

# Chapter 8

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## *Information networks in health research: an overview*

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*Information and communication are key to fighting the 10/90 gap*

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## Section 1

### Information and communication are key to fighting the 10/90 gap

In December 2003, an editorial in the *Bulletin of the World Health Organization* highlighted the progress made during the last 25 years in both health and information technology, pointing out that the world as a whole has made “tremendous strides in life expectancy and disease control, together with an explosion of information technology and techniques.”<sup>1</sup> However, the editorial also notes that these benefits have not been shared evenly:

*By no means everyone has benefited from the overall increased trend of increased life expectancy, however, or from that of increased knowledge and its communicability. This gap goes beyond the notion of the ‘digital divide’. It is a ‘knowledge divide’, in which large sections of humanity are cut off not just from the information that could help but from any learning system or community that fosters problem-solving.*

This chapter will look at both sides of the communication gap: the digital and the knowledge divide.

#### 1. The digital divide

December 2003 was a key moment for tackling the digital divide: the first phase of the World Summit on the Information Society (WSIS) was held in Geneva at that time (phase

2 will take place in Tunis in November 2005). The Summit’s aim was “to bring together Heads of State and Government, Executive Heads of the United Nations agencies, nongovernmental organizations, civil society entities, industry leaders and media representatives to foster a clear statement of political will and concrete plan of action to shape the future of the global information society and to promote the urgently needed access of all countries to information, knowledge and communication technologies for development.”<sup>2</sup> In the event, there were over 11 000 participants from 1500 institutions, including 11 heads of state, prime ministers, presidents, vice-presidents and 83 ministers and vice-ministers from 176 countries who endorsed a Declaration of Principles and a Plan of Action.

The Summit sought commitment to bring together the public and private sectors with civil society in the spirit of partnership for development (see MDG8) and to establish information and communication technologies (ICTs) as a priority. Extensive progress in ICTs is a prerequisite for reaching the MDGs. The WSIS Plan of Action sets goals that include connecting all villages, schools, hospitals and governments with ICT by 2015 and ensuring that half the world’s people are within reach of ICT. Roles and responsibilities of all

<sup>1</sup> Bailey C. “Using knowledge management to make health systems work” in *Bulletin of the World Health Organization* 2003, 81 (11) 777.

<sup>2</sup> The Declaration of Principles and Plan of Action, as well as extensive documentation concerning the WSIS Geneva phase, are available at [www.itu.int/wsisis](http://www.itu.int/wsisis). The representatives of civil society agreed on their own Plan of Action during the Summit, also available on the WSIS site or at [www.geneva2003.org/wsisis](http://www.geneva2003.org/wsisis).

stakeholders including government and the private sector are laid out in the plan (see Insert 8.1 for an overview).

Access to information is a need – and arguably a right – of all peoples. According to the UNESCO *Draft Recommendations Concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace*, “Universal access is equitable and affordable access by all citizens to information infrastructure and to information and knowledge essential to collective and individual human development.”

For those in the North, it is difficult to remember a working world without access to the Internet and communication via e-mail. For those in the South, access to and sharing of knowledge through ICTs is a necessary step towards 2015. There is recognition that, alongside efforts by multilateral agencies, developing countries themselves “to achieve the benefits of access to health information ... must invest strategically in information production, gathering, storage, dissemination and public health literacy promotion.”<sup>3</sup>

In developing countries, there is a need to strengthen the information-production and knowledge-sharing capabilities of health researchers and of publishers of journals and books. This is to enable southern institutions to share knowledge of relevance and applicability in developing countries. The problem is not only that developing countries have limited access to northern journals, but that the industrialized countries have little access to the journal literature of the South. In this era of rapid air transport and the rise and

proliferation of new diseases, the knowledge and experience of southern institutions is of increasing relevance and importance to the global research community.<sup>4</sup>

In a recent interview with the *New Scientist*, James Tumwine, founder editor of African Health Sciences, described problems of access to the Internet from a prestigious medical school in Uganda:

*Just accessing your email through the medical school connection can take up to three hours. So recently I installed a satellite dish outside my office. I'm paying 500,000 Ugandan shillings (£160) a month, which is more than my salary. Then there are technical problems like computers breaking down. For some the Internet is just another part of life but for us it is part of a bigger struggle.*<sup>5</sup>

This is one side of reality – the reality where communications *technology* is slow and hampers access, i.e. the digital divide. But there is another side, that of accessing and sharing the *content* of the message being communicated, i.e. the knowledge divide which is explored below.

## 2. The knowledge divide

Scientists have been concerned for some time with the question of global information flow. For example, in September 2000 the editors of the *Lancet*, *British Medical Journal* and the editorial director (medicine) of *BioMed Central*, jointly posed the following question: “Might information flow be one of the most important factors for improving health and development in resource-poor settings?”<sup>6</sup>

<sup>3</sup> Odotola AB. “Developing countries must invest in access to information for health improvements” in *Journal of Medical Internet Research* 2003;5(1):e5. Accessed from [www.jmir.org](http://www.jmir.org) on 14 January 2004.

<sup>4</sup> Chris Zielinski underlined the importance of this point and made valuable suggestions on the chapter as a whole.

<sup>5</sup> Tumwine J, in an interview in the *New Scientist*. Accessed from [www.newscientist.com/opinion](http://www.newscientist.com/opinion) on 10 February 2004.

<sup>6</sup> Godlee F, Horton R and Smith R. “Global information flow” in *British Medical Journal* 2000 321:776-7. The text was published simultaneously in the three authors' journals.

Godlee, Smith and Horton made many telling points which are still relevant today:

- The Millennium Declaration stated the right of access to information and communication.
- The information gap between rich and poor is currently widening, both between and within countries. The digital divide is more dramatic than any other inequity in health or income.
- The developed world has too much information, the developing world little or none (e.g. outdated textbooks).
- One solution is to narrow the gap through access to electronic information (providing simultaneous access and searchable data, making possible participation in the academic debate).
- Publishers in the rich world must play their part (free access for developing countries' scientists).
- *BioMed Central* also offers free technical support and hosting to people wanting to start new e-journals.
- The health problems of the world are concentrated in the developing world, and those who live with those problems have more to offer each other than those who view them from London or Geneva.
- The understanding reached in the developing world is applicable in the developed world.
- Many regions are establishing free networks for the exchange of health information: e.g. the Scientific Electronic Library Online ([www.scielo.org](http://www.scielo.org)), Bioline International (<http://bioline.bdt.org.br>) and African

Journals Online (see [www.inasp.info](http://www.inasp.info)).

Their conclusion was that “there seems every chance that information exchange among those interested in health should improve dramatically, leading ultimately to an improvement in health itself.”

