

Information management on the Telehealth Brazil Program

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Abstract

This article tells the experience of information management applied to the Telehealth Brazil Program through the development of the Virtual Library on Primary Healthcare (BVS APS) and the Telehealth Brazil Portal. The main goal of the Virtual Library on Primary Healthcare is to provide access to good evidence information sources on Primary Healthcare, in order to assist in the processes of clinical decision making, training and updating of the Family Health Teams (ESF), the second opinion service and the development of content and services within the scope of the Telehealth Brazil Program. The Virtual Library on Primary Healthcare is a public space for updating, training, interaction and experience exchanging among the Family Health Teams, the Telehealth Brazil Network and other professionals interested and involved in primary healthcare in Brazil.

Key words: Telemedicine; Primary Health Care; Virtual Libraries; Information Services; Information Dissemination; Brazil Telehealth Program.

Resumen

Gestión de la Información en el Programa Telesalud Brasil

Relato de la experiencia de gestión de la información aplicada al Programa Telesalud Brasil a través del desarrollo de la Biblioteca Virtual en Atención Primaria de Salud (BVS APS) y el Portal Telesalud Brasil. La BVS APS tiene como principal objetivo ofrecer acceso a las fuentes de información de buena evidencia en atención primaria de la salud para auxiliar en los procesos de toma de decisión clínica, de formación y actualización de los Equipos de Salud de la Familia (ESF), del servicio de segunda opinión formadora y de desarrollo de contenidos y servicios en el ámbito del Programa Telesalud Brasil. La BVS APS se presenta como un espacio público de actualización, formación, interacción y de intercambio de experiencias entre los ESF, la Red Telesalud Brasil y otros profesionales interesados e involucrados en la atención primaria de salud en Brasil.

Palabras clave: Telemedicina; Atención Primaria de Salud; Bibliotecas Virtuales; Servicios de Información; Diseminación de Información; Programa de Telessaúde Brasil.

Resumo

Gestão da Informação no Programa Telessaúde Brasil

Relato de experiência de gestão da informação aplicada ao Programa Telessaúde Brasil através do desenvolvimento da Biblioteca Virtual em Atenção Primária à Saúde (BVS APS) e Portal Telessaúde Brasil. A BVS APS tem como principal objetivo prover acesso às fontes de informação de boa evidência em atenção primária à saúde para subsidiar os processos de tomada de decisão clínica, de formação e atualização das Equipes de Saúde da Família (ESF), do serviço de segunda opinião formativa e de desenvolvimento de conteúdos e serviços no âmbito do Programa Telessaúde Brasil. A BVS APS se apresenta como um espaço público de atualização, formação, interação e de intercâmbio de experiências entre as ESF, a Rede Telessaúde Brasil e outros profissionais interessados e envolvidos com atenção primária à saúde no Brasil.

Palavras-chave: Telemedicina; Atenção Primária à Saúde; Bibliotecas Virtuais; Serviços de Informação; Disseminação de Informação; Programa de Telessaúde Brasil.

INTRODUCTION

The Telehealth Brazil Program established in 2007 by the Decree n° 35 issued by the Ministry of Health, created the Telehealth Brazil Network as a pilot experience that included nine states (Amazonas, Ceará, Pernambuco, Goiás, Minas Gerais, Rio de Janeiro, São Paulo, Santa Catarina and Rio Grande do Sul). The focus of the Program is the qualification of the Family Health Teams and the strengthening of the Family Health Strategy. The Telehealth Brazil Network was initially made up of nine Telehealth Units (University Units), with each Unit being responsible for setting up 100 Telehealth Access Points at Family Health Units, according to population criteria such as municipalities with less than 100.000 inhabitants, Family Health Strategy coverage, Human Development Index (HDI), local connectivity, and giving priority to remote areas. In 2010 the nine Units of the Network are fully operational and it adds more than 900 Telehealth Access Points.¹

Since the beginning of the discussion process for the concept of the Telehealth Brazil Program, a fundamental principle that justified the federal investment on the pilot phase of the Project was to guarantee that the best technical and scientific knowledge was applied to services, actions, products offered or developed within the scope of the Program, taking into account the relevance for primary healthcare in the context of the National Health System (SUS).

