



**Pan American
Health
Organization**



BIREME
Latin American and Caribbean Center on
Health Sciences Information

Report: BIR IT 121-IN/17

Rev.171204

Executive Report

III Session of the Scientific Committee of BIREME

December 7th-8th, 2017

São Paulo, December 2017

Summary

1 Institutionalality	3
1.1 Governance	4
2 Technical Cooperation: main products and services.....	7
2.1 Regional Programs and Services	8
VHL – Virtual Health Library.....	8
LILACS - Latin American and Caribbean Literature in Health Sciences	10
DeCS – Health Sciences Descriptors.....	14
CRICS - Regional Congress on Health Sciences	16
2.2 Successful Initiatives	17
One-stop-shop portals to access health information	17
Customized web solutions to improve health information management.....	21
Fostering information and knowledge management on health organizations	22
Promoting capacity building and continuous learning in health	25
Selective dissemination of information	26
Knowledge Discovery	28
Knowledge Translation	30
3 Institutional Relations	31
4 Human Resources and cooperative work	32

The Latin American and Caribbean Center on Health Sciences Information (BIREME/PAHO/WHO) was established in São Paulo, Brazil in 1967 as the Regional Library of Medicine by means of an Agreement between the Government of Brazil and the Pan American Health Organization and with a technical cooperation model based on the essential functions of a medical library. Since 1982 the denomination changed to reflect the expansion of the technical cooperation model, including the outstanding role of providing regional and international visibility to scientific and technical production in health in Latin America and the Caribbean (LA&C). On March 3, 2017, BIREME celebrated 50 years of uninterrupted work with the mission of contributing to the development of health in LA&C countries by means of the democratization of access, publication and use of scientific information, knowledge and evidence. To celebrate its 50th Anniversary, many initiatives were developed, which can be seen at:

<http://boletin.bireme.org/en/2017/10/22/initiatives-to-celebrate-biremes-50th-anniversary/>

BIREME is one of the three specialized PAHO/WHO centers, besides PANAFTOSA (Pan American Foot-and-Mouth Disease Center) and CLAP (Latin American Center for Perinatology, Women's and Reproductive Health). Its nature is regional and the work it carries out is at the service of LA&C.

Following is a summary of the aspects related to the institutionality, governance, financial sustainability and main products and services of the Center's technical cooperation.

1 Institutional

During the 29th Pan American Sanitary Conference, 69th Session of the Regional Committee of the WHO for the Americas, held in Washington, DC, USA, from September 25 to 29, 2017 the document CSP29/INF/7 was presented with the situation of the Pan American Centers (http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=41497&Itemid=270&lang=en). This document was prepared in response to the mandate of the Governing Bodies of the Pan American Health Organization (PAHO) to conduct periodic evaluations and reviews of the centers and report on institutional matters or technical advances of strategic importance to the Organization.

1.1 Governance

The resolution of the Directing Council of PAHO (CD49.R5) established the structure of the new legal framework constituted by the Statute of BIREME and the legal instrument for financial purposes, which is still under negotiation: Headquarters Agreement of BIREME in Brazil, to be established between PAHO and the Brazilian Government.

The Statute of BIREME also determines the new structure of governance of BIREME, with the following composition:

A) BIREME Members defined in the categories: a) Member States: all Member States, Participating States, and PAHO Associated Members; b) Participating States: the WHO Member States besides those that are PAHO Members; and c) Participating Organizations: public international organizations with specific qualification related to information and scientific and technical communication. The participation of new members shall be defined by PAHO;

B) Advisory Committee: permanent body of BIREME formed by PAHO and the Government of Brazil as permanent members and by five of BIREME Members as non-permanent members.

The non-permanent members were elected as following:

- At the 29th Sanitary Pan American Conference (CSP29.R9, Sep25-29/2017): El Salvador and Barbados (2018-2020)
- At the 54th PAHO Directing Council (CD54.R5, Sep29-Oct2/2015): Argentina, Jamaica and Peru for a three-year mandate (2016-2018);
- At the 53rd PAHO Directing Council (CD53.R5, Sep29-30Oct/2014): Panama and Trinidad and Tobago for a three-year mandate (2015-2017);
- At the 28th PAHO Pan American Sanitary Conference (CSP28.R5, Sep17-21/2012): Cuba, Ecuador, and Puerto Rico for a three-year mandate (2013-2015);
- At the 51st PAHO Directing Council (CD51.R2, Sep26-30/2011): Bolivia and Suriname for a three-year mandate (2012-2014);
- At the 49th PAHO Directing Council (CD49.R6, Sep28-Oct2/2009): Argentina, Chile, and the Dominican Republic for a three-year mandate (2010-2012) and Jamaica and Mexico for a two-year mandate (2010-2011).

The role of this Committee is to make recommendations to the Director of PAHO on the programming functions, the working plan and the financing of BIREME.

Six sessions of the Committee occurred in compliance with the implementation of the new institutional framework of BIREME, following Resolution 5 of the 49th PAHO/WHO Directing Council (CD49.R5).

Session	Date	Location	Participants
VI CA	February 2 nd 2017	BIREME	PAHO (AD, KBR, BIR) Countries (Brazil, Argentina, Jamaica, Panama, Peru , Trinidad and Tobago)
V CA	December 3 rd 2014	BIREME	PAHO (AD, KBR, BIR) Countries (Cuba , Ecuador)
IV CA	November 26 th 2013	BIREME	PAHO (KMC, BIR) Countries (Brazil , Bolivia, Cuba, Ecuador, Puerto Rico)
III CA	December 5 th 2012	BIREME	PAHO (KMC, BIR) Countries (Argentina, Brazil , Bolivia, Chile, Dominican Republic, Suriname)
II CA	October 25 th 2011	BIREME	PAHO (KMC, PWR/BRA, BIR) Countries (Argentina, Brazil , Chile, Dominican Republic)
I CA	August 31 st 2010	PAHO/HQ	PAHO (D, AD, DD, AM, KMC, LEG, PWR/BRA, BIR) Countries (Argentina, Brazil , Chile, Dominican Republic, Jamaica, México)

Note: Country in bold indicates the Chair of the Session

C) Scientific Committee: permanent body of BIREME formed by at least five scientific information specialists appointed by the Advisory Committee of BIREME. Its function is helping to maintain and improve BIREME's capacity to follow the development of methodologies, technologies, products, services, and events that characterize the national and international systems of information and scientific communication and the challenges for their contextualization in the LA&C. The process of indication of its members by the national authorities, appraisal, and nomination of members of the Scientific Committee was concluded in December 5th, 2012, in the III Session of the Advisory Committee. The four members named were indicated by Canada, Honduras, Trinidad and Tobago and Brazil and, a fifth member from the US National Library of Medicine.

Two sessions of the Scientific Committee have already been carried out since its installation on July 25, 2013, in a meeting held at the BIREME headquarters, which included the participation

of specialists from Brazil, Canada, Honduras, Trinidad and Tobago and the US National Library of Medicine (NLM). The II Session took place on August 14, 2014, also at the BIREME headquarters, with the participation of experts from Brazil, Honduras, Trinidad and Tobago and the NLM. The III Session will be held between December 7 and 8, 2017 and the selection of its members was made during the VI Session of the Advisory Committee, considering the experience in different areas of interest for BIREME: Information Management, Education and Knowledge Management, Scientific Communication and Information Technology. The Committee will be composed by representatives of Brazil, Colombia, Costa Rica, Cuba, Jamaica and Mexico.