Responding to the article by Godlee *et al*, ethicist Singer drew attention to the “global inequities of health information [that] are part of the problem of global inequities in health, arguably the most important ethical problem in the world.”<sup>7</sup>

Four years on, has information exchange among those interested in health dramatically improved? There are certainly substantial efforts under way:

- One concerns access to scientific journals (see Insert 8.2).
- The difficulty expressed by developing country scientists in having articles/contributions published in the major international health/medical journals is also being taken seriously.<sup>8</sup>
- A meeting of the Health Information Forum (January 2004) drew attention to the paucity of systematic reviews of research evidence on topics of relevance to the developing world.<sup>9</sup>
- A review of progress over the past ten years in the provision of information for effective health care in developing countries is planned to take place in 2004.<sup>10</sup> The Global Forum will be involved in this initiative and plans

<sup>7</sup> Singer PA, Letter to the *British Medical Journal* 2001; 322: 673 (17 March 2001). Singer also suggested that the next step towards a solution would be to develop a concept of a ‘global alliance for health information.’

<sup>8</sup> The *British Medical Journal* and *Lancet*, for example, actively encourage submissions from developing country scientists. They have been working to enlarge their pool of reviewers so as to be able to better assess contributions.

<sup>9</sup> Richards T. “Poor countries lack relevant health information, says Cochrane editor” in *British Medical Journal* 2004;328:310 (7 February)

<sup>10</sup> A global initiative is being planned to mobilize and engage key stakeholder groups in the health information field, with a view to reviewing and synthesizing lessons learned and developing a shared agenda for future actions.

## Insert 8.1

### *Targets and Action Lines from the WSIS Action Plan*

*(the numbering follows the original document, available from [www.itu.int/wsis](http://www.itu.int/wsis))*

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#### Targets

6. Based on internationally agreed development goals, including those in the Millennium Declaration, which are premised on international cooperation, indicative targets may serve as global references for improving connectivity and access in the use of ICTs in promoting the objectives of the Plan of Action, to be achieved by 2015. These targets may be taken into account in the establishment of the national targets, considering the different national circumstances:
  - a) to connect villages with ICTs and establish community access points;
  - b) to connect universities, colleges, secondary schools and primary schools with ICTs;
  - c) to connect scientific and research centres with ICTs;
  - d) to connect public libraries, cultural centres, museums, post offices and archives with ICTs;
  - e) to connect health centres and hospitals with ICTs;
  - f) to connect all local and central government departments and establish websites and email addresses;
  - g) to adapt all primary and secondary school curricula to meet the challenges of the Information Society, taking into account national circumstances;
  - h) to ensure that all of the world's population have access to television and radio services;
  - i) to encourage the development of content and to put in place technical conditions in order to facilitate the presence and use of all world languages on the Internet;
  - j) to ensure that more than half the world's inhabitants have access to ICTs within their reach.

#### Action Lines

8. The effective participation of governments and all stakeholders is vital in developing the Information Society requiring cooperation and partnerships among all of them.
  9. Infrastructure is central in achieving the goal of digital inclusion, enabling universal, sustainable, ubiquitous and affordable access to ICTs by all, taking into account relevant solutions already in place in developing countries and countries with economies in transition, to provide sustainable connectivity and access to remote and marginalized areas at national and regional levels.
  10. ICTs allow people, anywhere in the world, to access information and knowledge almost instantaneously. Individuals, organizations and communities should benefit from access to knowledge and information.
  11. Everyone should have the necessary skills to benefit fully from the Information Society. Therefore capacity building and ICT literacy are essential. ICTs can contribute to achieving universal education worldwide, through delivery of education and training of teachers, and offering improved conditions for lifelong learning, encompassing people that are outside the formal education process, and improving professional skills.
  12. Confidence and security are among the main pillars of the Information Society.
  13. To maximize the social, economic and environmental benefits of the Information Society, governments need to create a trustworthy, transparent and non-discriminatory legal, regulatory and policy environment.
  14. ICT applications can support sustainable development, in the fields of public administration, business, education and training, health, employment, environment, agriculture and science within the framework of national e-strategies. This would include actions within the following sectors:  
*[omitted: e-government, e-business, e-learning, e-employment, e-environment, e-science]*
  18. E-health
    - a) Promote collaborative efforts of governments, planners, health professionals, and other agencies along with the participation of international organizations for creating a reliable, timely, high quality and affordable health care
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## Insert 8.1 (continued)

### *Targets and Action Lines from the WSIS Action Plan*

*(the numbering follows the original document, available from [www.itu.int/wsis](http://www.itu.int/wsis))*

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- and health information systems and for promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens' right to privacy.
- b) Facilitate access to the world's medical knowledge and locally-relevant content resources for strengthening public health research and prevention programmes and promoting women's and men's health, such as content on sexual and reproductive health and sexually transmitted infections, and for diseases that attract full attention of the world including HIV/AIDS, malaria and tuberculosis.
  - c) Alert, monitor and control the spread of communicable diseases, through the improvement of common information systems.
  - d) Promote the development of international standards for the exchange of health data, taking due account of privacy concerns.
  - e) Encourage the adoption of ICTs to improve and extend health care and health information systems to remote and underserved areas and vulnerable populations, recognizing women's roles as health providers in their families and communities.
  - f) Strengthen and expand ICT-based initiatives for providing medical and humanitarian assistance in disasters and emergencies.
23. Cultural and linguistic diversity, while stimulating respect for cultural identity, traditions and religions, is essential to the development of an Information Society based on the dialogue among cultures and regional and international cooperation. It is an important factor for sustainable development.
24. The media—in their various forms and with a diversity of ownership—as an actor, have an essential role in the development of the Information Society and are recognized as an important contributor to freedom of expression and plurality of information.
25. The Information Society should be subject to universally held values and promote the common good and to prevent abusive uses of ICTs.
26. International cooperation among all stakeholders is vital in implementation of this plan of action and needs to be strengthened with a view to promoting universal access and bridging the digital divide, *inter alia*, by provision of means of implementation.
27. The Digital Solidarity Agenda aims at putting in place the conditions for mobilizing human, financial and technological resources for inclusion of all men and women in the emerging Information Society. Close national, regional and international cooperation among all stakeholders in the implementation of this Agenda is vital. To overcome the digital divide, we need to use more efficiently existing approaches and mechanisms and fully explore new ones, in order to provide financing for the development of infrastructure, equipment, capacity building and content, which are essential for participation in the Information Society.
28. A realistic international performance evaluation and benchmarking (both qualitative and quantitative), through comparable statistical indicators and research results, should be developed to follow up the implementation of the objectives, goals and targets in the Plan of Action, taking into account different national circumstances.
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to include an information and communication component in annual Forums – thereby providing a platform for continued networking and dialogue.

- A taskforce is currently working on knowledge sharing as a major theme for WHO's forthcoming World Report on Knowledge for Better Health (to be published in October 2004).<sup>11</sup>

The following two tables provide lists of information networks of various types. These lists are not meant to be exhaustive but to provide the reader with additional resources.

