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The Virtual Health Library of Spain: a tool to access and disseminate scientific and technical knowledge on health

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Introduction

The project "Virtual Health Library" [<http://bvs.isciii.es>] is the result of technical cooperation between the Pan American Health Organization of the World Health Organization (PAHO/WHO) through its Latin American and Caribbean Center on Health Sciences Information, previously called Regional Library of Medicine (BIREME), [<http://www.bireme.br>], and other national and regional institutions of Latin America and the Caribbean. Each participant country, through its Coordinator Centre, develops its own VHL and all of them belong to the VHL network, coordinated by BIREME. The Spanish National Library of Health Sciences (Biblioteca Nacional de Ciencias de la Salud, BNCS) from Carlos III Health Institute (Instituto de Salud Carlos III, ISCIII, <http://www.isciii.es>), is the Coordinator Centre responsible for developing the Virtual Health Library in Spain. One of the added values of these libraries is the quality of the available information. All sources are selected following strict quality criteria. Another characteristic is that all Virtual Health Libraries use the same interface and search engines to enhance their navigability.

The Virtual Health Library (VHL) could be defined as a tool to disseminate scientific and technical knowledge on

health through the Internet. Its main aim is to promote the development and dissemination of scientific information sources to be used by Governments, national health systems, research and educational institutions, health workers and anyone who may need this type of information. It gathers, in one website, different types of information resources on health. In addition, it guarantees the reliability, updating and quality of the information and it also provides universal access to this information through the Internet [2].

To date, the Virtual Health Libraries Network is made up by 8 national VHLs (they gather and disseminate the scientific production generated in the country), 9 specific VHLs (they develop sources that gather the knowledge on a given scientific field), 37 national initiatives (under development) and 13 regional initiatives (under development; they make up tools of several Latin-American and Caribbean countries).

VHL-Spain offers free access to: National Databases (IBECS y BDIE), international databases (Medline, LILACS, PAHO), collective catalogues (SeCS and C17), Scientific Electronic Library Online (SciELO)-Spain and Net-SciELO® electronic publications, health terminology databases: (MeSH-DeCS, Health Sciences Descriptors), health information locators (LIS-Spain: Healthy Sites), directories and other information resources, links to different VHLs by countries or thematic areas, and publications released by VHL-Spain

itself. The number of visits to the VHL-Spain website has increased dramatically from 587 visualizations of pages in 2002 to 28,239 in 2003 and 45,655 in 2004.

VHL-Spain (Virtual Health Library) main sources

IB ECS (Spanish Bibliographic Index on Health Sciences). This index collects and disseminates quality literature on health sciences published in Spain since 2000. It includes the contents of 146 high-quality journals from various health science fields, such as medicine, pharmacy, veterinary medicine, psychology, dentistry and nursing [4]. In March 2005 the database comprised 36,978 records. A technical committee evaluates the journals to be accepted in the index, according to pre-established quality control criteria. IB ECS uses the methodology and thesaurus used also by other databases such as LILACS (Database of Latin American Literature on Health Sciences) and MEDLINE, called LILDBI-DeCS. This tool increases the quality of Spanish scientific journals and promotes them both in Spain and internationally. IB ECS is linked to SciELO (Scientific Electronic Library Online) and the science magazines directory. When the icons of their respective websites appear in an IB ECS record, the full text can be retrieved from SciELO and the bibliographic record of the journal from the directory (Fig. 1 and Table1).

DeCS (Health Sciences Descriptors). DECS is a trilingual thesaurus (English, Portuguese and Spanish) developed by BIREME for the indexation of articles in scientific journals, books, conferences proceedings, and technical reports, which comprises terms on health sciences fields. It is based on the translation of MeSH (Medical Subject Headings-National Library of Medicine, USA), to which two new categories—Public Health, and Homeopathy—have been added.

The work of the Spanish VHL site is the revision of current terms and the translation of new terms detected by the US National Library of Medicine yearly. In 2004 the DeCS comprised 27,275 terms. Since 2003 the BNCS has reviewed 4,561 terms and translated 1,151 new terms. This dynamic vocabulary is used in the VHL to index resources such as IB ECS and LIS-Spain: Healthy Sites.

Full text on books and bulletins. This tool provides full and free access to scientific literature (42 books, 2 bulletins, 12 reports and grey literature on health sciences in pdf

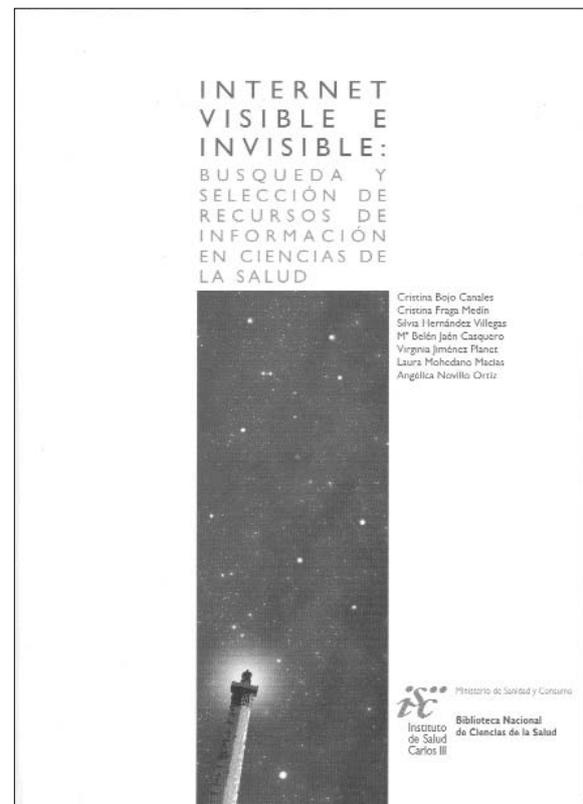


Fig. 1. Cover of *Internet visible e invisible*, by C. Bojo et al. [1]

format). The information can be retrieved through a subject index or an alphabetic index.