Session	Date	Location	Participants
III CC	December 7-8 th 2017	BIREME	PAHO (AD, KBR, BIR) Countries (Brazil, Colombia, Costa Rica, Cuba, Jamaica and Mexico)
II CC	August 14 th 2014	BIREME	PAHO (AD, KBR, BIR) Countries (Brazil, Honduras , Trinidad and Tobago, US National Library of Medicine)
I CC	July 25 th 2013	BIREME	PAHO (AM, KMC, BIR) Countries (Brazil , Canada, Honduras, Trinidad and Tobago, US National Library of Medicine)

Note: Country in bold indicates the Chair of the Session

D) Secretariat: permanent organ of BIREME, formed by the Director and the technical and administrative teams of the Center. It is responsible for the management and execution of the programming functions of BIREME's biennial work plan 2016-2017, that during the biennium 2018-2019 will expand its number to 47 people.

Applying knowledge discovery process to extract potentially useful information and generate indicators on health scientific and technical literature from data available in the Virtual Health Library (VHL) information sources.

Developing Knowledge Translation products and services to bridge the research-to-practice-gaps by means of special services on search, analysis, synthesis and application of scientific knowledge to support health decision-making processes and helping to reduce the so-called "know-do gap".

Implementing Knowledge Platforms to integrate and manage research data to ease measurement and analysis of research activity and facilitate the access to comparative information on the countries' priority health issues.

2.1 Regional Programs and Services

VHL – Virtual Health Library

The VHL (<http://www.bvsalud.org>) is the main technical cooperation **Strategy** and **Model** for health scientific and technical information management in LA&C promoted and coordinated by BIREME since 1998. It is a regional public good built and operated collectively between institutions and professionals from 30 countries in the production, intermediation and use of scientific and technical information in health.

The VHL has as key objectives:

- To create, improve and disseminate sources of scientific and technical information to meet the needs of governments, health systems, health workers and researchers, in the publication, preservation and/or access to relevant health information;
- To coordinate, carry out and promote the bibliographic control, dissemination, evaluation, and improvement of the scientific and technical literature published in the countries of the LA&C Region; and
- To promote and facilitate equitable access to information so that health decisions are based/informed by scientific knowledge (evidence).

The VHL Model

The application of the VHL Model is reflected in the development of information sources and in the construction of web portals, also called VHL instances, which may be of regional, national, thematic or institutional nature. Nowadays, the VHL Model is applied to more than 100 VHL instances that, in turn, make up the VHL Network together with the libraries that cooperate with the development of the information sources that are part of those instances.

Types of contents of the VHL

The VHL, in its library dimension, is expressed by a collection of information sources, defined as any resource - databases, catalogs, websites, books, journals, practice guides, open educational resources, legislation, courses, events, communities of practice, videos, experiences reports, news, among others - that can meet the users' information needs.

The contents of the VHL are gathered and structured in different sources of information, according to the nature and specific characteristics of each type of content, which in turn are presented in the portals of the VHL Instances according to an information architecture that follows the standards of the VHL model, and that facilitate interoperability between systems, access to regional sources of information, such as LILACS, and accessibility to content by different devices.

Progress in the 2016-2017 biennium

1. The VHL model is still being developed and adapted to the Network's emerging needs. The model is applied in 109 national, thematic and institutional VHL initiatives (instances) in 30 countries. A new Portal of the VHL Network is in the final phase of construction and will have the function of supporting the application of the VHL Model as well as a space for the Collaboration Network.
2. The technological platform for the management of the VHL and its information sources is still being updated to support the coordinating institutions in the countries. Eleven outdated systems were replaced by three systems developed with new technologies.



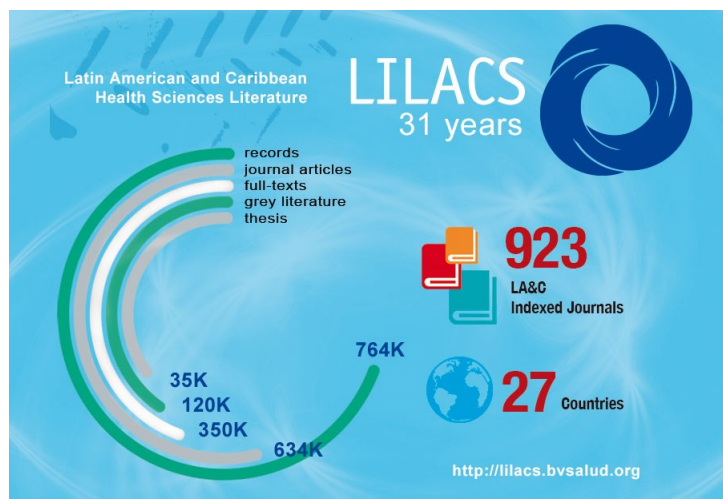
3. The administration web service of referential information sources (FI-ADMIN) incorporates the management of bibliographic references and journal titles, following the LILACS methodology, as well as internet resources, events, multimedia, legislation and educational resources.

Projection for the biennium 2018-2019

Renewed VHL as a management and access strategy to scientific and technical health information for LA&C BIR.01.03
Maintain the technological platform for publishing VHL portals updated BIR.01.03.01
Coordinate the update of the technological platform of the VHL in LA&C BIR.01.03.02
Provide technical support for the tools developed by BIREME and associated with the BVS BIR.01.03.03
Review and update the VHL as a model and information management strategy BIR.01.03.04
Keep the collection of the VHL information sources updated BIR.01.03.05
Coordinate the participation and collaboration of the countries/thematic areas to the VHL through technical cooperation BIR.01.03.06
Maintain the areas / sub-portals in the VHL for the priority themes of Gender, Ethnicity, Equity and Human Rights BIR.01.03.07
Develop area / subportal in the VHL for the 2030 Agenda/Sustainable Development Goals BIR.01.03.08
Develop sub-regional area / sub-portal in the VHL (eg: Caribbean, Central America, South America, etc.) BIR.01.03.09
Offer technical and methodological cooperation for the development and updating of Portals and Subportals of the VHL BIR.01.03.10
Develop Portal of Evidence for decision making in the VHL BIR.01.03.11
Referential sources of information of the VHL updated and available BIR.01.05
Maintain the updated technological platform and improve the management of the reference information sources BIR.01.05.01
Provide technical support of the integrated service of administration of reference information sources BIR.01.05.02
Manage, guide and monitor the contribution of the network to the reference information sources BIR.01.05.03
Integrate thematic thesauri to complement the indexing using the MeSH/DeCS BIR.01.05.04
Migrate national and thematic databases for the integrated service BIR.01.05.05
Review and keep updated the methodology of SeCS BIR.01.05.06
Review, renew and keep updated the Portal of Health Journals BIR.01.05.07

LILACS - Latin American and Caribbean Literature in Health Sciences

LILACS (<http://lilacs.bvsalud.org>) is the most relevant and comprehensive index of scientific and



technical literature in health of LA&C countries. For over 31 years LILACS has been contributing to increase the visibility, access and quality of health scientific output in the Region. LILACS emphasizes Public Health publications and targets students, researchers, managers and health workers. LILACS supports the open access movement and it is aligned to

international standards such as:

- ✓ ICMJE - International Committee of Medical Journal Editors (Vancouver)
- ✓ Clinical Trials Registry
- ✓ EQUATOR Network - Guidelines for Publication of Clinical Research Results
- ✓ Singapore Declaration on Research Integrity

The Content

LILACS brings together more than 780 thousand documents published in the LA&C region, indexes articles from 923 journals, theses, monographs and gray literature. In fact, LILACS complements Medline, which only indexes about 90 Latin American journals. LILACS is cited in thousands of systematic reviews as a research source for primary studies in Latin America and provides contextualized evidence for LA&C health priorities.

