Health Channel: a pioneering telehealth experience in Brazil

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Abstract

This article aims to report the historical process of the Health Channel Project at the Oswaldo Cruz Foundation for the implementation of telehealth in Brazil. Methods: Case report, related to a brief telehealth conceptual discussion. The result was the production of audiovisual material for dissemination of extended discussion in the context of telehealth. Conclusions: It raises five challenges for the use of audiovisual in times of technology convergence, the need for broadband in towns and management of telehealth for the National Health System (SUS in Portuguese) consolidation.

Key-Words: *Telemedicine; Information Technologies and Communication Projects; Telecommunication Network; Health Communication; Medical Informatics; Information Technology.*

Resumen

Canal Salud: una experiencia pionera de telesalud en Brasil
Este artículo tiene como objetivo relacionar la trayectoria histórica del proyecto del Canal Salud de la Fundación Oswaldo Cruz para la aplicación de la telesalud en Brasil. Métodos: Informe del caso, junto con una breve discusión conceptual de la telesalud. El resultado es la producción de material audiovisual para la difusión de amplio debate en el contexto de la telesalud. Conclusiones: Se plantean cinco desafíos para la utilización del audiovisual en los tiempos de convergencia tecnológica, la necesidad de banda ancha en las ciudades y la gestión de telesalud para la consolidación del SUS.

Palabras-clave: *Telemedicina; Proyectos de Tecnologías de Información y Comunicación ; Red de Telecomunicaciones; Comunicación en Salud; Informática Médica; Tecnología de la Información.*

Resumo

Canal Saúde: experiência pioneira de telessaúde no Brasil
Este artigo tem como objetivo relacionar trajetória histórica do projeto Canal Saúde da Fundação Oswaldo Cruz à implantação da telessaúde no Brasil Métodos: Relato de caso, aliado a breve discussão conceitual da telessaúde. O resultado obtido foi a produção de material audiovisual para disseminação ampliada de discussões no âmbito da telessaúde. Apontam-se cinco desafios para o uso do audiovisual em tempos de convergência tecnológica, a necessidade de banda larga nos municípios e a gestão da telessaúde para consolidação do SUS.

Palavras-chave: *Telemedicina; Projetos de Tecnologias de Informação e Comunicação; Rede de Telecomunicações; Comunicação em Saúde; Informática Médica; Tecnologia da Informação.*

INTRODUCTION

Television contributes to improve the health of the population and it can help to save lives. And what does telehealth have to do with this statement? This is another contribution for this reflection on the history of the Health Channel at the Oswaldo Cruz Foundation, and at the same time, to discuss some telehealth concepts. In the last 30 years, terms like telemedicine, e-health, on-line health and more recently mobile health (*m-health*) have been considered synonyms of telehealth.[1,2] The term e-health first appeared in literature in the 90s. Among the several meanings used, we choose the definition by Eysenbach explaining e-health as *"an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology. (ICTs)"*[3]. Already in the 90s, the term telemedicine was replaced by telehealth, since this one has a broader meaning, incorporating health promotion.

TV AND TELEHEALTH

Wallace suggests that the first documented record of telemedicine was a diagnosis made by phone in 1897 indicating its historical link with the second stage of industrial capitalism[4], although medicine historians state that telemedicine started at the large sessions of anatomy with students watching during the Enlightenment period.

Television became popular in the second half of the XX century and it introduced audio visual communication as an improvement of the quality of the information broadcasted. The first experiences involving TV and healthcare were developed in closed circuit. During the 50s in Nebraska point to point television broadcastings were already done between specialists and clinical doctors. During this same decade the first broadcasting of surgeries through television close circuit took place with teaching purposes between hospitals and the Medical School of Buenos Aires, during an international conference of surgery in Latin America.[5] Similar actions were developed on telehealth through videoconferencing during the 90s and with tele-presence during the first decade of this century. Today these activities are done as routine by many institutions.

THE HEALTH CHANNEL CASE: WHERE TELEHEALTH AND TELEVISION MEET

The Health Channel project was conceived in 1994 as an answer to National Health Conferences that pointed out information, education and communication as strategies for consolidating a National Health System (SUS in Portuguese). The Channel articulates the fields of communication and education in a health promotion proposal with great value for Social Epidemiology. At that time, the Channel carried out regular interactive tele-conferences in TV closed circuit with the support of phones, fax machines and later emails[6], to more than 20 rooms in Brazil, dealing with public health. By 1998 all Brazilian states had teleconferences.

In 1999, videos of the Channel reached the Internet based on the idea that this was the platform for the future, integrating different languages. With the development of this new field of media action, the Coordination of Information Technology (IT) was created mainly focusing on researching alternatives to digital video broadcasting in several networks. This guideline brought the Channel closer to two institutions; the National Teaching and Research Network (RNP in Portuguese), a social organization linked to the Ministry of Science an Technology, responsible for the high speed backbone formation (main route of data network from where branches leave), connecting Brazilian universities to the Telecommunication Development and Research Center (CpqD, in Portuguese). The Board of CpqD Digital TV started to develop some studies that will later result in the Brazilian System of Digital TV (SBTVD-T).

