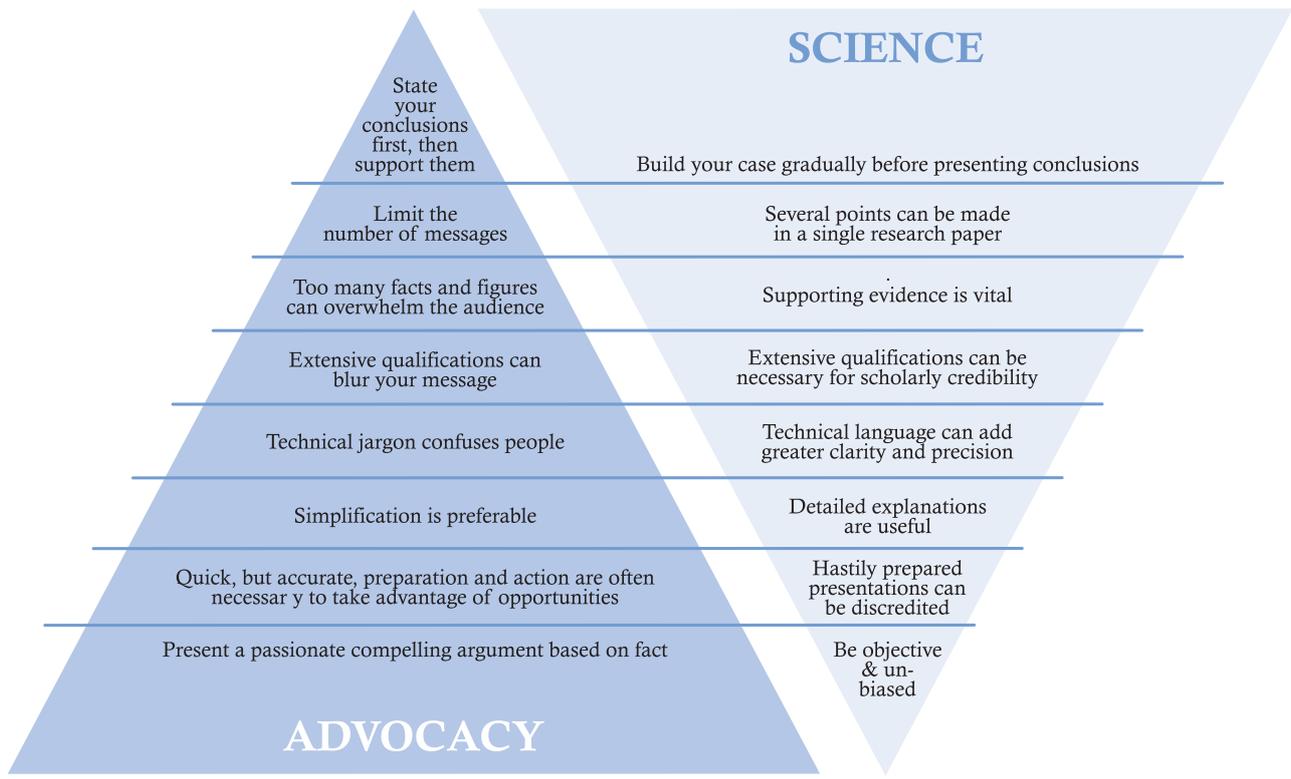
“Advocacy is relevant in closing the know–do gap,” suggested *Kraig Klaudt*. “When the right knowledge gets to the right people at the right time; but they then are unable to put this knowledge into action due to competing pressures and/or inertias of society, institution, peers, family or of their own making.” Klaudt distinguished between advocacy and scientific communication, emphasising that the former aims to create social pressure and political accountability in order to attract resources, shape policy agendas and remove socio-cultural barriers. Science, on the other hand, is generally inductive: collecting and building the evidence before drawing up the conclusions in an objective manner. “Knowledge alone is insufficient to change policy maker behaviour,” he said. He suggested several advocacy and communications practices that may be relevant to KT, namely: creating and repeating a compelling message, the power of images, advocacy mapping, creating a social cause and the power of branding. Basic communications theory was also discussed, particularly the importance of the medium carrying the message from sender to receiver. DOTS was given as an example of effective branding in public health, contributing to actual change in policy and health behaviour.