LILACS contains primary studies such as clinical trials, cohort studies, case series, case reports and secondary studies such as clinical practice guidelines, systematic reviews, economic health assessments, health technology assessments, and other types of content, all distributed in articles of magazines, theses and dissertations, gray literature and monographs.

Of the total number of records in LILACS, more than 380 thousand provides the link to the full text of the articles, corresponding to 48% of LILACS records. If we consider the records of the last 3 years, 93% of records provide link to the full text, reflecting the current criterion that journal to be indexed in LILACS must be published in open access.

Brazil is the country with the highest contribution to LILACS (33%), followed by Chile, Argentina, Colombia, Cuba, Venezuela, Mexico, Peru, Bolivia and Costa Rica.

Region	1982-2013	2014-2017	Total	%
Caribbean	28232	8717	36949	5%
Centro America	16674	1361	18035	2%
North	39546	2233	41779	5%
South	191536	30202	221738	28%
Brazil	227326	32126	259452	33%
BIREME	171845	39308	211153	27%
Total	675159	113947	789106	100%

Coordination and Collaboration

LILACS has a collaboration network distributed in LA&C countries, which has more than 900 cooperating centers responsible for bibliographic registration and indexing of documents in the database applying the LILACS Methodology and the controlled vocabulary DeCS - Descriptors in Health Sciences. Of these centers, more than 500 effectively sent contributions to LILACS. The general coordination is done by BIREME and at the country level, each of them has a National Coordinating Center. There is also a thematic area level coordination, such as Nursing, Psychology and Dentistry. Since late 2012, LILACS is also powered by automatic harvesting of metadata from electronic journals and direct loading of metadata through the editors of electronic journals.

Management System

LILACS is currently undergoing a change in technology started in 2015 since the launch of the Administration of Sources of Information integrated system (FI-Admin) that is Internet-based and has DeCS integrated to the system to facilitate the indexing process.

The current scenario involves two systems: the new centralized FI-Admin operated on BIREME servers, and the LILDBI-Web system, installed in the cooperating libraries.

Progress in the biennium 2016-2017

1. LILACS was updated weekly with contributions from its Collaboration Network, reaching 780 thousand records indexing articles from 923 journal titles and other types of documents. It operates with the collaboration of libraries in 27 LA&C countries. The management of LILACS update, maintenance and publication processes was fully integrated into the new Integrated Management System of Referential Information Sources (FI-Admin) developed by BIREME. The FI-Admin system has 633 users (577 active users) created for the management, in addition to LILACS and the information sources of the VHL: Health Information Locator (LIS), Event Directory (DirEve), Multimedia (videos), Legislation, Open Educational Resources, Health Sciences Serials (SeCS) and Social Check Links (in maintenance).
2. Technical cooperation with the Latin America network with monthly meetings with LILACS coordinators at the national level and local capacity building through update courses on document indexing according to LILACS Methodology reaching the public with an average of 70 connections by virtual session and totaling 10 sessions on the subject.

3. Updating the criteria for the evaluation and selection of LILACS journals in Brazil with the adoption of international standards for the publication of scientific research results (disseminated by the EQUATOR Network), on research integrity (Singapore Declaration) and the adoption of permanent electronic identifiers such as DOI and ORCID.

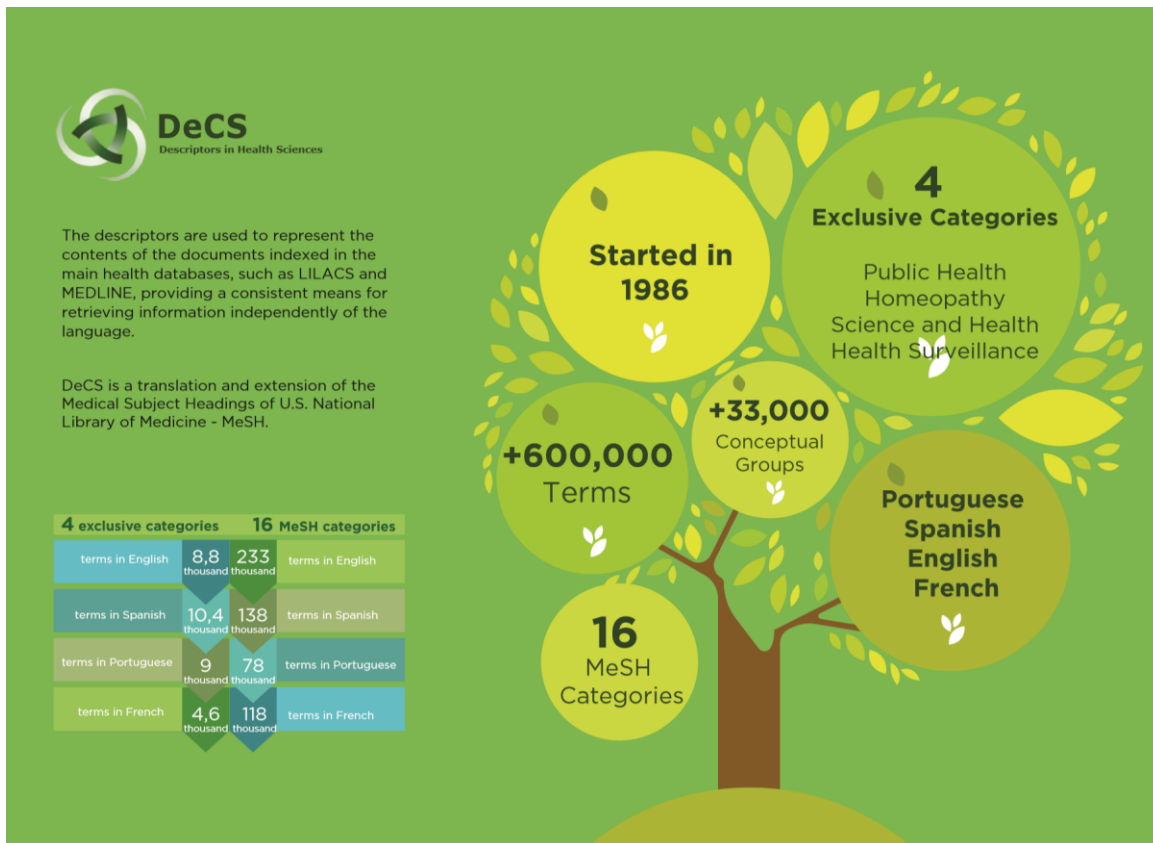
4. Data quality tools are under evaluation to enable standardization of the names of authors and institutions, which will allow the identification of the scientific output published in LILACS at the individual and institutional levels.