Insert 8.2 looks at (a) initiatives offering developing-country users online access to the full text of priced journals for free or at low cost and (b) sites offering free online access to aggregations of full-text journals or parts of these journals.

In the past few years, there has been much activity in the development of new networks for information sharing. Frequently used electronic tools for the dissemination of information on health research include:

- websites (interactive or not): for example, that of the World Health Organization [www.who.org](http://www.who.org)
- list serve mechanisms including electronic newsletters (usually sending a selection of news from an institution to individuals who have requested to be included in the distribution): for example, SciDevNet's weekly news round up or the one from Stop TB
- e-mail discussion groups (of which the best ones are moderated): for example, HIF-net at WHO.
- online versions of print journals (with rapid response mechanisms): for example, *BMJ* or *Lancet*
- e-journals: for example, *Health Research Policy and Systems* ([www.health-policy-systems.com/home](http://www.health-policy-systems.com/home).)

Insert 8.3 gives examples of selected global electronic networks created to share information on health and health research. Most of these were established by organizations working in science and technology and/or development.

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<sup>11</sup> Presentation by Tikki Pang in Forum 7, December 2003 ([www.globalforumhealth.org](http://www.globalforumhealth.org)) and article in the *WHO Bulletin* 81 (2003) 810-815.

## Insert 8.2

### Access to priced journals

(a) Initiatives offering developing country users online access to full-text of priced journals for free or at low cost				
Initiative	Characteristics	Content offered	Who can access and at what cost	
<b>Access to Global Online Research in Agriculture (AGORA)</b> <a href="http://www.aginternetwork.org">http://www.aginternetwork.org</a>	Online portal providing free access to agricultural journals. Launched in October 2003 by the Food and Agriculture Organization (FAO) in partnership with consortium of publishers and WHO's Health InterNetwork Access to Research Initiative (HINARI).	Over 500 major journals in agricultural and related sciences with tailored subset of CAB Abstracts, all accessed directly from publishers' sites.	Free access to qualifying institutions in eligible developing countries.	
<b>British Medical Journal (BMJ) Publishing Group</b> <a href="http://www.bmjjournal.com">http://www.bmjjournal.com</a>	Individual publisher offering priced journals for free to developing countries. Participates in HINARI and AGORA.	25 specialist journals, <i>Clinical Evidence</i> , the <i>BMJ</i> and the <i>studentBMJ</i> .	Free to all users in all countries with GNI per capita <US\$ 3000 (as designated by World Bank).	
<b>Electronic Information for Libraries (eIFL.net)</b> <a href="http://www.eifl.net">http://www.eifl.net</a>	Independent foundation aiming to promote wide availability of electronic resources by library users in transition and developing countries. Main focus on negotiating affordable subscriptions on a multi-country consorsial basis, while supporting the enhancement of emerging national library consortia in member countries.	Over 5000 journals and other content via EBSCO (eIFL Direct); direct from publishers or via Proquest (eIFL Science & Technology).	At a discounted price to national consortia, varying from country to country. Free to all users of consortia libraries. Aims to be global, currently 40 countries.	
<b>Health InterNetwork Access to Research Initiative (HINARI)</b> <a href="http://www.healthinternetwork.org">http://www.healthinternetwork.org</a>	Online portal providing free or very low cost access to journals and other full-text resources. Consortium of publishers (currently 50) and other partners, coordinated by World Health Organization.	Over 2300 journals and other full-text resources in biomedical and related social sciences.	Access to qualifying institutions in eligible developing countries. Free access in 69 countries. US\$ 1000/institution/year in 44 countries.	
<b>HighWire Free Access to Developing Economies</b> <a href="http://highwire.stanford.edu/lists/devecon.dtl">http://highwire.stanford.edu/lists/devecon.dtl</a>	List of journals published online with the assistance of HighWire Press, accessible free for users from developing economies, based on either programmes such as HINARI or through HighWire's own programme.	HighWire-based software automatically detects the country of the user and grants access accordingly. Some journals do not offer most recent content.	Free to all users from countries appearing in the World Bank's list of low income economies (currently 62) plus Djibouti.	



## Insert 8.2 (continued)

### Access to priced journals

(a) Initiatives offering developing country users online access to full-text of priced journals for free or at low cost			
Initiative	Characteristics	Content offered	Who can access and at what cost
<b>Oxford University Press (OUP)</b> <a href="http://www3.oup.co.uk/jnls/develop">http://www3.oup.co.uk/jnls/develop</a>	Individual publisher offering priced journals for free or at reduced price to low-income countries through OUP Developing Countries Online Collection offer. Participates in AGORA, HINARI and Programme for the Enhancement of Research Information (PERI).	Circa 150 specialist journals, all disciplines.	Free to qualifying organizations from countries in the World Bank's list of low-income economies (currently 62); greatly reduced subscription rates to qualifying organizations from countries in the World Bank's low-middle income countries (currently 72).
<b>Programme for the Enhancement of Research Information (PERI)</b> <a href="http://www.inasp.info/peri">http://www.inasp.info/peri</a>	International project aiming to provide researchers with online access to international scholarly journals, databases and articles across the widest range of disciplines. Provides training in and support for information use in developing countries. Assists developing country publishers.	Over 7000 journals and other content, via EBSCO and direct from publishers.	Free or differentially-priced country-wide access licenses in
(b) Sites offering free online access to aggregations of full-text journals, or parts of these journals			
Initiative	Characteristics	Content offered	Who can access and at what cost
<b>Bioline International</b> <a href="http://bioline.bdt.org.br/">http://bioline.bdt.org.br/</a>	Not-for-profit electronic publishing service committed to providing access to quality research journals published in developing countries. Focus on helping journals publish online.	42 journals, plus books, documents, databases.	Some content free to all.
<b>BioMed Central (BMC)</b> <a href="http://www.biomedcentral.com">http://www.biomedcentral.com</a>	New journals created on the basis of payments from academic authors or their institutions.	Over 100 online journals published in UK.	Most titles free to all.