In the ensuing discussions, the participants observed that the advocacy products would vary depending on the target audience, but that the evidence base is essential regardless of the form or medium of the message. Since advocacy requires a specific expertise that is not always present or desired by scientists, it was recommended that knowledge producers build alliances with advocacy specialists or groups as well as community or civil society organizations to effect change at the policy level.

## Community mobilization and social entrepreneurship

*Ariel Pablos* talked on social entrepreneurship, highlighting the work of the Ashoka Foundation. Ashoka has had substantial success in the spread of new ideas and in influencing national change, achieving its goals mainly through its 1,500 fellows worldwide, nearly 250 of whom work in public health and 41 on strengthening of health care delivery systems. Rigorous criteria are applied in the selection of fellows: innovation, creativity, entrepreneurial quality, social impact and ethical fibre. The impact of the work of some of its outstanding fellows was presented (including leaders of BRAC and other community-based initiatives).

## Differences between advocacy & scientific communication



The break-out group asserted that social entrepreneurship is a powerful tool for KT, serving as incubators of innovation in problem-solving, catalysing community mobilisation, and involving society in KT. While influencing policy and health systems accountability, it promotes greater community voice and capacity through participatory action research, and engages media to raise awareness. Everyone was reminded that people and civil society have a central role as change agents and users of knowledge.

## Where Do We Go From Here?

On the last day, a panel and a number of plenary discussions reflected on the KT concepts, experiences and approaches discussed in the first two days of the meeting and what the implications were for the future.

There was a consensus that:

- KT is a complex and multidimensional process.

### How brief is a policy brief?

- *CHSRF uses the “1-3-25 rule”*: 1-page recap of main messages; 3-page executive summary; and up to 25 pages for the synthesis report.
- *HEN provides a 1-page summary and 10-page synthesis report.*

- KT is an important strategy and opportunity to bridge the know-do gap and achieve better health.
- KT is also about promoting a culture of learning, critical thinking, innovation and organizational change, not a one-way synapse between knowledge and action.
- KT should map and engage all those involved in the knowledge chain, from knowledge producers, users and communities, health research and programme funders and the media.
- Capacity building is essential for all stakeholders.
- Networks, partnerships and knowledge sharing among the stakeholders should be promoted.
- KT being an emerging field of practice, particularly in the context of developing countries, research on KT strategies in LMICs is a priority.

The meeting participants recognized the important role of WHO in KT, and strongly echoed the recommendations of the Ministerial Summit on Health Research in Mexico (November 2004) and the WHA A58/34 Resolutions 2(5) and 4(4) to bridge the know-do gap and strengthen KT mechanisms. Specifically, the meeting recommended that WHO should:

- Strongly advocate for KT, especially as a tool for shared problem-solving in LMICs.
- Establish platforms for knowledge exchange and sharing among knowledge users, producers and funders.
- Promote global and/or local networks that integrate perspectives of knowledge producers, users and funders.

- Build on and support existing knowledge and country experiences on KT, even as innovative strategies are introduced and evaluated.
- Vigorously promote a knowledge translation and sharing culture within and between WHO programmes and departments.
- Validate priorities for a feasible course of action for KT for the next 3–5 years.
- Mobilize resources for KT.