All the actions and services developed within the National Telehealth Program take into account and respect the policies, guidelines and recommendations made by the Ministry of Health for healthcare services of the Brazilian population, for the Family Health Program and for the National Health System.

On the other hand, since one of the goals of the Program is to qualify the Family Health Teams through permanent training, it is essential to facilitate access to information and to the best scientific evidences available to the Family Health Teams and to the Network collaborators, specially to the teams of the Telehealth Network in charge of developing content and teleconsultations (second opinion). The access to technical and scientific knowledge should be widely promoted and accessible for both developing educational content and also for primary healthcare decision making process based on the best evidences available.

Thus, there was the need for developing an information source collection in order to help the decision mak-

ing processes and in developing training products and services of the Family Health Teams in the Telehealth Program. This collection of information sources was also required for the processes of registering and accessing the content developed by the Telehealth Units and other partners of the Program, promoting the sharing of the collection, and as a consequence its re-use and improvement in the Network.

This need justified the inclusion of an information management module in the Telehealth Pilot Project, as a technical cooperation project with Latin American and Caribbean Center for Health Sciences Information (BIREME) of the Pan-American Health Organization (PAHO). The general goal of the information management project of the Telehealth Program is as follows:

“To provide wide access to a network of good evidence information sources in primary healthcare in order to assist clinical decision making processes, training and updating of Family Health Teams, the second opinion service and the development of content and services within the Telehealth Brazil Program”.

THE VIRTUAL HEALTH LIBRARY MODEL APPLIED TO TELEHEALTH

A Virtual Health Library is a management model of the flow of health information and knowledge, web based, coordinated and promoted by BIREME. This Virtual Health Library model was applied to build up the Virtual Primary Healthcare Library integrated to the Telehealth Brazil Portal.

The Virtual Primary Healthcare Library was designed as a space for updating, training, interaction and experience exchanging among the Family Health Teams, the Telehealth Network teams and other professionals interested and involved in primary healthcare in Brazil.

The Virtual Primary Healthcare Library is also a space for organizing, registering, publishing, disseminating and viewing good evidence information in primary healthcare, selected from the main national and international sources, and from contents developed and adapted to the Brazilian context according to the mapping of the needs and main health problems of the country and its regions. And last but not least, the Virtual Primary Healthcare Library is a “central repository” of all material and content developed by the Telehealth Units for training and updating activities of the Family Health Teams.

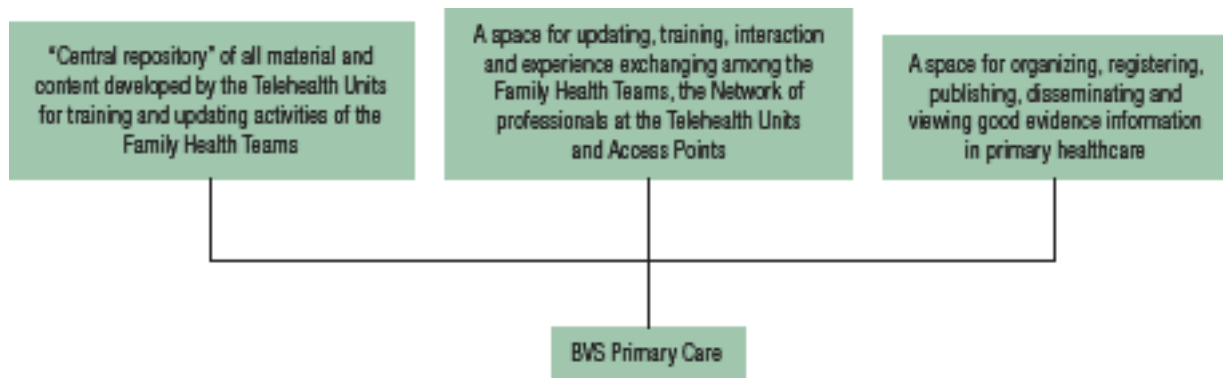


Figure 01 - The BVS Primary Care.