Projection for the biennium 2018-2019

LILACS updated and available as the main index of the scientific and technical production of LA&C BIR.01.04
Maintain the LILACS database updated with the contribution of the cooperating centers of LA&C BIR.01.04.01
Maintain the LILACS Methodology updated to guarantee data quality in the database BIR.01.04.02
Expand the LILACS coverage for non-conventional documents and priority topics of the key countries BIR.01.04.03
Manage, guide and monitor the contribution of the network to LILACS BIR.01.04.04
Generate statistical reports extracted from LILACS for publication of indicators of the scientific and technical production of LA&C BIR.01.04.05
Implement actions to increase the visibility of LILACS BIR.01.04.06
Perform the process of selecting magazines from Brazil to LILACS BIR.01.04.07
Develop the technological platform associated with the management activities of LILACS BIR.01.04.08
Provide technical support of the technological platform associated with the management activities of LILACS BIR.01.04.09
Renew LILACS search portal with highlights for priority issues of PAHO, the 2030 Agenda and Universal Health Coverage BIR.01.04.10
Accompany and guide the process of selecting documents to LILACS in the countries and thematic areas BIR.01.04.11
Directory of Specialists and Institutions published in the VHL BIR.01.06
Normalize the data of authors and institutions registered in LILACS BIR.01.06.01
Generate authority file and remissives (variations of names) for authors and institutions BIR.01.06.02
Develop tools for validation of the authority file and remiss from the collaboration of the authors BIR.01.06.03
Interoperate with international initiatives that promote the unique identification of researchers and institutions BIR.01.06.04
Develop the technological platform for management and publication of the directory of experts & institutions BIR.01.06.05
Identify the network of experts that publish in the priority transverse theme Gender BIR.01.06.06
Provide technical support of the management platform and publication of the directory of experts and institutions BIR.01.06.07
Identify the network of experts that publish in the priority transverse theme Ethnicity BIR.01.06.08
Identify the network of experts that publish in the priority transversal issue Equity BIR.01.06.09
Identify the network of experts that publish in the priority cross-cutting theme Human Rights BIR.01.06.10
Bibliographic control and visibility of scientific and technical production in health of LA&C expanded BIR.01.15
Promote the extension of bibliographic control with national and thematic databases, complementing LILACS BIR.01.15.01
Manage the inclusion of national and thematic databases in the regional index BIR.01.15.02
Perform the indexing of Latin American journals in MEDLINE BIR.01.15.03
Informetrics of the scientific and technical production of LA&C published in LILACS BIR.03.02
Maintain extraction, standardization, storage and data access procedures LILACS BIR.03.02.01
Maintain procedures for generating the LILACS indicators BIR.03.02.02
Keep the report updated according to database updates and specific service demands BIR.03.02.03
Provide technical support of the informetrics generation procedures BIR.03.02.04
Maintain the indicators of cross-cutting issues (Gender, Ethnicity, Equity and Human Rights) BIR.03.02.05
Define indicators related to 2030 Agenda BIR.03.02.06

DeCS – Health Sciences Descriptors

DeCS (<http://decs.bvs.br> or <http://decs.bvsalud.org>) is a controlled vocabulary that maintains and regularly updates the terminology in health sciences in Spanish, Portuguese and English.



DeCS:

- Is available online in open access, aimed mainly at students, researchers and health professionals, and by means of a free license of use upon request;
- Is the only yearly updated standard vocabulary in the world for indexing scientific and technical health literature in Spanish and Portuguese;
- It includes the translation of the Medical Subject Headings (MeSH/NLM) into Portuguese and Spanish;
- Is an extended and enriched thesaurus with additional categories maintained by BIREME, such as Public Health, Health Surveillance, Homeopathy, and Science and Health;
- The translations of MeSH/NLM into Portuguese and Spanish are integrated into the Unified Medical Language System (UMLS/NLM) of the USA

- DeCS provides Web services that facilitate the use of the MeSH/DeCS terms for indexing contents in health information systems;
- Is a tool that allows searching MEDLINE and other VHL information sources by subject headings in Spanish, Portuguese, French, and English
- Is an ever-growing vocabulary through annual updates and by receiving suggestions;
- The translations into Spanish and French rely on the collaboration of the Central Library of the Medical School of the University of Chile; *Biblioteca Nacional de Ciencias de la Salud (BCNS)* of *Instituto de Salud Carlos III (ISCIII)* of Spain's *Ministerio de Economía y Competitividad*; and *CHU Hôpitaux de Rouen*, France. The French MeSH terms are translated by *Institut National de la Santé et Recherche Médicale (INSERM)*, France; and
- Receives around 300 thousand visits per month.

Progress in the biennium 2016-2017

DeCS continues to be updated annually (according to the MeSH maintained by the NLM), in English, Portuguese and Spanish languages. In 2016 the MeSH translated into French was added to the VHL, in addition to the translation of the exclusive categories of DeCS (Public Health, Homeopathy, Health Surveillance and Science and Health) in collaboration with *Hôpitaux de Rouen* in France. BIREME is promoting the expansion of DeCS regarding PAHO/WHO cross cutting issues: Gender, Ethnicity, Equity and Human Rights. The analysis and proposal for the incorporation of new terms on these topics were carried out and are being evaluated by experts in the Region, in coordination with the PAHO/WHO Central Office.

Projection for the biennium 2018-2019

DeCS thesaurus compatible with MeSH, interoperable with UMLS and extended with other terminology categories BIR.01.02
Update the MeSH categories English to Portuguese and Spanish of LA&C and Spain annually BIR.01.02.01
Incorporate the cross-cutting issues into the MeSH/DeCS BIR.01.02.02
Extend the terminology coverage of the MeSH/DeCS according to the concept of Universal Health Coverage BIR.01.02.03
Extend the terminology coverage of the MeSH/DeCS according to the concept of e-Health BIR.01.02.04
Update the translation of the exclusive descriptors DeCS to the French BIR.01.02.05
Adopt new management and publication system of the DeCS BIR.01.02.06
Provide technical support of the new management and publication system of the DeCS BIR.01.02.07
Offer thematic thesaurus management platform that complements the MeSH/DeCS BIR.01.02.08
Terminologies in health sciences applied in the organization and exchange of scientific and technical knowledge BIR.03.01
Develop a web service to search and retrieve the related terms of DeCS and UMLS BIR.03.01.01
Maintain updated the DeCS mapping with the UMLS annually BIR.03.01.02
Develop a web service to suggest indexing terms (automatic indexing) BIR.03.01.03
Provide technical support of the associated web services BIR.03.01.04
Define a public version of ontologies of the DeCS and LILACS BIR.03.01.05

CRICS - Regional Congress on Health Sciences

CRICS, since its first edition in 1992, is one of the most important and consolidated international congress on scientific information and periodically addresses the state of art in the areas of information sciences, knowledge and scientific evidence management. It includes scientific communication, library science, information science, methodologies



I Reunión de Coordinación Regional de la Biblioteca Virtual en Salud

and information technology and its applications for national research systems, education and health.