Although the meeting did not articulate explicit priorities, it provided the following initial recommendations for those committed to KT:

- Capacity development for KT, focusing on knowledge exchange (e.g. networks, communities of practice, university – ministry of health partnerships) and “pull” strategies (e.g. strategic advocacy, knowledge brokering, social entrepreneurship).
- Consider a joint learning platform for KT, leading to working model(s) for action in different contexts and setting.
- Foster integrated approaches at the necessary scale to address key public health problems, where research work is already part of a planned solution (e.g. the public–private partnerships in R&D for diseases of the poor).
- Develop evaluation plans and learning-by-doing activities for health systems strengthening programmes in selected countries.
- Research on: improved methodologies for knowledge synthesis and exchange, and best practices in KT; role of

civil society and communities in scaling up programmes.

- Establish KT-sensitive peer review systems for research proposal reviews and funding mechanisms.

Dr Pablos and Dr Pang thanked the meeting participants for their valuable inputs and interactions. In his reflections on the meeting, Dr Pang stressed that we should not

*“The null hypothesis in KT is not so much about bringing research evidence into policy but about solving problems based on the best knowledge available.”*

Ariel Pablos

lose sight of the outcome—evidence-informed policy and problem solving. Dr Pablos concluded that this was a learning meeting, focusing for the first time on KT in global health; although we do not have all the answers, various approaches discussed at the meeting could be packaged into integrated and coordinated initiatives to address the most neglected and systemic know–do gaps in public health. Inputs from the meeting will be incorporated in various programmes of work in WHO. Dr Pablos acknowledged the members of the core planning group, especially Dr Mary Ann Lansang and Ramesh Shademani.

Further debates, discussions and planning on these would be carried forward via an upcoming WHO/KT listserv and a special theme issue in the Bulletin WHO in mid-2006. ■

## Annex A

### Meeting Agenda Knowledge Translation in Global Health

A Link to Policy and Action

10–12 October 2005

WHO, Geneva, Switzerland

#### Background

Knowledge Management and Sharing (KMS) is a recently established WHO department concerned with organizational learning and public health effectiveness. Its mission is to help bridge the “know–do” gap in global health, a gap recognized by the Mexico Ministerial Summit on Health Research in November 2004 and by the 58th World Health Assembly in May 2005 as a major obstacle to the attainment of the Millennium Development Goals. The development of the Global KM Strategy began in September 2004, and involved benchmarking and consultation with a variety of stakeholders both within and external to WHO.

KMS finalized its strategy in 2005 with five core strategic directions:

- Improving access to the world’s health information
- Translating knowledge (KT) into policy and action
- Sharing and reapplying experiential knowledge
- Leveraging e-Health in countries
- Fostering an enabling environment

Together with the Department of Research Policy and Cooperation, KMS is convening a 3-day participatory meeting to bring together expertise and experience in different aspects of KT with the overall objective of clarifying key concepts, building on the existing global knowledge and country experiences on this topic, and guiding the development of WHO’s strategies in global health and policy advice to member states. Knowledge translation is a cross-cutting approach that covers various domains in health. It is a complex, non-linear process that involves not only recent research findings but also the dynamic interaction of producers and users to bring about change. To this end, meeting participants will include a broad range of stakeholders including policy-makers, health care providers, programme managers, academic researchers, civil society representatives, development partners and other funding agencies and WHO staff.

#### Expected outcomes

1. Publish working papers on knowledge translation in a special theme issue of the *Bulletin WHO* (in mid- or late 2006) and promote wide discussions of recommendations and policy briefs on KT research priorities, best practices and agenda for action;
2. initiate creation of a global network for Knowledge Translation; and
3. promote the application of knowledge translation strategies across the different programmes of work of WHO.