The development of the Virtual Primary Healthcare Library and the Telehealth Brazil Portal started in February 2007 and it was launched for public access in October 2007. A realignment process in the organization of its collection of information sources and in the content took place in 2009 to meet the new requirements of the Telehealth Program and the Telehealth Network. Since its launch the Virtual Primary Healthcare Library and the Telehealth Brazil Portal were available free of charge to the public, with permanent and daily updates. The site of the Virtual Primary Healthcare Library and the Telehealth Brazil Portal has two active addresses in the Internet: www.telessaude.org.br and www.telessaudebrasil.org.br.

THE VIRTUAL PRIMARY HEALTHCARE LIBRARY AND THE TELEHEALTH BRAZIL PORTAL

Following the Virtual Health Library model, the Virtual Primary Healthcare Library and the Telehealth Brazil Portal is structured and developed based on the decentralized cooperation of its networks: social network, information sources network and network of learning and informed environments.

The social network of the Virtual Primary Healthcare Library is the Telehealth Brazil Network and other partner institutions and programs such as the Open University of the National Health System (UNASUS) and the University Telemedicine Network (RUTE). It is this social network that runs the development of the Virtual Primary Healthcare Li-



Figure 02 - BVS - Telehealth Brazil Portal.

brary, as a producer, user or intermediary of the information available at the Virtual Primary Healthcare Library.

The network of information sources of the Primary Healthcare Virtual Library is its information, evidences and content collection in Primary Healthcare and telehealth. It is organized according to the type, format, target public and/or theme, in sessions or galleries of the Portal:

Evidences in Primary Healthcare: includes a selection of national and international scientific literature from sources available at the Virtual Health Library, such as Medline, Lilacs and Cochrane Library; primary healthcare questions and answers; and documents of policies, recommendations, clinical guidelines and guides of the Ministry of Health, the Brazilian Society of Family and Community Medicine and the Brazilian Medical Association.

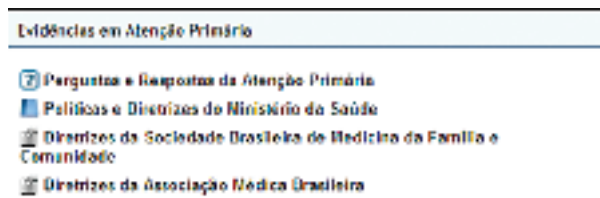


Figure 03 - Evidences in Primary Healthcare.

- Primary Healthcare Questions and Answers
- Policies and Guidelines of the Ministry of Health
- Guidelines of the Brazilian Society of Family and Community Medicine
- Guidelines of the Brazilian Medical Association

Primary Healthcare Educational Resources: includes educational content generated by and for the training and updating activities of the Family Health Teams, such as classes, lectures, manuals, videos, case discussions, animations and other resources; and also the medical calculators.



Figure 04 - Educational Resources in Primary Healthcare.

- Learning Objects: classes, videoconferences, manuals
- Medical calculators
- 3D Animations – Virtual Man

Directories, Catalogues, Services: this session includes information sources related to training activities done within the scope of the Telehealth Program and other selected events which are interesting for Primary Healthcare and Telehealth; a selection of relevant sites for primary healthcare and telehealth; a catalogue of scientific periodicals with information on how to access the issues; and access to the SCAD service for providing copies of documents which are not available in free complete text through the Virtual Primary Healthcare Library or at any other Portal.

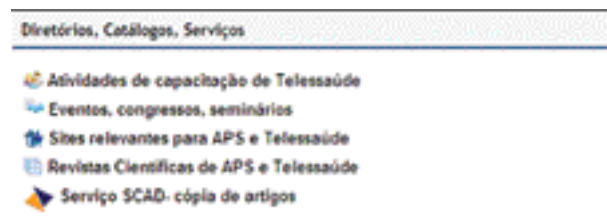


Figure 05 - Directories, Catalogues, Services.

- Telehealth training activities
- Events, conferences, seminars
- Relevant Sites for Primary Healthcare and Telehealth
- Primary Healthcare and Telehealth Scientific Periodicals
- SCAD Service - Copies of papers

Terminology and classification: this session gathers sources related to terminology of interest for Primary Healthcare and Telehealth. The Telehealth Glossary was developed by the Telehealth Network.