<b>e-BioSci</b> <a href="http://www.e-biosci.org/about.html">http://www.e-biosci.org/about.html</a>	Resource, in development by European Molecular Biology Organization (EMBO) providing integrated search of published literature, molecular datasets and image repositories.	Prototype interface offers content in the field of molecular biology and genetics, focus on human genetics.	Free to all.
<b>Directory of Open Access Journals (DOAJ)</b>	Portal aiming to increase the visibility and ease of use of open access scientific and scholarly journals.	Currently 798 journals, all subject areas and languages.	Free to all.
<b>Electronic Journals Library</b> <a href="http://rzblx1.uni-regensburg.de/ezeit">http://rzblx1.uni-regensburg.de/ezeit</a>	Portal listing journals available online, with links, categorized by price and subject.	Currently 18 552 titles, mostly journals, of which 6829 accessible free of charge, all subjects.	All titles marked "freely available" are free to all.
<b>FreeMedicalJournals.com</b> <a href="http://www.freemedicaljournals.com">http://www.freemedicaljournals.com</a> <a href="http://www.freebooks4doctors">http://www.freebooks4doctors</a>	Portal focusing on links to free medical journals and books.	Over 1340 journals and 600 books, categorized by medical specialty, language. Some journals do not offer access to their most recent issues.	Free to all users.
<b>HighWire Free Online full-text articles</b> <a href="http://highwire.stanford.edu/lists/freeart.dtl">http://highwire.stanford.edu/lists/freeart.dtl</a>	List of journals and other scholarly content published online with the assistance of HighWire Press, offering all or some of their content free.	Circa 190 journals mainly medical and life sciences; some journals do not offer access to their most recent issues.	Currently 702 389 full-text articles free to all.
<b>PubMed Central (PMC)</b> <a href="http://www.pubmedcentral.nih.gov/">http://www.pubmedcentral.nih.gov/</a>	Peer-reviewed archive of biomedical articles.	Over 100 journals in the life sciences; some journals do not offer access to their most recent issues.	Free to all.
<b>Scholarly Publishing and Academic Resources Coalition (SPARC)</b> <a href="http://www.arl.org/sparc">http://www.arl.org/sparc</a> <a href="http://www.sparceurope.org">http://www.sparceurope.org</a>	Promotes creation of alternative, less-expensive journals to challenge existing expensive journals. Some SPARC journals participate in AGORA and HINARI initiatives.	Numerous journals and projects Most content only available by subscription, although at lower price than comparable journals.	Some free access.
<b>Scientific Electronic Library Online (SciELO)</b> <a href="http://www.scielo.org">http://www.scielo.org</a>	Cooperative electronic publishing of scientific journals; comprises integrated procedures for the measurement of usage and impact of scientific journals.	200 journals (all Latin America, Caribbean and Spain).	Free to all.

Source: Working document prepared by the World Health Organization (2004).

## Insert 8.3

### *Useful additional resources in health research for development: selected global electronic information networks<sup>12</sup>*

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#### **Alliance for Health Policy and Systems Research** [www2.alliance-hpsr.org](http://www2.alliance-hpsr.org)

Services include: website providing contextual searching to facilitate the location and extraction of information related to health policy and systems research from some 1.5 million documents, including full-text access to many of them. The databases searched include MEDLINE, FreeMedicalJournals.com and *ExtraMED*. Also included are resources created by the Alliance: books, newsletter, case studies, training materials and tools, and training modules in Priority Setting in Health Research, Advocacy and Leadership, and Knowledge Management. The Alliance is supported through the Global Forum for Health Research and has over 340 partners.

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#### **The Communication Initiative** [www.comminit.com](http://www.comminit.com)

Services include: website (over 17 000 pages related to communication for development) which includes: base-line data from development and communication sectors; the Drum Beat, weekly electronic magazine; programme descriptions; evaluation data and methodologies; planning methodologies; change theories; interviews; listing of publications and reports, links; active discussion forums; events calendar; monthly newsletters on classified vacancies and classified training, books, consultants, events.

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#### **ELDIS (English Library Development Information Services)** [www.eldis.org](http://www.eldis.org)

Services include: a directory of over 4500 websites, databases, online research project information, library catalogues and other reference materials; summaries and links to over 10 000 full-text online documents; facilities for organizations and individuals to submit their details and documents for inclusion; subject-specific e-mail updates on new items added; newsfeeds for other websites.

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#### **Exchange** [www.healthcomms.org](http://www.healthcomms.org)

A networking and learning programme that promotes effective health communication. It is hosted by [Healthlink Worldwide](#) and supported by the [UK Department for International Development](#) (DFID). Exchange aims to capture, document and promote lessons learned about effective health communication; involve southern-based organizations more fully; increase the capacity of health communicators to influence policy and practice; support strategic approaches to health communication. Exchange strengthens and links existing networks, supporting new work that needs to be undertaken. As a facilitating body, the programme does not normally play a direct role in funding. As a learning programme and iterative process, Exchange monitors and evaluates its own achievements to be able to respond to changing needs and demands of its constituencies.

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#### **Global Development Network (GDN)** [www.gdnet.org](http://www.gdnet.org)

GDN is a global network of research and policy institutes working together to address the problems of national and regional development. Launched in 1999 and incorporated as a non-profit organization independent of the World Bank in 2001, GDN fosters research and knowledge sharing through annual global development conferences, awards and regional research competitions, global research projects and GDNNet, a web-based programme offering tools and services for researchers working in developing and transition countries. These include interlinked directories of researchers, research papers and policy research institutes.

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<sup>12</sup> Networks with a specific disease or regional focus are not included, even though they can offer useful lessons – for example, the new Population and Health InfoShare library, which focuses on reproductive and child health, HIV/AIDS and population ([www.phishare.org](http://www.phishare.org)) or the University of Toronto's Ptolemy project (see Beveridge M et al. "The Ptolemy project: a scalable model for delivering health information in Africa" in *British Medical Journal* 327 (2003) 4 October 790-793 and [www.utoronto.ca/ois/myweb9/index.htm](http://www.utoronto.ca/ois/myweb9/index.htm)). Likewise out of scope are the resources of the Virtual Health Library at BIREME, the Latin American and Caribbean Center for Health Sciences Information ([www.bireme.org/bvs](http://www.bireme.org/bvs)); but see SHARED, section 4 below.

## Insert 8.3 (continued)

### *Useful additional resources in health research for development: selected global electronic information networks*

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#### **Global Knowledge for Development (GKD)** [www.edc.org/GLG/gkd/](http://www.edc.org/GLG/gkd/)

GKD is a list discussion supported by the Education Development Center, a US-based non-profit organization. It was established to facilitate broad discussion of the role and impacts of knowledge, including information/communications technologies for sustainable development.

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#### **Health on the Net Foundation (HON)** [www.hon.ch](http://www.hon.ch)

HON's mission is to guide the growing community of health care consumers and providers on the Internet to sound, reliable medical information and expertise. Initiatives and services include MedHunt© (an intelligent and specialized Internet search engine), HONselect© (an assisted-search facility that integrated heterogeneous databases to offer users a full assortment of web-based health care information and resources) and the HON Code of Conduct (HONcode© a widely endorsed set of ethical guidelines for the provision of authoritative, trustworthy web-based medical information).