## Annex B

### List of Meeting Participants

**Mrs Maylene Beltran**

Health Policy Development Planning Bureau  
Department of Health  
San Lazaro Compound, Sta. Cruz  
Manila, PHILIPPINES  
Telephone N°.: +632 711 5377  
Fax N°.: +632 781 4362  
Email address: maylene@doh.gov.ph

**Prof Aslam Bhuiyan**

Professor of Sociology  
Chittagong University  
Chittagong, BANGLADESH  
Telephone N°.: +9130726  
Email address: vcpub@dhaka.net

**Dr Sandy Campbell**

Project Coordinator  
International Development Research Centre (IDRC)  
250 Albert St.  
Ottawa K1G 3H9, CANADA  
Telephone N°.: +613 236 6163 x2253  
Fax N°.: +613 567 7748  
Email address: scampbell@idrc.ca

**Dr Fred Carden**

Director Evaluation Unit  
International Development Research Centre  
PO Box 8500  
Ottawa K1G 3H9, CANADA  
Telephone N°.: +613.236.6163 x2107  
Fax N°.: +613 563 0815  
Email address: fcarden@idrc.ca

**Dr Mushtaque Chowdhury**

Deputy Executive Director  
BRAC  
75 Mohakhali  
Dhaka 1212, BANGLADESH  
Telephone N°.: 988 1265  
Fax N°.: 88028823542  
Email address: mushtaque.arc@brac.net

**Dr Somsak Chunharas**

Ministry of Health  
Tiwanondh Rd  
Nonthaburi 11000, THAILAND  
Telephone N°.: 662 590 1390  
Fax N°.: 662 590 1380  
Email address: somsak@health.moph.go.th

**Dr Don de Savigny**

IDRC / TEHIP Research Manager  
Swiss Tropical Institute  
Socinstrasse 57  
Box CH-4002 Basel, SWITZERLAND  
Telephone N°.: 41 61 284 8111  
Fax N°.: 41 61 271 7951  
Email address: d.desavigny@unibas.ch

**Dr Michael Devlin**

Head, Knowledge Sharing & Advocacy  
Council on Health Research for Development  
11, rue Cornavin  
1201 Geneva, SWITZERLAND  
Telephone N°.: +41 22 591 8900  
Fax N°.: +41 22 591 8910  
Email address: Devlin@cohred.ch

**Dr John Gabbay**

Emeritus Professor  
University of Southampton  
1 Daniells Close  
Lymington S041 WPQ, UK  
Telephone N°.: +44 (0) 1590 671918  
Email address: J.Gabbay@soton.ac.uk

**Prof Paul Garner**

Liverpool Sch. of Tropical Medicine  
Pembroke Place  
Liverpool, L3 5QA, UK  
Telephone N°.: +44 0151 708 9393  
Fax N°.: +44 0151 707 1702  
Email address: pgarner@liv.ac.uk

**Dr Abdul Ghaffar**

Public Health Specialist  
Global Forum for Health Research  
1-5 route des Morillons  
1211 Geneva 2, SWITZERLAND  
Telephone N°.: +41 22 791 1606  
Fax N°.: +41 22 791 4394  
Email address: ghaffara@who.int

**Mr Wolfgang Haag**

Head of Department Training and Technology Transfer  
IP Institut Fur Projektplanung GmbH  
Stuttgarter Str 48  
70469 Stuttgart, GERMANY  
Telephone N°.: +49(0) 711/89 69 05  
Fax N°.: +49(0) 711/85 29 59  
Email address: wolfgang.haag@ip-consult.de

**Dr Chris Hentschel**

Chief Executive Officer  
Medicines for Malaria Venture  
ICC Building, 3rd Floor  
Route des Pré-Bois 20  
PB 1826 - 1215 Geneva 15  
SWITZERLAND  
Telephone N°.: +41 22 799 4062  
Fax N°.: +41 22 799 4061  
Email address: hentschelc@mmv.org

**Dr Axel Hoffmann**

Course Coordinator  
Swiss Tropical Institute  
Socinstrasse 57  
4002 Basel, SWITZERLAND  
Telephone N°.: +41 61 284 81 15  
Fax N°.: +41 61 284 81 06  
Email address: axel.hoffmann@unibas.ch