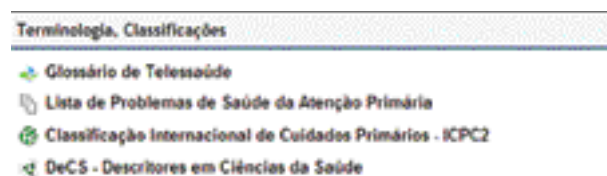


Figure 06 - Terminology and Classifications.

- Telehealth glossary
- List of Primary Healthcare Problems
- International Classification of Primary Care – ICPC2
- DeCS- Health Sciences Descriptors

Brazil Telehealth: the site of the Virtual Primary Healthcare Library is also considered the Portal of the National Telehealth Program. Therefore, this session is dedicated to content and information on the National Telehealth Program and the Telehealth Brazil Network. The Telehealth Collaborative Space is a space for the members of the Network to exchange and communicate ideas and experiences.



Figure 07 - Telehealth Brazil.

On the Portal

On the Program

On the Telehealth Network

Directory of the Telehealth Network

Telehealth Collaborative Space

I National Telehealth Brazil Seminar

The news on telehealth are generated at the Collaborative Space and made available as information source at the Virtual Primary Healthcare Library, in the highlighted column of the Portal and they are also available by RSS. The News session of the Virtual Primary Healthcare Library is complemented by news of the University Telemedicine Network (RUTE), the National Network for Education and Research (RNP) and the Virtual Health Library.

THE SECOND OPINION AS INFORMATION SOURCE AT THE VIRTUAL PRIMARY HEALTHCARE LIBRARY

The Second Opinion is a structured and systematized answer to the questions asked by the Family Health Teams, from the Telehealth Access Points on topics related to diagnosis, therapeutics, prognosis, individual and/or collective action planning and execution, on the working process or linked to clinical cases treated at Family Health Units. The answer is formulated by the Telehealth Unit and it should be based on the best clinical and scientific evidence available, adequate and relevant to the primary healthcare context, highlighting the knowledge inherent in the resolution of the topic and contributing to the permanent education of professionals and technicians, broadening their ability to solve similar cases.

Although the Virtual Primary Healthcare Library has been developed based on the same principle of other Virtual Health Libraries implemented by BIREME, there had been innovations due to the new types of content and information sources regarding the format and shape of information production. The main innovation brought by the Virtual

Primary Healthcare Library into the Virtual Health Library Model was the information source Primary Healthcare *Questions and Answers* taken from the Second Opinion service of the Telehealth Program.

A bibliographical review is done for the formulation of the Second Opinion in order to answer the question with the best scientific evidence available. Each answer goes with a classification into categories of the evidences, produced from the analysis of the studies, the methodology and samples used. In order to apply the findings in a particular case, the Second Opinion also has a critical comment by an expert with clinical experience in the area. This helps to extend the data of the members of the Teams in their decision making.

Each Telehealth Unit manages the second opinion offered to its Telehealth Access Points with its own system and methodology but following the principle of always considering the best scientific evidence available to answer the doubt or need of information received from its Family Health Teams.

The *Primary Health Care Answers and Questions* information source is the result of a selection, evaluation and formatting process according to pre established criteria and reference terms. This process is based on a set of questions answered by the units.

The first selection of questions is done by the Units considering the relevance of the question for Primary Healthcare within the Family Health Program and the National Health System, having the Primary Healthcare Content Validation Instrument (APS-IVC) as reference.²

The questions and answers selected are then structured and sent for validation to an external consultant, who is a medical professional specialized in family medicine. This process validates both the selection because it checks if the question and the answer are relevant and adequate for Primary Healthcare and also the level of evidence of the answer, the reference of the indicated evidence and the text of the question and answer.

Then the questions and answers validated go through an indexation and registration process for publication in the Virtual Primary Healthcare Library. All questions and answers published in the Virtual Primary Healthcare Library have the following structure of information fields:

- **Field 1 – Question**

It represents a question or doubt that was replied without mentioning patients or people's names. It must be as straightforward as possible, avoiding the use of acronyms and abbreviations.

