

## The Global Virtual Health Library on Equity and Human Development

### Knowledge and Information Sharing for Health Equity

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“Universal access to *scientific and technical information in health (stih)* is a requirement for health development. Relevant and opportune *stih* must subsidize the actions and procedures involved in decision making related to health planning, administration, research, education, promotion, and care. Efficient health related decision making based on *stih* is an enormous challenge to developing countries. Cooperation among those countries, through the national and regional institutions that produce, mediate and use information is indispensable to overcome this challenge.”  
Abel Packer, Director BIREME, 1999

#### I. Rationale/ Background

In much of the world the health divide is growing; inequities are increasing between rich and poor countries and between rich and poor households. So far, the benefits of globalization have not been turned to the advantage of the poor and marginalized.

Yet, good health is one of the most valuable assets of the poor, it is the basic condition for the economic and human development of a country. While unhealthy workers are physically and mentally less productive, better health leads to higher educational attainment and thus to a workforce with higher capacity for productivity and expertise. More and more, there is recognition that good health is part of preventing poverty, and that improved health can be a powerful exit route from poverty. The challenge lies in giving equitable access to knowledge on how to improve health and to turn this knowledge into concrete policies.

At the same time the revolutionary advances in information and communication technologies (ICT) have transformed entire societies and economies. This is to say we are now living in a global knowledge economy. Knowledge and learning communities enabled by ICT are the engines for social and economic development. The new electronic communication tools and plummeting computing costs are shrinking distances and are reducing borders and time — and the advantages of greater access knowledge and thus the superior ability to learn are becoming even greater. This offers unprecedented opportunities to local governments and communities in developing countries who could greatly benefit from these evolutions.

It is WHO’s mandate to generate, disseminate, and share knowledge on health and to facilitate access to this knowledge in developing countries, in order to improve health conditions and

outcomes. Therefore, WHO should be at the heart of a global knowledge network to promote equitable and universal access to scientific and technical information in health for policy making.

## II. The Virtual Health Library (VHL) in Latin America – an example for successful knowledge sharing

BIREME is, since 1982, the Latin American and Caribbean Center on Health Sciences Information. Organized in 1967 in São Paulo, through an contract between PAHO – Pan American Health Organization and the Brazilian Government (Ministry of Health, Ministry of Education, Secretary of Health of the State of Sao Paulo and the Federal University of Sao Paulo), enlarged its field of action assuming an important role in the dissemination and incorporation of new technology LA&C countries especially after 1982. In 1998 BIREME also assumed the coordination and implementation of the VHL – Virtual Health Library. (Bireme: <http://www.bireme.br>)

The Virtual Health Library for Latin America and the Caribbean started in 1998. It's overall goal is to improve the health conditions of the people in the region and commit themselves to making joint efforts for their construction. PAHO created the VHL to offer direct, equitable and universal access to the most relevant sources of health information. The VHL is a collection or network of health information sources in the region and represents the expansion of the entire infrastructure for the information already amassed in the region. This expansion is not linear but will help to solve problems that otherwise would have only expensive solutions in the current operating model of BIREME and the Regional System.

Users from different levels and locations are able to interact and navigate in the space of one or more information sources, regardless of their physical location. The information sources are generated, updated, stored, and manipulated on the Internet by producers, integrators, and intermediaries, in a decentralized manner using common methodologies for their integration into the VHL. It is also planned to offer products and services on paper, diskettes, CD-ROM, CD-R, and DVD-ROM for institutions and/or users without access or with limited access to the Internet

It is also possible to enrich, schedule, reformulate, and/or translate the basic information sources into new information products and services, with value added, in order to meet more efficiently the information needs of users from specific communities.

The decentralized operation of the VHL allows the institutions participating in the Latin American and Caribbean System on Health Sciences Information to master strategic technologies and increasing equal access to health information.

*Building the Virtual Health Library at global level. Other regions in the world could learn a great deal from the PAHO/ BIREME initiative, if they implement the VHL based on the methodology and experience from LAC. By taking into account lessons learned from LAC, the benefits can be shared at global level and cooperation among regions enhanced.*

## III. The Vision

Promote health equity and south-south cooperation among regions through the creation and integration of a global network of virtual communities on health by using information and communication technologies to:

- Enhance knowledge sharing, disseminate research findings, projects, and demand for services;
- Foster a more vibrant and productive interaction between medical research institutions and policy makers.