**Dr DeLon Hull**

Associate Director for Research  
National Institute for Research & Technology Transfer  
4676 Columbia Parkway-mail location C-9  
Cincinnati, HO 45226, USA  
Telephone N°.: +1 513/533-8668  
Fax N°.: +1 404/929-2665  
Email address: rdh2@cdc.gov

**Dr Gao Jun**

Deputy Director-General  
Center for Health Statistics Information  
Ministry of Health  
1, Xizhimenwai Nanlu, Xicheng District  
Beijing, 100044, CHINA  
Telephone N°.: + 86 10 6879 2472  
Fax N°.: + 86 10 6879 2478  
Email address: gaojun@moh.gov.cn

**Dr Joseph Kasonde**

3 Parc de la Roche II  
01210 Ornex, FRANCE  
Telephone N°.: +33-450-429069  
Email address: jkasonde@hotmail.com

**Dr Gerald Keusch**

Associate Dean for Global Health  
Boston University,  
Medical Campus  
School of Public health  
715 Albany Street, T 443 W  
Boston, MA 02118-2126, USA  
Telephone N°.: +1 617 638 5234/4687  
Fax N°.: +1 617 638 4687  
Email address: keusch@bu.edu

**Dr Alim Khan**

Consultant  
Geneva, SWITZERLAND  
Telephone N°.: +4176 412 63 62  
Email address: adk@mysunrise.ch

**Mr Kraig Klaudt**

President & CEO  
Advocacy Action Network  
1195 Avenida Paulista, Suite 106  
Sao Paulo S.P., BRAZIL  
Telephone N°.: +55 11 3263 1265  
Email address: kklaudt@hotmail.com

**Dr Anand Kumar**

Director  
AstraZeneca Research  
Foundation India  
Bellary Road, Hebbal.  
Bangalore 560024, INDIA  
Telephone N°.: +91 80 2362 2010  
Fax N°.: +91 80 2362 2011  
Email add.: anand.kumar@astrazeneca.com

**Dr Rejean Landry**

Director  
Dept of Management  
Faculty of Business  
Laval University  
Quebec City UQ G1K 7P4, CANADA  
Telephone N°.: +418 656 2131 (3523)  
Email address: Rejean.Landry@fsa.ulaval.ca

**Prof Mary Ann Lansang**

Professor of Medicine & Clin. Epid.  
Dept. of Clinical Epidemiology  
College of Medicine  
University of the Philippines Manila  
Dr Paz Mendoza Bldg, Room 6  
547 Pedro Gil Street  
Ermita, Manila 1000, PHILIPPINES  
Telephone N°.: +632 525 4098  
Fax N°.: +632 844 9904  
Email address: mlansang@philmed.org

**Prof John Lavis**

Canada Research Chair in  
Knowledge Translation  
McMaster University  
Dept CE&B, HSC 2DI Area  
1200 Main Street West  
Hamilton ON L8N 3Z5, CANADA  
Telephone N°.: + 905 525 9140 x 229  
Email address: lavisj@mcmaster.ca

**Dr Ragnar Levi**

Scientific Communications Director  
SBU  
Swedish Council on Technology  
Assessment in health Care  
PO Box 5650  
114 86 Stockholm, SWEDEN  
Telephone N°.: +46 8 412 32 11  
Fax N°.: +46 8 411 32 60  
Email address: levi@sbu.se

**Dr Jonathan Lomas**

Executive Director  
Canadian Health Services Research Foundation  
1565 Carling Avenue , Suite 700  
Ottawa Ontario K1Z 8R1, CANADA  
Telephone N°.: 613 728 2238  
Fax N°.: 613 728 3527  
Email address: jonathan.lomas@chrsrf.ca

**Dr Rashad Massoud**

Senior Vice President  
Institute for Healthcare Improvement  
20 University Road, 7th Floor  
Cambridge, MA 02138, USA  
Telephone N°.: +1 (617) 301-4896  
Fax N°.: +1 (617) 754-4865  
Email address: rmassoud@ihi.org