SciELO-Spain (Scientific Electronic Library Online). This online library is a model of electronic publishing that comprises a selected collection of Spanish scientific journals available on the Internet. Its aims mainly to implement an electronic virtual library, providing open access to a collection of serial titles, a collection of issues from individual serial titles, as well as to the full text of articles. The access to both serial titles and articles is available via indexes and search forms [1].

Since its official presentation in Spain on October 2001, 17 new journal titles have been added to the library collection, and the number of articles has also increased. The collection is continuously growing and, in April 2005, SciELO-Spain comprises 3873 open-access articles from 21 Spanish medical journals, and more journal titles are expected to come out soon.

SciELO-Spain belongs to the SciELO network, which gathers different SciELO sites (SciELO Chile, SciELO Spain, SciELO Cuba and SciELO Public Health) that share a methodology for the preparation, storage, dissemination and evaluation of scientific literature in electronic format. In

Table 1. Main databases to which VHL-Spain offers free access. (Information from [1])

MEDLINE	Database of <i>abstracts</i> maintained by the US National Library of Medicine containing over 8.4 million abstracts from 3,800+ medical journals
LILACS	("Literatura Latinoamericana y del Caribe en Ciencias de la Salud"). Database cooperative of the BIREME System, comprising the literature relative to health sciences published in Latin America the Caribbean since 1982. It comprises articles from around 670 journals, with more than 150.000 entries, and theses, book chapters, proceedings from conferences, scientific and technical reports, and governmental publications
PAHO	("Pan American Health Organization") Database of bibliographical references and abstracts of the PAHO Library in Washington, DC, USA
SeCS	("Seriosos en Ciencias de la Salud") Journals database gathering the collections of BIREME and the libraries Latin American and Caribbean Network of Information in the Health Sciences. It comprises titles of journals indexed in MEDLINE and LILACS
BDIE	("Base de Datos para la Investigación en Enfermería") Open access automated bibliographical database, on Spanish scientific production in nursery since 1990
REPIDISCA	Database of bibliographical references in health engineering and environmental sciences, coordinated by CEPIS ("Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente"), Lima, Peru
DESASTRES	Database generated by the Center for Documentation on Disasters of the PAHO and the World Health organization (WHO)
WHOLIS	World Health Organization library database. It indexes all WHO publications from 1948 onwards and articles from WHO-produced journals and technical documents from 1985

addition to the current SciELO sites, there are several initiatives under development (Brazil Proceedings, Brazil Theses, Costa Rica, Mexico and Venezuela). In April 2005, the SciELO Network started providing open access to the full contents of 202 journals covering 18 subject matters.

Portal of Scientific Journals. The main purpose of this scientific periodicals' directory in the health sciences is to inform about the availability of open-access texts in electronic format, and the way to access some of them. Information about the bibliographic description of titles, the access to electronic version (free, controlled or unavailable) and the libraries collections that cooperate with Collective Catalog SeCS can be found here. This portal is linked to the MEDLINE database.

LIS-Spain: healthy sites (Health Information Locator). This is a search engine specializing in health websites selected following quality criteria. It offers a description of the contents of the sites as well as their Internet links. The information can be retrieved through free search, using the advanced form and the index or directory that gathers the sources by subject matters and institutions. If we compare Google with LIS, their similarity is that both of them are search engines that have a search bar, but they differ in the fact that LIS focuses its search on health topics, selects websites according to quality criteria, and includes sources that cannot be retrieved by traditional search engines. Currently LIS has over 1000 information sources whose group of electronic publications stands out.

C17 and SeCS. C17 is a collective catalogue of serial publications from health sciences Spanish libraries. It contains information about 530 health sciences libraries from the 17 autonomous Spanish regions, including collections from hospitals, universities, health councils, research centers and laboratories (public health and pharmaceutical) libraries. SeCS (Serials on Health Sciences) is a database that lists journal holdings available at BIREME and in libraries of the Latin American and Caribbean Health Sciences Information System. It contains titles of journals that are indexed in MEDLINE and LILACS databases.

New resources. In addition to updating the different tools, the VHL-Spain develops and includes new resources on a free and universal basis. The latest models are:

- *Evidence-Based Medicine* (Spanish edition). VHL-Spain provides open full access to the online version of this journal in several formats. The whole 2004 collection made up of six issues is available.
- *Bibliographical Index on Safety and Health at Work*. Bibliographic database that comprises the 1995–2000 collection of the *Boletín Bibliográfico de la Prevención*. This bulletin is the Spanish translation of the *Safety and Health at Work, ILO-CIS Bulletin* published by the National Center CIS-Spain. It contains citations of documents that deal with occupational accidents and diseases as well as ways of preventing them. The types of documents are: laws and regulations, chemical safety data sheets, training material, articles from serial publications, books, and standards.

Trends in the information on health sciences

These days, the overwhelming amount of health information on the Internet may pose a problem to the scientific community, who needs to update their knowledge continuously and to access information regardless of the place of connection. Information managers must develop tools which can guarantee the reliability, updating and quality of the contents, and make them available to health professionals. The Spanish National Library of Health Sciences (BNCS) believes that the development of the Virtual Health Library of Spain and its incorporation into the VHL network have made it to be a key source in the access and dissemination of high-quality scientific information from Latin America and Spain. The BNCS will continue supporting initiatives and lines of work

that contribute both to disseminate and protect scientific publications by allowing their universal access through the Internet, according to the Open Access Initiative [3].

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