Between 2003 and 2005, the Channel put forward the project Teacher in the Classroom Support Service (Sapsa, in Portuguese) to the CpqD as a proposal to create videos on health, using the MPEG4 technology. Later, this was chosen as the land Brazilian digital TV code standard. The project had the goal of changing the lineal and analogical TV programming into an offline, digital and interactive one with entries complementing the video when the viewers interacted with the remote control. Fifteen hours of programs were produced for computers and TVs as digital converters. Although the technical results of Sapsa could not be disseminated due to contract terms, it was possible to present some results from this experience at the 11th World Conference on Public Health held in 2006 in Rio de Janeiro, in an oral presentation.

In 2006, the team participated at a training workshop in Great Britain with the support of Sapsa, following the use of interactive contents from the BBC TV network and

the National Health System (NHS). At that time, the NHS was opening its own public interactive TV channel. With this experience, the Channel collaborated with the Digital Video Working Group of the National Teaching and Research Network as beta user of its system.

The goal of the group was to implement infrastructure based on the National Teaching and Research Network with support to applications, involving life broadcasting and on demand digital video in an integrated way. The system *Distributed Video on Demand* (D-VOD, vide http://dvod.lavid.ufpb.br/eng/) developed with national technology in free software is operating since then.

Another project in partnership with the National Teaching and Research Network and the Federal University of Rio de Janeiro (UFRJ) was the Distribution of Large Scale Video on Giga Networks with Applications on Education (DIVERGE in Portuguese). The Channel was responsible for offering videos on health with several ways of codification. This project resulted in a point of the Gigabit network at the Fiocruz campus that reaches the Channel studio.

Besides, in an attempt to promote a "bridge" between health and information technology, the Digital Inclusion Project of the Health Councils (PID in Portuguese) was established at a national level. Prepared by the Intersectional Committee of Information and Communication on Health of the National Health Council (CICIS/CNS, in Portuguese), and based on the master's degree dissertation written by the Coordinator of IT of the Health Channel, the project gathered several people to take multi-platform content to the Health Councils. Thus, the Health Channel became member of CICIS/CNS to help implementing the PID.

The Strategic and Participatory Management Secretariat of the Ministry of Health (SEGEP/MS, in Portuguese) financed the distribution of equipments for 6.000 points, trying to follow three synchronic guidelines in order to reach digital inclusion at the councils: equipment and infrastructure; connectivity in data network with compatible speed; staff training.[7]

In 2004, together with this process and from the interaction with the National Teaching and Research Network, there was an invitation to take part in a project that would include Fiocruz into the telemedicine network. The goal was to link university hospitals of Brazil with the University Network of Telemedicine (Rute, in Portuguese). An important challenge was how to include an action more focused on the medical practice brought by telemedicine within the perspective of the Health Channel? The project of the Channel at the Rute had the main goal of disseminating the concept of health promotion and a telehealth perspective, where healthcare is the content of an audiovisual time slot with specific language.

Currently, the Health Channel coordinates the Telehealth and Telemedicine Center at Fiocruz made of five technical-scientific units, namely (EPSJV, ICICT, IFF, IPEC and ENSP). A model to capture and broadcast the meetings of the Special Interest Groups (SIGs in Portuguese) was developed (please see Special Interest Groups composition on http://www.rute.rnp.br). There is also the articulation of the Natinal Telehealth Program from the Ministry of Health to share and produce audiovisual content.

Among the actions developed by the Health Channel, there are those related to the dissemination of information by geographical areas gathering some social aspects of the health-disease process; digital exclusion, low social capital and difficult access. In this regard, telehealth strategies using the Health Channel have had special relevance in Africa, South America and the Legal Amazon.

RESULTS

Twenty six programs were made available to be downloaded as registers adapted from telehealth activities at the Channel site, making a total of more than 300 edited hours, besides configuring the time slot with a never seen weekly program of 56 minutes. According to the measuring tool of the website which has an average of 32 visits per month, videos on telehealth come in second place among the most seen and downloaded videos.

Among the endogenous developments, there is also the telehealth articulation at the institution as integrated projects to face health problems of the population, such as for example, the fact of housing a gateway in its CPD, linking mobile videoconference equipments, in the Brazilian Amazon and in Rio de Janeiro, with the possibility of using the images captured by these devices by the programming.

Regarding the exogenous development we have to mention the indexation of the collection of the Channel in internet as learning objects at the Open Universities of the National Health System (UNASUS, in Portuguese).

DISCUSSION

The Channel team faced the following issues as challenges for using the converging platforms on telehealth:

1. Disagreement on image and voice rights in digital platforms;

2. Absence of guidelines to define who owns the content of the work done in network;

3. Look for alternatives to protect patients from exposure in the discussion of their clinical case;

4. Absence of stratification of epidemiological groups, with the goal of thinking on communication and media broadcasting strategies;

5. Few measuring tools to assess the impact of technological use in the message sent to the speaker.

These five issues brought by the interface with current telehealth projects at the Brazilian Health System refer to a broad discussion on the communication model that best suits the purpose of the healthcare movement and the international movement for health promotion.

The Health Channel registers how research centers in health and the social control done by the National Health System in Brazil deal with the circumstantial challenges presented by the information society. The arrival of internet bandwidth for city public services and telehealth management as a strategic element in the consolidation of the National Health System are some of the future perspectives.

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