#### IV. General Objectives

The objective of the Global Virtual Health Library on Equity and Human Development (GVHL) is to put in place an instrument to allow stakeholders to:

- Share knowledge acquired from network members, as well as having access to other knowledge collections, through the use of a specific Information Mediation system including SHARED-technology. ([www.shared.de](http://www.shared.de))
- Improve the communication among communities of practice in the area of health sciences, such as Equity, Human Development, Disasters, Poverty etc. worldwide through the use of internet communication services such as interactive, distributed databases, information-driven discussion forums, chats on line, bulletin boards, and email accounts
- Support and facilitate access to computer networking for organizations, NGOs, CBOs, and individuals interested in promoting health and development, and thereby enhance their ability to influence social policy that will benefit underserved settlements.
- Engage stakeholders in the human development process, such as
  1. Citizens, by providing better access to services and information about how to improve health and thus contribute to human development
  2. Communities of practice and research institutions in different areas related to health, by providing a powerful communication tool that allows sharing of health knowledge across countries and regions
  3. Multilateral Development Agencies by providing guidelines and policies for funding, as well as information on ongoing health projects

#### V. Main components of the network

1. Communication among communities of practice through a specific tool developed by SHARED and Collexis

Many policy makers in developing countries lack the possibility to communicate with practitioners and homologues in other countries to exchange experiences and know-how. Meetings and exchange mostly exist at a high level only and don't take place on a regular basis.

The GVHL will remedy this situation by providing low cost communication tools for all government levels and scientific research centers to connect communities of practice in the areas of health. In chat rooms local authorities will be able to discuss technical issues, for example on regulation of public and private health insurance or decentralization of health services management etc, with technical officers from different municipalities and research centers.

Each member of the network will also have an e-mail account and be included in e-distribution lists, which will inform about news in the network and interesting events.

Another innovation of the network could be on-line training. By means of the latest multimedia training products local authorities could be able to learn at their pace and when their schedule allows for – for no additional cost. For this objective the network will establish partnerships with specialized organizations, e.g. the World Bank Institute and its distance learning center.

## 2. Knowledge collections on health sciences

Among the main objectives of the global virtual network are the *sharing and generating* of scientific medical knowledge and making these global resources available online for everybody.

Knowledge *sharing* will be possible through the implementation of the methodology elaborated by PAHO/BIREME for the VHL in LAC. Basically, with this methodology a network of integrated national and international databases will be established, registering and connecting a collection of scientific and technical literature on health-related matters. In addition, bibliographic inputs will be enhanced progressively with links that allow locating authors and institutions as well as complete referenced texts. Through a software tool created by SHARED, all articles, authors, institutions, health specialists, ongoing projects, events etc. can be easily retraced and connected. This will allow for efficient locating, referencing and creating of networks in the health area and avoid duplication.

Knowledge *generation* will be facilitated through virtual networking and interaction among the communities of practice. Based on the knowledge needs of communities of practice and the information they exchange by using the communication tools mentioned earlier, additional knowledge can be generated and shared across the countries, such as lessons learned, best practices and initiatives being undertaken by development agencies, civil society, and the private sector.

Through this unique networking among communities of practice, as well as through the linkage of different communication tools with a knowledge repository, communities of practice and policy makers will have access to the most relevant information, resources, and tools. At the same time they will be able to contribute their knowledge and experience and share it with their homologues in other countries.

## 3. E-Health (??? Just an idea)

In addition, an e-help desk could be created to provide advisory services on health issues. This help desk would connect people who have key knowledge on health and development to those who need it, as well as deliver up to date knowledge and other materials. Thus, existing knowledge gaps could be filled and communities of practice in developing countries connected to the ones in multilateral development agencies working in health, such as WHO, PAHO, the World Bank and regional development banks etc.

## VI. Implementation

### 1. Expand the methodology used for the VHL in LAC to other regions

- Based on the decentralized approach and methodology of VHL/LAC, the GVHL will be implemented in the following regions:

**AFRO** (Africa)

**EMRO** (Eastern Mediterranean)

**EURO** (Europe)

**SEARO** (South East Asia)

**WPRO** (Western Pacific)

The implementation process involves the following steps<sup>1</sup>:

## 2. Establishing and connecting knowledge collections

- Adopting the VHL/LAC methodology, arranging and coordinating collaboration among producers, intermediaries and users in order to start the cooperative operation of information sources, especially, realigning scientific and technical information in health products and services already in existence to conform to GVHL context. The implementation of the GVHL will occur simultaneously in the geographic and subject areas. During this period, promotion and training activities will characterize technical cooperation activities.
- Strengthening and expansion of decentralized nodes of data source networks and expansion of decentralized nodes of data source networks and the emergence of the VHL virtual space. During this period, a significant increase in the number of new institutions and information sources independently incorporated to the VHL should occur, both in geographic and subject areas.
- *Geographically*, the GVHL foresees and requires participation of all countries that will progressively operate their own information sources in a compatible manner and in close cooperation and network with other countries.
- By *subject areas*, the GVHL will bring together knowledge within specific health related subjects that favor the development of specialized health data networks. WHO headquarters and its regional programs and specialized centers will have a fundamental role in promoting, implementing and operating subject areas in the GVHL, at regional and sub-regional levels. Examples for subject areas include environmental health, food security, poverty, disasters etc.