**Dr Yvo Nuyens**

Professor  
University of Leuven  
Leuven, BELGIUM  
Telephone N°.: +33 450 20 05 94  
Email address: yvo.nuyens@free.fr

**Dr Andy Oxman**

Director  
Informed Choice Research Dept.  
Norwegian Health Services Research Centre  
P.O. Box 7004, St Olavs Plass  
0130 Oslo, NORWAY  
Telephone N°.: +47 23 25 50 94  
Fax N°.: +47 23 25 50 40  
Email address: oxman@online.no

**Dr Francisco Panadés Rubió**

Faculdade de Medicina da Universidade  
Federal de Minas Gerais  
Av. Alfredo Balena 190-10 andar  
Santa Efigenia-Belo Horizonte, BRAZIL  
Telephone N°.: +55 31 32489800  
Email address: franrubio@hotmail.com

**Ms Fiona Power**

Communications Specialist/Policy  
DFID  
Policy Division, UK  
Telephone N°.: + 44 20 7023 0333  
Fax N°.: + 44 20 7023 0428  
Email address: F-Power@dfid.gov.uk

**Dr Giorgio Roscigno**

Chief Executive Officer  
FIND  
Foundation for Innovative New  
Diagnostics  
Avenue Casai, P.O. Box 93  
1216 Cointrin, Geneva, SWITZERLAND  
Telephone N°.: +41 22 710 0590  
Fax N°.: +41 22 710 0599  
Email: giorgio.rosigno@finddiagnostics.org

**Mr John-Arne Rottingen**

Director  
Norwegian Health Services Research Centre  
P.O. Box 7004, St Olavs Plass  
N-0130 Oslo, NORWAY  
Telephone N°.: +47 23 25 50 00  
Fax N°.: +47 23 25 50 10  
Email: john-arne.rottingen@kunnskapssenteret.no

**Prof David Sanders**

Professor  
School of Public Health  
University of the Western Cape  
Private Bag X17  
Bellville, 7537, Cape Town, SOUTH AFRICA  
Telephone N°.: +27 21 9592132/2402  
Fax N°.: +27 21 959 2872  
Email address: lmartin@uwc.ac.za

**Dr Jan Schwaab**

GTZ GmbH  
Dag-Hammarskjold Weg 1-5  
65760 Eschborn, GERMANY  
Telephone N°.:  
Email address: Jan.schwaab@gtz.de

**Dr Jerry Spiegel**

Assistant Professor  
Faculty of Medicine  
203-6476 N.W. Marine Drive  
Vancouver BC V6T 1Z2, CANADA  
Telephone N°.: + 1 604 822 1398  
Fax N°.: +1 604 822 6966  
Email address: Jerry.Spiegel@ubc.ca

**Ms Liz Stirling**

KT Sector Specialist  
Canadian Institute of Health Research  
160 Elgin Street  
Ottawa, CANADA  
Telephone N°.: + 1 613 941 1072  
Email address: LStirling@cihr-irsc.gc.ca

**Dr Peter Tugwell**

Centre for Global Health  
University of Ottawa  
451 Smyth Road, Ottawa  
Ontario, K1H 8M5, CANADA  
Telephone N°.: + 1 613 562.5800  
Fax N°.: + 1 613 562.5465  
Email address: ptugwell@uottawa.ca

**Dr Jessica van Kammen**

ZonMw  
Laan van Nieuw Oost Indie 334  
Po box 93245 - 2509 AE  
The Hague, NETHERLANDS  
Telephone N°.: +31 70 349 5114/527  
Fax N°.: +31 70 349 5589  
Email address: Kammen@zonmw.nl

**Regrets****Ms Susan Davis**

Ashoka Foundation  
USA  
Email address: THISSDAVIS@aol.com

**Dr Mohamed M.O. Hacen**

Medical Officer  
WHO/AFRO  
Brazzaville, CONGO  
Telephone N°.: +47 241 39277  
Email address: hacenm@afro.who.int