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#### **The Institute of Development Studies (IDS), University of Sussex, UK** [www.ids.ac.uk](http://www.ids.ac.uk)

IDS hosts a number of innovative information and knowledge management services providing access to the latest development and research materials from around the globe. Information services include BRIDGE (information and analysis on development and gender), The Global Development Network's online community linking local development research and poverty ([www.gdnet.org](http://www.gdnet.org)), ELDIS (see above) and id21 (see below).

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#### **id21 health** [www.id21.org](http://www.id21.org)

id21 health is one of four programmes of id21, a fast-track research reporting service funded by DFID. It aims to bring UK-based development research findings and policy recommendations to policy-makers and development practitioners worldwide. Online, in print and through the southern media, id21 showcases recent research findings and policy lessons on major development issues. Currently there are four programmes (society and economy, health, education, and urban poverty)

id21 health (and the other programmes) provide a website with free access to a searchable database of recent research on international development issues; jargon-free, non-partisan, one-page research 'highlights' (by email as well as on website); links to and information about source materials; 'Insights' magazine (on website and in print). Source materials include conference papers, research newsletters, and other 'grey' or pre-publication materials.

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#### **INASP-Health** [www.inasp.info/health](http://www.inasp.info/health) (see Section 3 below)

Services include: INASP Health Links (Internet gateway), INASP-Health Directory (printed, CD-ROM, online), Advisory and Liaison Services, Health Information Forum (thematic workshops), HIF-net at WHO (moderated e-mail discussion list).

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#### **SATELLIFE** (The Global Health Information Network) [www.satellife.org](http://www.satellife.org) and [www.healthnet.org](http://www.healthnet.org)

SATELLIFE is an international, non-profit organization whose mission is to serve the urgent health needs of the world's poorest nations by stimulating the flow of information and creating local knowledge networks in support of healthy communities through the innovative use of ICTs. Strategies include Information Resources, HealthNet Knowledge Networks and ICT in Health. Information resources include: electronic discussion groups; electronic publications providing current, reliable public health and clinical content; and GetWeb, a tool that enables users to obtain text from web pages via e-mail. HealthNet Knowledge Networks have been created to date in six countries (Eritrea, Ethiopia, Kenya, Uganda, Zimbabwe and Nepal). ICT in Health comprises projects in partnership: e.g. a recent trial of handheld computers (PDAs) in East Africa as a tool both to provide and collect information.

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#### **SciDevNet Science and Development Network** [www.scidev.net](http://www.scidev.net)

SciDevNet's mission is to enhance the provision of reliable and authoritative information on science- and technology-related issues that impact on the economic and social development of developing countries. The goal is to ensure that individuals and organizations in the developing world are better placed to make informed decisions. A free-access

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## Insert 8.3 (continued)

### *Useful additional resources in health research for development: selected global electronic information networks*

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website, devoted to reporting on aspects of modern science and technology that are relevant to sustainable development, is at the core of its services. It resembles an electronic news magazine, and includes news, features, editorials, book reviews and links to related organizations as well as 'regional gateway' pages for Latin America, Middle East, South and East Asia and sub-Saharan Africa, and a 'What's New' section in English, French, Spanish and Chinese. A special section exists on open access and scientific publishing and current dossiers include the brain drain, climate change, ethics of research, GM crops, indigenous knowledge and intellectual property. A weekly e-mail list serve provides news headlines, with links to full-page articles.

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**SHARED Scientists for Health and Research for Development** [www.sharingpoint.net](http://www.sharingpoint.net) (see Section 4 below)

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**SPIN Science Policy Information News** <http://www.wellcome.ac.uk/en/1/bioprdspn.html>

SPIN is a weekly newsletter produced by the Wellcome Trust's Policy Unit and Information Service. It provides rapid access to concise digests of articles relating to biomedical science policy. SPIN Online is updated every Friday and the SPIN database, containing all SPIN abstracts since March 1992 can be searched online. Users can subscribe to an electronic or paper copy. Health Policy is one of the regular sections.

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**TDR Special Programme for Research and Training in Tropical Diseases** [www.who.int/tdr](http://www.who.int/tdr)

In addition to current information about its portfolio of diseases, results, products, grants and publications, TDR's website has searchable databases: the Research Publications Database containing more than 11 000 scientific papers and publications arising from TDR-funded research (as reported by TDR researchers in their interim and final reports) and the Image Library, containing more than 11 000 images covering all aspects of TDR's target diseases (copies of images can be obtained on request). Its 'Resources Forum' section includes 'Useful links' and 'Discussion groups and lists'. The 'TDR-Scientists' list is a global electronic mailing list open to any scientist interested in tropical diseases research. It is used as an open forum to broadcast brief messages considered useful to the tropical diseases research community and is especially sensitive to the needs of scientists from developing countries.

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**UK Partnership for Global Health** [www.ukglobalhealth.org](http://www.ukglobalhealth.org)

The UK Partnership for Global Health was established in April 2000 following a year-long policy review and national conference organized by the Nuffield Trust and the Royal College of Physicians. It aims to be a forum for people concerned by the impact of globalization on global health, bringing together people from patient-based organizations, charities concerned with health and development, professional associations of doctors, nurses and others, private-sector companies involved in health and the NHS and Government departments. It is funded from charitable sources and its meetings, finances and papers are entirely open to any member. Current sections on the website include: Commonwealth Forum, Global Change and Health, Global Health, Health and Foreign Policy, Health and Trade, Health Governance, ICT for Health, Responsible Globality and Women's Development. This is an interactive site to which users can post comments and responses on content; it receives 40 000 hits/month from all over the world (December 2003).

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Source: Global Forum for Health Research

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Just before the start of the WSIS, the Global Forum invited three information networks to present their work at Forum 7, the 2003 annual meeting. These are global networks of particular relevance to the Global Forum's own work on the 10/90 gap and to the objectives and targets of the MDGs: the Health InterNetwork Access to Research Initiative (HINARI), the International Network for the Availability of Scientific Information's INASP-Health programme and Scientists for Health and Research for Development (SHARED).

ICTs create the dream of a global knowledge base from which information can be extracted and used at the local level. One issue here is access to scientific journals. This is being tackled by HINARI among others for the health sector (see Section 2).

Improved communications allow the results of local research to be distributed broadly, even globally, facilitating knowledge sharing. Access to knowledge sharing and participation in debate is being tackled by INASP-Health, among others (see Section 3).

Sharing of information concerns unpublished as well as published material. Information is

not only about knowledge and research results: networks share contacts, expertise, details about who is doing what and where. Access to unpublished as well as published research and access to scientists is being tackled by SHARED, among others (see Section 4).

Of these three networks, one in particular – INASP-Health – provides a broad range of activities and tools for knowledge sharing, working across electronic and non-electronic communication channels. HINARI's very nature requires a concentration on electronic communication, although the necessity to provide training for those working in developing country member institutions is recognized and taken up by partners.<sup>13</sup> SHARED also recognizes the need to provide off-line consultative and input possibilities for corresponding researchers and to provide training and advice. Its establishment of regional 'sharing points' and production of CD-ROMs for off-line consultation are an answer to these concerns.