The VHL Regional Coordination Meeting which is the most

important exchange forum of the VHL cooperative network is held as a preliminary event to each CRICS and analyzes the VHL status of development at regional, national, thematic and institutional levels. Both events are coordinated by BIREME in cooperation with the national and local institutions of the host countries.



The 10th edition of CRICS and VHL7 are scheduled to be held in the last quarter of 2018 in São Paulo, Brazil, under the topic "Moving towards the 2030 Agenda: Contributions of Evidence and Knowledge".

Projection for the biennium 2018-2019

CRICS10 held on due date BIR.01.14
Coordinate the Scientific Committee and hold regular meetings to prepare the programs of the BIR events.01.14.01
Keep updated the web platform developed for the event with the programming of the VHL Meeting, Parallel Events and CRICS BIR.01.14.02
Guarantee the logistics of the event (local event, necessary services, etc.) BIR.01.14.03
Promote campaigns to publicize the event and mobilize financial resources BIR.01.14.04
Publish the results of the Congress and of the parallel meetings BIR.01.14.05

2.2 Successful Initiatives

One-stop-shop portals to access health information

❖ Regional Portal of the VHL

The Regional Portal of the VHL (<http://www.bvsalud.org>) is the integration space of health information sources that promotes the democratization and expansion of access to scientific and technical health information in LA&C. It is developed and operated by BIREME in three languages (English, Portuguese and Spanish), applies the VHL Model and offers an integrated search interface (IAHx) throughout its collection of information sources, with filter resources, export of results, search advanced and interoperation with DeCS/MeSH.

The collection with more than 35 information sources of the Portal is composed of bibliographic databases produced by the Network, such as LILACS, in addition to the MEDLINE database and other types of information sources such as open educational resources, websites and scientific events. The general index is updated weekly from the metadata harvest of the information sources of the collection.

The Regional Portal of the VHL publishes knowledge windows to highlight selected information and the best evidence on emerging and priority issues to the Region of LA&C, with the intention of facilitating access and use of such information by users.

The new MyVHL service is in regular operation in the Regional Portal of the VHL and represents a facility for users to manage their searches and documents of interest.



❖ **CARPHA EvIDeNCe Portal**

The CARPHA EvIDeNCe Portal is an initiative coordinated by the Caribbean Public Health Agency (CARPHA) with the

collaboration of BIREME,
applies the search interface



(IAHx) adapted to the needs provided by CARPHA and selects evidence from the sources of information of the VHL. The portal aims to provide a one-stop-shop solution where a single query through this interface will produce consolidated and easy to use results. Its target audience is the technical health personnel, managers, health authorities, and the actors of the health system and Caribbean universities. An important line of action of this initiative is the identification, registration and visibility of the evidence produced by the member countries of CARPHA. This action has the collaboration of the libraries of the MEDCARIB Network, which is also part of the VHL Network.

❖ **Traditional Medicine and Complementary Therapies VHL**

The Traditional Medicine and Complementary Therapies VHL (Medicina Tradicional y Terapias Complementarias, MTyC) is a thematic regional instance of VHL available at <http://mtyc.bvsalud.org>. Its objectives are to increase the visibility, access, use and generation of scientific, technical and educational contents that contribute to the actions of promotion,



development and integration of MTyC in the health services and systems of LA&C, as well as to develop a collection of sources of relevant information for the MTyC with different types of contents: scientific and technical information, regulations, educational materials and others. The initiative was initially promoted by the PAHO/WHO Nicaragua Office, recognizing that it is important to have at hand the information that best addresses interculturality, the rescue of ancestral practices, complementary or integrative alternatives and also increase knowledge with adequate information to the decision making. The proposal was presented at the Regional Meeting: Advancing towards Universal Health, contributions of Traditional and Complementary Medicine (Managua, Nicaragua, June 2017) and attracted the adhesion of a Regional MTyC Network with representatives of several Latin American countries.

❖ **Nursing VHL**

The VHL Nursing is a regional thematic instance of the VHL available at <http://bvsenfermeria.bvsalud.org> and coordinated by the School of Nursing of Universidade Federal de Minas Gerais, with the support of the Department of Human Resources for Health of the PAHO/WHO Area of Health Systems and Services. The VHL



Nursing promotes equity to access health information; establishes national and regional alliances and consortiums to maximize the shared use of human resources, information technologies and collections of information sources; it is structured based on a cooperative network, with the exchange of experiences, favoring decentralized development and operation at all levels of information in nursing. It is developed with the participation of institutions from Argentina, Bolivia, Brazil, Colombia, Cuba, Mexico and Uruguay.

The two main sources of information are BDEF - Nursing Database, which indexes articles from 37 journal titles as well as theses and dissertations and REV@ENF - Portal of Nursing Journals with 29 titles of journals available in full text.

❖ **Global Index Medicus**

The Global Index Medicus (GIM) provides worldwide access to biomedical and public health literature produced by and within low- and middle- income countries. The main objective is to increase the visibility and usability of this important set of resources.



The material is gathered and aggregated by WHO Regional Office Libraries on a central search platform provided by BIREME allowing retrieval of bibliographical and full text information. Through the GIM portal, users can search across over 1.8 million bibliographic and full text records produced by these countries.

BIREME contributes to GIM with the VHL model to publish and integrate all the index medicus in GIM portal; with LILACS methodology to manage and publish the African and Eastern Mediterranean Index Medicus; with the collaboration flow for South-East Asia and Western Pacific by harvesting, processing and publishing their bibliographic metadata.

Progress in the 2016-2017 biennium

1. The technical cooperation of BIREME has been maintained in the development of regional and international projects such as CARPHA, for the access of the English Caribbean countries to the evidence in health and the Global Index Medicus, for the organization and access to production of low- and middle-income countries.
2. The Regional Portal of the VHL is in operation and regularly updated, recording about 8.7 million accesses that resulted in 25 million page views. Moreover, the Knowledge Windows were included in this Portal to highlight relevant information on priority issues for the Region, such as Zika.
3. Survey and SWOT analysis on personnel aspects, information technologies and information management related to the Regional Medical Indexes (Regional Index Medicus) to plan the development of new interoperability, generation and maintenance processes of the Global Index Medicus.
4. The process of data quality of the regional indices that make up the Global Index Medicus is in progress, through data profiling procedures (identification of the data profile) for planning the cleaning processes, standardization and enrichment of the metadata.