**Dr Anwar Islam**

Canadian International  
Development Agency  
CANADA  
Email address: anwarislam@rogers.com

**Prof Nelson Sewankambo**

Dean  
Faculty of Medicine  
Makerere University  
P.O. Box 7072, Mulago Hill  
Kampala, UGANDA  
Telephone N°.: +256 41 530 020  
Fax N°.: +256 41 540 094  
Email address: sewankam@infocom.co.ug

## WHO Staff

ALSHORBAJI, Najeeb	EMRO	GPN	shorbajin@emro.who.int
BETTCHER, Douglas William	HQ	NMH/TFI/FTC	bettcherd@who.int
BRIXI, Hanna	WR/CHN	DHS/HSD	brixih@chn.wpro.who.int
CLARKRobert	HQ	EIP/KMS	clarkr@who.int
CRAWLEY, Jane	HQ	HTM/RBM/MME	crawleyj@who.int
DAYRIT, Manuel	HQ	EIP/HRH	dayritm@who.int
EBENER, Steve	HQ	EIP/KMS	ebeners@who.int
EVANS, Timothy	HQ	ADG/EIP	evanst@who.int
FONTANNAZ, Françoise	HQ		fontanazf@who.int
CHAMCHUKLIN, Anchalee	SEARO	New Delhi	KHATTARK@whosea.org
KADAMA, Patrick	HQ	EIP/SPO/HSP	kadamap@who.int
LARSSON, Ida Margareta	HQ	FCH/MPS	larssonm@who.int
LIU, Peilong	HQ	DGO	liup@who.int
LONNROTH, Knut	HQ	HTM/STB/TBS	lonnrothk@who.int
MATHAI, Mathews	HQ	FCH/MPS	mathaim@who.int
MENDIS, Shanthy	HQ	NMH/CHP/CPM	mendiss@who.int
MILLER, Margaret	HQ	SDE/FOS	millerm@who.int
NAFO, Fatoumata	HQ	HTM/RBM	nafof@who.int
ORTAYLI, Nuriye	HQ	FCH/RHR/PFP	ortaylin@who.int
REIER, Suzanne Marleen	HQ	FCH/RHR/IBP	reiers@who.int
RIDLEY, Robert	HQ	CDS/TDR	ridleyr@who.int
SALMELA, Reijo Kalevi	WPRO	DHS/SAP	salmelar@wpro.who.int
SAMUELSON, Julia	HQ	FCH/RHR/STI	samuelsonj@who.int
USHER-PATEL, Margaret	HQ	FCH/RHR/IBP	usherpatelm@who.int
VAN LERBERGHE, Willem	HQ	EIP/SPO/HSP	vanlerberghew@who.int
VAN LOOK, Paul	HQ	FCH/RHR	vanlookp@who.int
WARRINER, Ina Katherine	HQ	FCH/RHR/PUA	warrineri@who.int
WEBER, Martin	HQ		weberm@who.int
ZICKER, Fabio	HQ	CDS/TDR/RCS	zickerf@who.int
ZIELINSKY, Christopher	HQ	EIP/KMS	zielinskyc@who.int

## Secretariat

PABLOS-MENDEZ, Ariel	HQ	EIP/KMS	pablosa@who.int
PANG, Tikki	HQ	EIP/IPC	pangt@who.int
SHADEMANI, Ramesh	HQ	EIP/KMS	shademanir@who.int
PANISSET, Ulysses	HQ	EIP/IPC	panissetu@who.int
DE CLAVIERE, Diane	HQ	EIP/KMS	declaviered@who.int

## Planning Group Members

Chunharas Somsak; Lansang, Mary Ann; Pablos-Méndez, Ariel; Panisset, Ulysses; Shademani, Ramesh; Tugwell Peter; Van Lerberghe, Wim