Since the widespread development of information networks on a global scale is only in its infancy, it is still difficult to evaluate the impact of these mechanisms.<sup>14</sup>

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<sup>13</sup> TDR has provided targeted grants for infrastructure (equipment and connectivity) and for 'train the trainer' workshops (bringing together researchers and librarians from the same institution with the aim of building a new information culture) as well as a fellowship for African librarians to get high-level training in electronic services provision.

<sup>14</sup> DFID, an agency that has supported many of the communication initiatives listed here, is evaluating its impact in view of its new research strategy. The draft review of September 2003 (*New DFID research strategy: communications theme*) is accessible from [www.dfid.gov.uk](http://www.dfid.gov.uk). Other mechanisms, such as the Communication Initiative, set great store on on-the-spot user evaluation (requesting feedback, for example, on each webpage consulted).

## Section 2

### Health InterNetwork Access to Research Initiative (HINARI)<sup>15</sup>

The Health InterNetwork Access to Research Initiative (HINARI) is a programme administered by WHO to strengthen health systems in developing countries through online access to high quality, timely and relevant scientific information at affordable prices. In July 2001, the WHO Director-General described HINARI as “perhaps the biggest step ever taken towards reducing the health information gap between rich and poor countries.”

#### 1. Origin

HINARI was developed in response to WHO consultations with developing country researchers and academics in 1999-2000, which identified their most pressing information problem as access to the ‘priced literature’, particularly journals.

#### 2. Objective

HINARI is an online library of full-text resources in biomedicine and related social sciences. It is designed to support developing country health/medical researchers, academics, policy-makers and senior practitioners and, through them, to support improvements in health services in their countries.

#### 3. Strategies

HINARI provides staff and students of national institutions in developing countries (universities, professional schools, research institutes, government offices, teaching

hospitals and national medical libraries) with free or very-low-cost access to over 2300 international journals and other full-text resources. Institutions in 69 countries (GNP per capita of less than US\$ 1000; HINARI phase 1) receive free access; institutions in a further 44 countries (GNP per capita of between US\$ 1000 and 3000; phase 2) pay US\$ 1000/year.

#### 4. Partners

Partners include publishers (see Insert 8.4), WHO (administrator), Yale University (site architecture), TDR (training workshops, infrastructure grants, HINARI fellowship), National Library of Medicine (tailored PubMed links) and the UN Food and Agriculture Organization (FAO), which administers the sister programme AGORA – Access to Global Online Research in Agriculture.

#### 5. Functioning/decision-making

All decisions concerning the HINARI offer of online access to full-text publications are made by the partners at regular meetings. WHO convenes the meetings, presents the needs of the developing countries and administers the programme.

#### 6. Activities

HINARI is an online service. All communications (e.g. registration for the service, help-desk) are via e-mail, in English, French or Spanish as appropriate to the end-

<sup>15</sup> Presentation by Barbara Aronson in Forum 7, December 2003 (aronsonb@who.int or hinari@who.int).



user. The HINARI menu is a one-stop gateway to all the resources offered, with a choice of language interfaces. On-site training workshops are organized internationally (by TDR) and locally/nationally by participating institutions.

### **7. Budget/resources/financing**

The publishers provide access to their journals and other publications online. Payments for HINARI access from phase 2 countries have been donated by the publishers to a fund administered by WHO, to be used for in-country training. WHO administers HINARI, underwriting staff salaries and other running costs. Yale University Library donate the time of their librarians, who have built and maintain the databases which are the core of the HINARI menu. Yale librarians have also written the HINARI training modules, and participate in training workshops. TDR has funded workshops, infrastructure grants to participating institutions, and a HINARI fellowship. The National Library of Medicine (USA) has developed customized features on their PubMed site for HINARI users (e.g. direct links to full-text articles from the Medline database, HINARI search filter). All framework development, administrative procedures and policies, site construction, training materials, user support, etc. are coordinated with FAO/AGORA and their partner Cornell University. HINARI and AGORA are collaborating with all partners in an evaluation study.

### **8. Results and impact/output**

Since the launch of the HINARI service in January 2002, 1088 institutions have registered from 101 countries (of 113 eligible). Usage of the service is growing

rapidly. For example, in the first six months of 2003, HINARI users downloaded 34 680 articles from the 214 journals offered by Blackwell Publishing, and during the next six months, the number jumped by 113 percent to 74 734 articles downloaded. The high cost of Internet access and computer equipment and peripherals appears to be a significant limiting factor to accessing journals. Nonetheless, usage levels do not always correlate with the relative economic strength of the country, with some of the biggest users (institutions) coming from the poorest countries. The HINARI model is replicable: AGORA was launched in October 2003. The joint HINARI/AGORA evaluation study will measure the impact of the two programmes. What is already evident, from user feedback, is that this service is both needed and appreciated.

### **9. Perspectives**

HINARI is continuing to add content – focusing on particular subject areas requested by the users and on locally produced journals – and is working to find alternative arrangements for countries not yet included in the offer. From mid-2004, user support and training for Africa will be coordinated for HINARI and AGORA from the AGORA office in Harare, Zimbabwe.

### **10. Who can join the network? how?<sup>16</sup>**

Complete information about the HINARI and AGORA programmes and online registration forms can be found at:

- [www.healthinternetwork.org](http://www.healthinternetwork.org)
- [www.aginternetwork.org](http://www.aginternetwork.org)

Inquiries should be addressed to:

[hinari@who.int](mailto:hinari@who.int) and [agora@fao.org](mailto:agora@fao.org).

<sup>16</sup> For a fuller description of HINARI, see Long M. "Bridging the knowledge gap: the HINARI programme" in *The Biochemist* December 2003, pages 27-29 and Aronson B. "Improving Online Access to Medical Information for Low-Income Countries" in *New England Journal of Medicine* 350:10, March 2004, pages 966-968.