Projection for the biennium 2018-2019

Global Index Medicus (GIM) operating in coordination with the WHO Regional Offices and Headquarters in Geneva BIR.01.09
Collect the metadata of the Regional Repositories BIR.01.09.01
Operate data quality procedures for the collected metadata BIR.01.09.02
Keep the search interface of the updated GIM BIR.01.09.03
Keep the GIM portal updated BIR.01.09.04
Key countries and Portuguese-speaking countries strengthened on information management BIR.01.10
Strengthen national systems of scientific and technical information in health sciences BIR.01.10.01
Expand the coverage of scientific and technical production in health of the countries in the VHL BIR.01.10.02
Expand the visibility of the scientific and technical production of the countries through national or subregional portals BIR.01.10.03
Search and recovery interface of the VHL renewed BIR.02.05
Operate search indexes integrated into the information sources available in the VHL Network BIR.02.05.01
Maintain the technological platform of the search and recovery interface updated BIR.02.05.02
Maintain the operation of the interoperability processes of the unique regional index BIR.02.05.03
Renew the search interface according to the different target groups of the VHL BIR.02.05.04
Provide technical support for the search and recovery interface of the VHL BIR.02.05.05

Customized web solutions to improve health information management

❖ **REBEC - Brazilian Registry of Clinical Trials**

REBEC (<http://www.ensaiosclinicos.gov.br/>), coordinated by ICICT/Fiocruz, is the first clinical trials registry database in Portuguese language in accordance with ICTRP/WHO criteria.



BIREME is responsible for the technological platform development – OpenTrials – used by REBEC, which is a free and open source software available for download, use and customization by any country or region.

❖ **MedList - Annotated Medicines Hyper Lists**

The MedList is a component of the Regional Platform for Innovation and Access to Health Technologies (PRAIS - <http://www.paho.org/prais>), coordinated by PAHO HSS/MT Area. It aims



at managing and publishing national and international PAHO/WHO essential drugs lists.

❖ **ProEthos Platform**

The ProEthos Platform is coordinated by PAHO AD/KBR area and aims to facilitate the review process of ethics committees and organize them with the support of information and communication technologies (ICT).



❖ **Repository of Legislation on Risk Factors in Non-Communicable Diseases**

Initiative coordinated by the Department of Noncommunicable Diseases and Mental Health (NMH) and PAHO/WHO Office of Legal Affairs (LEG), which aims to make the legislation available to PAHO/WHO Member States and the general public on current policy related to the risk factors of non-communicable diseases (NCDs) of the Spanish and Portuguese speaking countries, with periodic updates, organized into the following topics: tobacco control, nutrition, alcohol, physical activity & sports promotion and road safety . BIREME collaborates with the methodology, development and maintenance of the technological platform of the repository.

Progress in the 2016-2017 biennium

1. ProEthos version 2.0 developed in open source modus operandi.
2. A workshop on the technologies used in version 2.0 took place, with the participation of LA&C countries to support their development and maintenance in the open source modus operandi.
3. Referential database management and publication system developed for health legislation, making it possible to correlate normative acts to keep legal information updated.

Projection for the biennium 2018-2019

Management platform of Research Ethics Committees - ProEthos available to the countries BIR.01.08
Coordinate the maintenance of the technological platform of ProEthos 2.0 BIR.01.08.01
Coordinate technical support to the countries BIR.01.08.02

Fostering information and knowledge management on health organizations

❖ Brazilian Ministry of Health

The VHL of the Ministry of Health of Brazil - MS VHL is an Institutional-level VHL instance coordinated by the Library Department of the Ministry of Health of Brazil. The MS VHL is the main channel of distribution, access and visibility of technical and official publications of the Ministry of Health of Brazil, and abides by the government's policy for transparency and access to information. It is available since 2001 at <http://bvms.saude.gov.br>.

BIREME has promoted, in the context of this technical cooperation, some innovations for the VHL, such as mobile interface and web accessibility in accordance to W3C (World Wide Web Consortium).

The the institutional VHL of the Ministry of Health of Brazil was the first VHL web



portal that reached the highest level of accessibility standards (W3C AAA Level)

There are many other technical cooperation projects between BIREME and the Brazilian Ministry of Health. The development and maintenance of the Brazil VHL (<http://brasil.bvs.br>)

deserves special mention. The Ministry of Health coordinates the Brazilian Network of Information in Health Sciences.

❖ **SES-SP - Secretary of Health of the State of São Paulo**

The VHL of the Secretary of Health of the State of São Paulo- SES-SP VHL, is an institutional VHL instance, which applies the VHL Model to manage the scientific and technical information generated



by the Information and Knowledge Network of the Research Institutes of the State of São Paulo, coordinated by the Secretary of Health of the State of São Paulo. Throughout 10 years of cooperation between BIREME and SES-SP, many innovations were developed as, for example, the infometric analysis applied in the monitoring of the scientific and technical production of the SES-SP research institutes.

❖ **SMS-SP - Secretary of Health of the Municipality of São Paulo**

At the municipality level, BIREME has established cooperation with the Secretary of Health of the Municipality of São Paulo (SMS São Paulo) for the development and maintenance of the SMS São Paulo



VHL available at <http://sms.sp.bvs.br> that has the active participation of the SMS-SP technical areas. The SMS VHL São Paulo aims at promoting, expanding and strengthening the technical, scientific and teaching areas of the Secretariat, through the dissemination and facilitation of access to the full texts of its publications, contributing to the development of collective health and the strengthening of the Brazilian Health System (SUS).

As a highlight of the cooperation with BIREME, it is worth mentioning the integration of the VHL with the Telehealth Program of the Networks of the Municipality of São Paulo and the development of a collection of successful experiences.

❖ **Regional Database of Health Technology Assessment Reports of the Americas - BRISA/RedETSA**

Initiative coordinated by the Drugs and Technologies in Health Unit (MT) of the Department of Health Systems and Services (HSS) of PAHO/WHO, which aims to offer a unique interface for the retrieve

Health
Technology
Assessment



Reports (ETS) produced by the national institutions that are part of the Health Technology Assessment Network of the Americas (RedETSA). BIREME collaborates with the methodology, development and maintenance of the technological platform responsible for the management and publication of the database

Progress in the biennium 2016-2017

1. The project between SES-SP and BIREME was approved in October/17 through an Agreement with PAHO Brazil, aimed at strengthening the RIC VHL, promoting the information management of the Nuclei of Evaluation and Innovation of Health Technologies and establishing a portal of infometric indicators of the scientific and technical production of the Research Institutes
2. Launch of the site BRISA/RedeTSA on November 14th, 2017 - <http://sites.bvsalud.org/redetsa/brisa/> - in 4 languages – Portuguese, Spanish, English and French.