## 3. Implement Information Mediation Technology to connect communities of practice with decentralized country and area pages

The VHL will integrate the Information Mediation Technology (IMT) developed for SHARED.

During the first year, (April 2001-2002) the VHL with the new IMT included will be tested in the LAC region, expansion to the global level will be carried out during the remaining years of the project.

Meanwhile, collection of remote data in Africa and Asia will continue to be integrated in the VHL once available. These data will meanwhile already be available through SHARED.org.

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<sup>1</sup> This section is based on “The way to the VHL”, chapter 4 of a VHL background paper written by Abel Packer, Director BIREME: “1999 Guide for development of the Virtual Health Library”, available at: <http://www.bireme.org/bvs>

## Details for the implementation of SHARED in LAC

BIREME was designated as SHARED coordinator for Latin America and the Caribbean based on its regional and technical characteristics and hosts, since December 2000. The SHARED/IKON technology powered by Collexis and BIREME shall make the import/indexing/retrieval for SHARED Latin America and Caribbean users. The main idea is that original data stay where they are and BIREME will only collect the minimal, search-relevant information (e.g. start/end dates or title - of projects, names of people, relations of people to projects) and create fingerprints for each source document.

The retrieval side of the SHARED/IKON technology will be modified and partly re-engineered to fit the needs of the VHL for such a mediation system.

- In accordance with the international experience of SHARED, an Advisory Committee for LAC shall be invited to accompany the implementation of SHARED technology at the global level
- SHARED/IKON technology - such as it is now is an excellent tool for large use in places that currently do not have an adequate - system (or no system at all).
- There are two more possibilities: first, to use only SHARED/IKON read role, with data being collected/updated and certified by current systems and afterwards imported, indexed by Collexis software and published by SHARED/IKON; this possibility is regarded to be difficult, because of the problems with the doubling of information on persons and/or organizations; the second would be a mixed situation, where the former (first) solution could be used for part of the country and normal use SHARED for areas with no other existing systems.
- A mechanism to use SHARED/IKON in the proposed way is being developed in order to promote accessibility to databases in Latin America.
- With a centralized SHARED Mediation System for the global VHL it would be possible to connect with automated updates/inserts many different databases of health research projects in the whole world. This mediation system should be a very open, thin and sophisticated variation - on the SHARED/IKON retrieval side. It should be easy to set up mirror servers in Europe, Africa or Asia and vice versa in longer intervals of updates to make all information accessible in any part of the world (even CD-ROMs will be used to disseminate, update and transfer the data). Political problems should not arise, because the original data will not be copied.
- A first problem to be solved is the language. Taking the example of the VHL in LAC, large parts of publications, curriculum and projects are either in Portuguese or Spanish. BIREME uses a trilingual (English, Portuguese and Spanish) structured vocabulary, translated from MESH – Medical Subject Headings – US National Library of Medicine plus Public Health and Homeopathy terms. Part of the project is the use of this tool by SHARED/IKON and Collexis technology. BIREME has delivered an ascci-export of this thesaurus to Collexis to start the first test on the indexing in Spanish/Portuguese.

#### 4. Building of a global portal to connect all regional VHLs

This portal to the GVHL should be become a reference for scientific and technical information in health sources in the world, with the fundamental objective to consolidate the GVHL and its

regional branches as a common meeting ground for health information, communities of practice, intermediaries and producers.

## 5. Funding (to be developed)

### **Resources required for each region implementing the VHL**

- Local staff to build thematic and country VHLs
- Full-time person to promote, train and organize SHARED in each region after a probationary period.
- A permanent technical group installed in each region with full domain of SHARED/IKON technology to be first help desk and to promote installation of the software in the region. Resources needed for training and possibly for contracting new people
- Investment in the CD room project to allow off-line work in areas of difficult or expensive connection online in the web
- Development of additional software for the interfaces and for multilingual matching
- Regional trainings and meetings

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