- **Field 2- Bottom Line – The evidence-based answer**
The answer is summarized but complete. The reply must include the strength of the recommendation using the criteria of the Brazilian Medical Association Guideline Project. The option taken and the evidences on which it is based should be explained, stating the references of the main studies that defined the option for the answer.
- **Field 3 – References**
Bibliographical references of the studies or sources on which the answer is based.
- **Field 4 – Type of professional**
State the category of the professional who asked the question or sent the doubt.
Example: physician, nurse, dentist, community agent, manager, other.
- **Field 5 – Theme area**
The theme area according to the List of Health Issues of Primary Healthcare and interest areas of the National Telehealth Program
Example: Children's health, mental health, oral health, women's health, health of the elderly, health of young people, men's health, working process and telemedicine.
- **Field 6 – Responsibility/Author**
Name of the person in charge or the Team responsible for the Second Opinion and answer.
- **Field 7 – Date of publication**
Date of publication of the answer in the Virtual Primary Healthcare Library. This data will be generated the moment the question is published in the Virtual Primary Healthcare Library.

Below, there is an example of a question and answer available in the Virtual Primary Healthcare Library:

- Which is the best treatment for patients who had been suffering from onychomycosis for a long time and do not get better with topic treatment?
From studies found the conclusion we reached is that the use of Terbinafine orally in treating onychomycosis is higher than the use of Itraconazole orally. Despite the many controversies found in the literature regarding the oral treatment, we found a systematic review of adequate methodological precision showing that the use of Itraconazole 200mg/day during 12 weeks orally increases the rate of cure in cases of onychomycosis when compared to placebo. However, in relation with Terbinafine the rates of cure of

Itraconazole were lower. (Degree of recommendation A). Two randomized clinical trials showed that at the end of 1 year of follow up the patients who used Terbinafine 250mg/day during 12 weeks had higher rates of cure (69% cure) than those patients who used Itraconazole 200mg/day during the same period of time (48% cure). There was no difference in the rates of cure when comparing Itraconazole and Griseofulvine or between Itraconazole in pulse therapy or continuous use. Similarly, there was no difference in the rates of cure among patients who used Cetoconazole and patients who used Griseofulvine. We did not find randomized clinical trials comparing oral Itraconazole with Cetoconazole or Fluconazole.

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Recommendation Class: Degree A of recommendation.

Until December 2009 this source had more than 400 questions and answers available for access and consultation at the Virtual Primary Healthcare Library from the second opinion of the Rio Grande do Sul Telehealth Unit. Another 200 questions are currently on the validation process.

CONCLUDING REMARKS

In the early stage of the discussions for the implementation of the National Telehealth Program in its pilot phase, the development of the Virtual Primary Healthcare Library and the Telehealth Brazil Portal was considered an essential part of the Program in order to achieve the desired outcomes of qualifying primary healthcare through continuous training and education of the Family Health Teams. Perhaps this has been the main success factor of the Virtual Primary Healthcare Library project.

The fact that the BIREME team took part in the working groups of the Program, particularly in the Content working group, the technical meetings and the Program coordina-

tion, proves the degree of involvement of the Virtual Primary Healthcare Library in the National Telehealth Program and in the Telehealth Brazil Network.

The result was enriching for both sides. The innovation brought by the Virtual Primary Healthcare Library into the information management model of the Virtual Health Library when compared to other Virtual Health Libraries created by BIREME, has improved the Virtual Health Library model. This is due to the diversity of the type of information that made up the Virtual Primary Healthcare Library and also to the needs and features of the target public to which is offered.

The Virtual Primary Healthcare Library is intended for those professionals who work directly with primary care and who need to have evidence-based reference sources available in a quick and effective way in order to support their decision making process. The compilation format of the accumulated scientific knowledge is determined by the needs that come from the working process of the teams. Besides, the most frequently asked needs and doubts start to guide the content production for the courses or the scheduling of the training activities to be developed. This dynamic fits the concepts of permanent education on health highlighted within the scope of the Telehealth National Program.

This working model generates a virtuous circle of the information that generates knowledge for action that generates new knowledge that is incorporated into the Virtual Primary Healthcare Library as information.

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