Projection for the biennium 2018-2019

Strengthening of the Collaboration Network for Information Management BIR.01.01
Renew cooperation agreements and terms of adhesion to the LA&C Network of Information in Health Sciences BIR.01.01.01
Expand alliances with institutions in other sectors related to compliance with the 2030 Agenda BIR.01.01.02
Carry out activities for the development of capacities in the Network BIR.01.01.03
Create country profiles to highlight and give visibility to the contribution and participation of the Network in the regional information products and services BIR.01.01.04
Organize and optimize technical and methodological support processes for the Network BIR.01.01.05
Do the management of the VHL Network Portal BIR.01.01.06
Update and maintain the Repository of Documents of the VHL Network and of BIREME BIR.01.01.07
Update and maintain the VHL Network Directory BIR.01.01.08
Promote meetings and spaces for interaction, communication, evaluation and exchange of experiences with the Network BIR.01.01.09
Develop the technological platform associated with the VHL Network Directory BIR.01.01.10
Provide technical support of the technological platform associated with the VHL Network Directory BIR.01.01.11

Promoting capacity building and continuous learning in health

❖ **Scientific Communication courses**

Courses on Scholarly Communication in Health Sciences aimed at researchers, scientific editors, health professionals, graduate students and other stakeholders. It cover topics such as scientific writing, actors of the editorial chain, business models of health journals, Open Access, journal selection, authorship and coauthorship, ethics in scientific experimentation and writing, peer review, conflicts of interest, assessment of scientific journals, traditional and alternative metrics and novel trends in scholarly publishing.

❖ **Courses on access to evidence for decision making**

User training activities contribute to the promotion of equity in the access and use of health information and evidence. They can be online or face-to-face activities; and aimed at end users or intermediaries, such as librarians.

Among the types of training activities offered by BIREME, the following stand out:

- Courses on search for information in the information sources of the VHL;
- Courses on access and use of evidence to inform health policies and decisions following the SUPPORT/EVIPNet methodology;
- Courses for elaboration of advanced searches in the VHL that support the construction of knowledge windows, definition of thematic areas and systematic reviews.

❖ **Development of online courses**

Development of instructional design for online courses integrated to a collection of evidences on the VHL and available in the Virtual campus of Public health (VCPH). The topics of the courses are related to neglected diseases such as: Visceral Leishmaniasis, Geohelminthiasis: prevention, treatment and control and Post-exposure Prophylaxis of Rabies. In addition, BIREME has developed courses on management of information sources, access to information. Scientific communication online courses are under development.

Progress in the 2016-2017 biennium

1. More than 400 health professionals, postgraduate students and researchers were trained through communication and scientific writing courses in Brazil. Moreover, with the support of colleagues from PAHO headquarters, training was carried out in Mexico and Ecuador.
2. Instructional projects for 14 distance courses on the diagnosis, prevention and treatment of neglected diseases in the Americas such as Rabies, Trachoma, Visceral Leishmaniasis, Tegumentar Leishmaniasis and Helminthiasis have been developed. Moreover, a self-learning course in Spanish on access and use of health information was updated and published in the VCPH.
3. Self-learning courses were published in the VCPH: Políticas sanitarias informadas por evidencias y Acceso y Uso de la Información Científica en Salud.
4. More than 60 training activities to end users for access and use of information and promotion of the VHL took place through mini courses in 15 scientific events in cooperation with PAHO Brazil and more than 30 training activities for access and use of information in countries such as Brazil, Mexico, Ecuador, Paraguay, Panama, and Mozambique.

Projection for the biennium 2018-2019

Target audience trained in scientific communication and writing BIR.01.11
Develop methodology to train authors, editors and other actors in communication and scientific writing BIR.01.11.01
Develop content for different audiences and training modalities (EAD, REA, Presencial) BIR.01.11.02
Develop self-learning courses (EAD) in communication and scientific writing BIR.01.11.03
Carry out classroom training in communication and scientific writing BIR.01.11.04
Distance courses (EaD) and Open Educational Resources (OER) developed and available in the VHL BIR.01.12
Create an instructional project for health area courses on priority topics for the LA&C Region BIR.01.12.01
Create instructional project for courses on information products and services of the VHL BIR.01.12.02
Develop OER on the information products and services of the VHL BIR.01.12.03
Register the OER and EaD courses developed in the Repository BIR.01.12.04
Access and use of expanded health information in the Region BIR.01.13
Update the materials and contents applied in user training activities and promotion of access and use of information BIR.01.13.01
Promote access and use of the information available in the VHL in health events BIR.01.13.02
Carry out face-to-face training activities for users to access and use information for health decision-making BIR.01.13.03

Selective dissemination of information

❖ Specialized Search Service

The specialized search service works on demand, considering the priorities in health and in support of the technical areas of PAHO for the development of systematic reviews, search for

information, subsidize policies informed by evidence and other information needs. The service contributes to other sources of information.

- [Knowledge windows in the Regional Portal of the VHL](#) - search, selection and systematization of information and evidence on priority health topics, which may or may not be accompanied by infometrics. Examples: infection by the Zika virus, Water and Sanitation in the 2030 Agenda for Sustainable Development.

- [Repository of search strategies in the VHL](#) - contains the documentation and the result of the search expressions already developed.

❖ **Blue Memory card**

The Blue Memory card, name inspired by the WHO successful initiative - Blue Trunk Library - is an initiative that seeks to reduce the inequity of access and use of information and scientific evidence by professionals and health managers located in regions of difficult or non-existent access to the Internet, through memory cards loaded with open access content selected according to the specialty and/or user profile, which can be read through smartphone app, tablets or desktops.

❖ **Personalized information service – MyVHL**

It is a service that stores users' information and preferences to offer personalized services such as: creation of collections of selected documents of the VHL, definition of topics of interest to receive alerts of new documents, history of searches carried out in the VHL, list of favorite links and user's own publications.

Progress in the 2016-2017 biennium

1. The Customer Service regularly addressed the demands on access and use of the services offered by BIREME through the VHL and developed more than 140 search strategies to subsidize systematic reviews and other types of research and needs.
2. An open source tool for the integrated management of VHL user services and one for the management of the VHL reference librarian network is being evaluated.
3. A beta version of the Personalized Services of the VHL, MyVHL, was launched, which allows identified users to use selective information dissemination services. These services will also allow knowing the interest profile of the VHL user, making it possible to offer specific services by user segment.

4. It was agreed to integrate in the application for mobile devices of the Programa Mais Médicos Brasil (APP SIMM - Sistema Integrado Mais Médicos), a collection of contents selected for the Program's professionals, according to the guidelines of the Ministry of Health and the Brazilian Health System (SUS), within the scope of the Blue Memory card initiative.

Projection for the biennium 2018-2019

Knowledge translation service developed to reduce the gap between scientific knowledge and practice in health BIR.02.01
Establish a search, systematization and evaluation of evidence service to support health decision making BIR.02.01.01
Implement a solution to operate the knowledge translation service BIR.02.01.02
VHL reference and user service strengthened BIR.02.02
Implement the management solution of the reference service and customer service BIR.02.02.01
Provide technical support of the reference service platform of the VHL BIR.02.02.02
Establish the Network of Referencistas, expanding it to countries of LA&C BIR.02.02.03
Define governance and implement the processes of the reference service and customer service BIR.02.02.04
Manage, guide and monitor the update of the repository of search strategies in the VHL BIR.02.02.05
Develop searches for knowledge cabinets, thematic areas and for specific demands BIR.02.02.06
Personalized information services expanded and improved - MyVHL BIR.02.03
Manage the operation of the MyVHL Service BIR.02.03.01
Keep the platform of personalized services MyVHL updated BIR.02.03.02
Provide technical support of the platform of personalized services MyVHL BIR.02.03.03
Blue Memory card implemented with information for primary care teams BIR.02.06
Develop the technological platform for implementation of the Blue Memory BIR.02.06.01
Define the contents that will be available in the Blue Memory BIR.02.06.02
Manage the implementation, operation and use of the Blue Memory BIR.02.06.03
Provide technical support to the technological platform of the Blue Memory BIR.02.06.04

Knowledge Discovery

❖ Informetrics and data visualization for knowledge discovery



The use of techniques and tools related to data management, data quality, data and text mining, advanced analytics and data visualization in order to promote quantitative analysis of bibliographic data available and extract potentially useful information.