## Insert 8.4

### *HINARI Publisher Partners (as of February 2004)*

AAAS (Science)	Journal of Bone and Joint Surgery (Am. Vol.)
American Academy of Pediatrics (AAP)	Journal of Bone and Joint Surgery (Br. Vol.)
American Association for Cancer Research (AACR)	Kluwer Academic Publishers
American Cleft Palate-Craniofacial Assn.	Landes Bioscience
American College of Chest Physicians	Lippincott, Williams & Wilkins
American Society for Biochemistry and Molecular Biology (ASBMB)	Medical Journal of Australia
American Society of Clinical Oncology (ASCO)	Morion
American Society of Hematology (Blood)	National Academy of Sciences
Annals of Internal Medicine	Nature Publishing Group
Annual Reviews	New England Journal of Medicine
Arnold (Hodder Arnold)	Oxford University Press
BioMedCentral	Portland Press Ltd. (Biochemical Society)
BioOne	Royal College of Surgeons of England
Blackwell Publishing	Royal Pharmaceutical Society of Great Britain
BMJ Publishing Group	Royal Society of Medicine Press
Botanical Society of America	Sage
CABI International	Society for the Study of Reproduction
Canadian Medical Association Journal	Springer Verlag
Cochrane Collaboration (Wiley)	Swets & Zeitlinger
Cold Spring Harbor Laboratory	Taylor & Francis
Company of Biologists	Thieme Verlag
Duodecim EMB Guidelines	University of Chicago Press
Elsevier Science	John Wiley & Sons
JAMA & Archives Journals	

Source: HINARI

## Section 3

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### INASP-Health<sup>17</sup>

#### 1. Origin

The International Network for the Availability of Scientific Publications (INASP) is an international NGO founded in 1992 by the International Council for Science (ICSU) and headquartered in Paris: see [www.icsu.org](http://www.icsu.org). It is a programme of the Committee on the Dissemination of Scientific Information (CDSI), one of ICSU's eight special policy and advisory committees. It is charged with providing advice to the ICSU family about scientific publications, new developments in information technology, access to data and information, and pertinent legal issues. INASP-Health is a specific programme of INASP.

#### 2. Objective

INASP-Health was launched in 1996 to promote increased access to information for healthcare providers and researchers in developing countries and countries in transition.

#### 3. Strategies and tools

INASP-Health promotes interdisciplinary cooperation, analysis and advocacy across the 'health information development community', in both the North and South: health care providers, librarians, information specialists, publishers, researchers, educators, economists, policy-makers, social scientists, technologists and others. The programme brings together the full range of stakeholders involved in the exchange of health information, from senior executives of international agencies to frontline health workers.

In order to do this, INASP-Health has developed an integrated package of tools for the international health information community (see Insert 8.5): three communication tools (inner circle) and two complementary reference tools (outer circle).

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<sup>17</sup> Presentation by Neil Pakenham-Walsh in Forum 7, December 2003 ([health@inasp.info](mailto:health@inasp.info)).

## Insert 8.5

### Overview of INASP-Health



#### INASP-Health Communication Tools

- **Advisory and liaison service:** provides a focal point, expertise and brokerage for health information development activities.
- **HIF-net at WHO:** launched with WHO in 2000, this is an e-mail discussion list dedicated to issues of health information access in resource-poor settings. The list has more than 1300 subscribers in 129 countries, representing the full range of stakeholders in health information development.
- **Health Information Forum:** a series of thematic workshops, providing a neutral platform for discussion, debate and sharing of ideas and experience among providers and users of health information. Health Information Forum was conceived as a means of bringing together stakeholders in the UK development community. Similar 'health information fora' are now emerging

in other countries, including the United States, Kenya and Senegal.

#### INASP-Health Reference Tools

- **The INASP-Health Directory:** describes 250 international programmes that support provision of health information in developing countries
- **INASP-Health Links:** an Internet gateway to selected websites for health professionals in developing countries.

INASP-Health is playing an increasingly active and specific role in capacity development, particularly with regard to support for inclusive multi-stakeholder networking at regional and country level.

#### 4. Partners

INASP-Health aims to make its services available to all with an interest in increasing

access to information. It works in cooperation with a wide range of national, regional and international organizations involved in health information development, including AHILA (Association for Health Information and Libraries in Africa), BIREME (Latin American and Caribbean Center for Health Information) and WHO.

### **5. Functioning/decision-making**

INASP is based in Oxford and is advised by an International Advisory Council. The Council meets every one to two years to review and plan strategy.

### **6. Budget/resources/financing**

INASP-Health has one full-time member of staff and its total income/expenditure in 2003 was 80,000 pounds sterling. During 2003, financial support was received from the BMJ Publishing Group, Exchange (a DFID-funded networking and learning programme for health communication), the International Institute for Communication and Development, and Wellcome Trust. During 2003, support in kind was provided by the International Health and Medical Education Centre, Royal College of Nursing, Royal College of Physicians, University of Florida, University of Zambia Medical School and WHO. Individual support in kind is given by some 20 professionals worldwide who provide substantial help with the development of INASP Health Links, Health Information Forum and HIF-net at WHO.

### **7. Results and impact/output**

An external evaluation of INASP-Health is due for publication in April 2004. At the present time, INASP is in a state of transition into becoming an independent organization in affiliation with ICSU.

The programme receives a high level of spontaneous positive feedback from users. HIF-net at WHO, in particular, appears to thrive as part of an integrated communication package. It is effective in harnessing experience; enabling contacts and collaboration; stimulating a sense of belonging to a global community; bringing together different perspectives from different professions worldwide; keeping each other informed about new publications and services.

### **8. Perspectives**

The following challenges have been identified by INASP: How to enhance multi-stakeholder networking among researchers, health care providers and others at country level? How to be more effective in facilitating political and financial commitment and effective action? How to integrate multilingual networking?

### **9. Who can join the network?**

Open to all interested organizations and individuals. Free of charge. Contact Neil Pakenham-Walsh at [health@inasp.info](mailto:health@inasp.info) or visit the website [www.inasp.info/health](http://www.inasp.info/health)

## Section 4

### Scientists for Health and Research for Development (SHARED)<sup>18</sup>

SHARED is a digital network based on validated information about ongoing medical and health-related research, researchers and institutions.

#### 1. Origins

SHARED started in 1996 with two EC-supported projects in which partners in Europe and Africa designed and developed an IT model for the exchange of information on health research, in order to facilitate contact among scientists and funding organizations. The initial project was followed up by the Netherlands Foundation for Scientific Research (Nederlandse Organisatie voor Wetenschappelijk Onderzoek, NWO) and the German Technical Cooperation Agency (Deutsche Gesellschaft für Technische Zusammenarbeit, GTZ), which continue to support the development of applications useful in resource- and information-poor settings.

#### 2. Objective

SHARED's main objectives include making health-related information available on the web in order to promote cooperation and exchange of information and technology among health-related organizations, to support South-South cooperation and to avoid duplication of efforts in solving common health problems.

SHARED is a virtual network of organizations that serves to promote information sharing on health research projects and results. Its target

groups are scientists, research organizations, funding organizations and policy- and decision-makers. The SHARED system is based on three different layers: *organized data* which allows indexing the information for dissemination; *indexes* which allow filtering for specific purposes; and *interfaces* which are specially designed for different audiences. The system permits cross-language networking. Access/input is available via 'sharing points' (which are regional mirror servers).