Informetrics can be applied for several aspects of health scientific output such as publication

year, publication country, main research subjects, journals, publication language, and authorship (individual, institutional and research groups).

❖ **Mapping and analysis of scientific and technical production on Human Resources in Health at a global and regional level**

Initiative in coordination with the PAHO Brazil Technical Unit Human Resources for Health that will promote a mapping of scientific and technical output on Human Resources in Health (Recursos Humanos en Salud, RSH) and contribute to the development of a new RHS Agenda for the Latin America and the Caribbean Region.

Progress in the 2016-2017 biennium

1. Generation of infometrics using quality tools and visualization of data to aid decision-making applied to the topics Water and Sanitation, Health Services, Human Resources in Health and Traditional and Complementary Medicine.
2. In proposed negotiation through a Memorandum of Understanding with HL7 that supports BIREME in the development and dissemination of the VHL Infobutton in electronic record systems in health. In the advanced phase, the version 1.0 of the VHL Infobutton to contextualize scientific and technical information based on data from ICD-10, MeSH/DeCS, sex and age.
3. Ontological development for LILACS and DeCS has been initiated in cooperation with the PAHO/WHO Collaborating Center Infomed, to allow semantic searches in the VHL.
4. The VHL sources of information such as Medline and LILACS are used to mapping the contents and infometric study on RHS. Networking with the RHS Observatories is being promoted to identify the main publications in the area and expand the non-conventional literature on RHS in LILACS, as well as develop a regional repository dedicated to this subject.

Projection for the biennium 2018-2019

Search tool for scientific and technical information contextualized in health information systems BIR.03.03
Establish alliances with expert institutions in the subject BIR.03.03.01
Develop web service according to international standards BIR.03.03.02
Develop proof-of-concept cases with interested institutions BIR.03.03.03
Provide technical support of the associated web services BIR.03.03.04

National, thematic and regional profiles of the scientific production of LA&C published in the VHL BIR.03.04
Establish alliances with expert institutions in the subject BIR.03.04.01
Define the indicators that will be published in the different profiles BIR.03.04.02
Maintain regional profile for the indicators of cross-cutting issues (Gender, Ethnicity, Equity and Human Rights) BIR.03.04.03
Adopt data exploration and visualization tools BIR.03.04.04
Publish on the website the profiles developed BIR.03.04.05
Provide technical support of the publication platform of the corresponding profiles BIR.03.04.06
Develop a regional profile dedicated to the 2030 Agenda BIR.03.04.07
Prospect and negotiate projects that promote the use of the report in the decision-making processes BIR.03.04.08

Knowledge lens on priority health topics developed BIR.03.05
Develop the methodology of the knowledge lens BIR.03.05.01
Generate knowledge lens on priority issues and 2030 Agenda BIR.03.05.02
Develop capacities in the countries to apply the methodology BIR.03.05.03

Knowledge Translation

❖ Formative Second Opinion

The Formative Second Opinion (FSO) is a "Question and Answer" (Q&A) type source of information that is available in the VHL Primary Health Care (APS VHL) <http://aps.bvs.br>. Q&A generated from teleconsultations are answered by consultants of Brazil's



Telehealth Program. This is a concrete example of knowledge translation, since the answer is direct, with an appropriate language for the professionals who addressed the questions, based on the best available evidence. There are more than one thousand Q&A published on different topics related to primary health care in the context of Brazil's Unified Health System (SUS).

❖ Policy Briefs

The Evidence-Informed Policy Network - EVIPNet - promotes the appropriate use of scientific evidence in the development and implementation of health policies. In Brazil, the initiative has advanced especially with the production of evidence synthesis (policy briefs) and BIREME actively cooperates in the search for evidence for the groups of



reviewers and manages the database of the syntheses produced. It also collaborates in user training activities according to the SUPPORT / EVIPNet Methodology, and with the operation of the EVIPNet Brazil Portal available at <http://brasil.evipnet.org/>.

Progress in the 2016-2017 biennium

1. EVIPNet Brazil Portal in regular operation, 14 summaries of evidence already published.
2. APS VHL Portal in regular operation, more than 1,100 FSO already published.
3. Discussion of a proposal for an evidence regional portal to be developed by BIREME

Projection for the biennium 2018-2019

Information for primary care teams - Second Formative Opinion (SOF) BIR.02.07
Review and update the methodology of the Second Formative Opinion (SOF) BIR.02.07.01
Update and keep available the collection of Second Formative Opinion (SOF) in the VHL BIR.02.07.02
Promote the application of the SOF methodology in other contexts of LA&C BIR.02.07.03

3 Institutional Relations

BIREME develops technical cooperation initiatives with institutions and organizations at local, national, regional and international levels. Some of them are listed below:

- Government institutions related to health, science and technology, environment and other areas - Ministries, National Science and Technology Councils, Secretary of Health of the Municipality and the State of São Paulo;
- Research funding agencies;
- Academic institutions in the field of health sciences, scientific editors of LA&C journals, researchers, authors and graduate students in health sciences;
- Organizations, associations and scientific societies in public health and related areas

4 Human Resources and cooperative work

The intellectual capital of BIREME is composed of professionals with experience in information management, the development of methodologies and technologies for the management of scientific and technical information and an administrative infrastructure that includes information technology and management infrastructure.

The Center follows PAHO/WHO strategic planning, also taking into account policies, procedures and internal controls to ensure transparency and accountability.

It should be pointed out BIREME's cooperative work through management and exchange of information and knowledge with networks of individuals and institutions present in 30 countries with nearly 2,400 institutions. The network offers flexibility for expansion and inclusion of new members, as well as the exchange of ideas, experiences and self-organization knowledge.

The main networks that BIREME coordinates, promotes and interacts with are:

- Cooperating Centers of information sources and services of the VHL and users of information systems and methodologies developed by BIREME - there is over one thousand libraries of institutions in LA&C countries;
- Thematic and national VHL instances such as the BiblioSUS network (libraries that operate in the Brazilian Health System), EnfAmericas, RENICS (National Information Network in Health Sciences, Argentina), among others;
- Associated networks: VCPH, SciELO, EVIPNet, and PAHO/WHO Collaborating Centers.

BIREME, as a reference center for scientific and technical information and communication, ensures the countries of the region continuity of governance, development, operation and innovation of products, services, events, information systems, methodologies and technologies of scientific and technical information according to the international state of the art. Thus, BIREME contributes systematically and efficiently to support, strengthen and improve the capacities and infrastructure of scientific and technical information and communication in the LA&C region.