#### 3. Strategies

SHARED supports countries to organize and publish their own health-related information sources on the Internet in order to make them available for local knowledge management. At the same time, it allows sharing within the Network and search and matching of content with project descriptions, peer review literature, policy papers, health news and mailing lists from different information sources in different countries in a multilingual environment. SHARED hosts a central database for organizations that cannot host their own information ([www.shared-global.org](http://www.shared-global.org)) and a SHARingpoint site ([www.sharingpoint.net](http://www.sharingpoint.net)) where the 'FingerPrints' – that is, the indexes of the different databases, including the SHARED-Global database, NIH, TDR, Medline, Free Medical Journals, news and mailing lists – are available for search and matching.

#### 4. Partners

NWO, GTZ and regional networks in Latin

<sup>18</sup> Presentation by Agnes Soares da Silva, Scientific Secretary, SHARED, at Forum 7, December 2003 ([soares@nwo.nl](mailto:soares@nwo.nl)).

America and Caribbean (BIREME – [www.bireme.br](http://www.bireme.br)), Asia-Pacific (hosted by CEPR – [www.shared-asiapacific.org](http://www.shared-asiapacific.org)) and Africa (Witwatersrand University of South Africa, Medical Research Council of South Africa, HSRC South Africa, Blair Research Institute of Zimbabwe, Medical Research Council of Zimbabwe, among others; see the homepage at [www.shared-africa.org](http://www.shared-africa.org)).

### 5. Functioning/decision-making

The SHARED network is decentralized, with regional coordination teams in Latin America and the Caribbean, Asia and Pacific, and Africa. SHARED has an International Committee that is now composed mainly of former members of the Advisory Committee of the EC project. The three regional coordinators are members of the International Committee. Each region has its own approach to building the SHARED network, taking into consideration the different levels of networking activities.

All SHARED technology software, including those using the Collexis FingerPrinting technology, is available free of licence fees for the public sector. However, the latter requires signing a Service Level Agreement, which includes costs. Although it is not necessary to install the Collexis technology locally to join SHARED, any public-sector organization located in or working for developing countries, interested in having a local installation of the technology should contact the non-profit organization IntellectualAll (I2A: [www.intellectuall.org](http://www.intellectuall.org)). I2A holds the right to license Collexis technology and offers service support for the public sector using lower pricing criteria than those used for the private sector.

### 6. Activities

Organizational activities consist of sensitization and meetings at central, regional and country levels. Technical activities

include training and capacity building; technology transfer; technical support for actual and new partners; maintenance of the central database and of the SHARingpoint website and applications; development of new tools when needed for the network activities. Networking activities involve acquisition of new partnerships; interaction with other networks of interest on research for development; active search for content of interest (news servers, mail lists, publications, policy papers, projects database, etc.).

### 7. Budget/resources/financing

SHARED received seed money from donors such as NWO and the Dutch Ministry for Development Cooperation (DGIS), which is mainly being used in the regions for expansion, set-up and training. GTZ is also working on the expansion of the network in Africa. Organizations willing to participate in the SHARED network commit themselves through local expenditures related to the organization of their own information. There are many other local initiatives within the network that are seeking or have already received funding for specific projects. NWO also supports SHARED by hosting the Secretariat of the Network.

### 8. Results and impact/output

Over 113 000 projects are accessible through the SHARED network and can be matched with journal articles/abstracts and with new and mailing list postings. A pool of more than 100 000 experts has been derived from these sources. In addition to Medline – the largest server for abstracts from medical journals provided by the NIH – the SHARingpoint has approximately 540 000 full-text indexed articles from more than 600 different journals (such as the *British Medical Journal*, the *Lancet* and *Gene*) and links to about 170 000 full-text articles. Sources and queries are currently accepted in English, Spanish, French, Dutch and German. New languages including

Russian, Portuguese, Bahasa and Chinese will be added soon. A new feature called 'My SHARingpoint' allows the user to define a search profile and to receive e-mails when a new source with the same profile is added to the sharingpoint.net, within a chosen period.

## 9. Perspectives

SHARED has opened new possibilities for sharing information interactively on the Internet without having to build up a central database. The information remains at the origin source and is indexed using the FingerPrinting technology. The resulting 'Collexion of FingerPrints' are available through the SHARingpoint server. This revolutionary technology allows different systems to communicate with each other using a common Internet language, instead of establishing rigid protocols to share information.

Because the main objective of SHARED is to make better use of existing sources of health research information, and especially to improve the link with the policy-making

process, the organization and publication of local information sources is a priority. Having developed a tool that assists organizations to do this, SHARED is in the position to offer an extremely rapid solution for information-sharing – in principle, in any country and using any language.

## 10. How to join the network

The SHARED sites are online and do not require any special procedures or fees. To look for information, go to [www.sharingpoint.net](http://www.sharingpoint.net). New information can be entered directly into the central database [www.shared-global.org](http://www.shared-global.org).

Contact can also be made with the regional coordinators via the following websites:

- SHARED Africa [www.shared-africa.org](http://www.shared-africa.org)
- SHARED Asia [www.shared-asia-pacific.org](http://www.shared-asia-pacific.org)
- SHARED Latin America and Caribbean [www.bireme.org](http://www.bireme.org)

or directly with the SHARED Secretary: [info@sharingpoint.net](mailto:info@sharingpoint.net) or [shared@nwo.nl](mailto:shared@nwo.nl).

## Section 5

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### Conclusions and next steps

#### In summary:

- The new knowledge generated by health research (information) must be disseminated and taken up (communication) so that it may lead to improvements in people's health.
- The full potential of Information and Communication Technologies (ICTs) must be developed so as to remedy both the digital divide and the knowledge divide.
- The first phase of the World Summit on the Information Society, held in Geneva in December 2003, brought together the public and private sectors with civil society in a spirit of partnership for development and to establish ICTs as a priority. The second phase will take place in Tunis in November 2005.
- A large number of information networks have been created in the past decade and play a key role in ensuring access to scientific information and knowledge; they also represent reinforced international cooperation and allow expression of local needs and priorities.
- Three successful networks were examined in some detail in this chapter:
  - HINARI, which is a free or low-cost online library of full-text resources in biomedicine and related social sciences, designed to support health services in developing countries;
  - INASP-Health, which provides a network promoting increased access to information through knowledge sharing and participation in debate for health care providers and researchers in developing and emerging economies; and
  - SHARED, which makes possible sharing of information on projects, people and organizations as well as seamless searching for and matching specific terms between linked databases.
- Planning is in progress for a global initiative to mobilize and engage stakeholders in the health information field, with a view to reviewing and synthesizing lessons learned and developing a shared agenda for future actions.
- One strand of work currently under way is the preparation by WHO of the 2004 World Report on Knowledge for Better Health focusing on what is being called the “know-do gap”, i.e. the disjunction between research and its application. This Report (due to be published in October 2004) and discussions at the World Summit on Health Research and Forum 8 in Mexico City in November 2004 will provide valuable guidance on further steps towards reducing the inequity of the 10/90 gap.