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University Network in Telemedicine (RUTE) and Telehealth Brazilian Networks: Telehealth UERJ RJ-Brazil

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Abstract

Introduction and aims: RUTE is a Brazilian network, funded by the Brazilian Ministry of Science and Technology, specifically designed for the communication among university hospitals and international excellence centers; it is also connected to remote municipalities via Brazilian Telehealth Networks Program, funded by the Brazilian Ministry of Health. Into this telehealth net, 3 special interest groups – SIG (Pediatric Radiology, Psychiatry and Intensive and High Complexity Nursing) act for education and collaborative research. This study intends to demonstrate a fusion of technologies for teleconference as a means of integrating groups. Methodology: the connection for SIG's is made through videoconference demanding high speeds as well as specific equipment while webconferences uses just a computer with internet. In a new way, Telehealth UERJ has put video and webconference together providing that every part with no videoconference system could access SIG's. Video and webconference are combined capturing the audio and video from the videoconference system itself, and then they are sent to the workstation and distributed to the points linked to the webconference. Results: from May to December, 2011, 56 teleconferences were held employing web and video conferences concomitantly. In them, there was at least 1 point in each state participating, in average. In addition, some videoconferences counted on the participation of Canada, U.S.A., Germany, Chile, Bolivia, Colombia, Argentina, Guatemala, Panama, Spain and Australia. Conclusion: a worldwide network in telehealth is being created.

Introduction

RUTE [1] is a Brazilian University Telemedicine Network, funded by the Ministry of Science and Technology, specifically designed for the communication among university hospitals and with national and international excellence centers. This university network is also connected to remote municipalities supported by Brazilian Telehealth Networks Program[2], funded by the Ministry of Health. Brazilian Telehealth Networks Program is offering training, professional refreshing and teleconsulting to professionals in remote geographical localities. UERJ Telehealth Center [3] of State University of Rio de Janeiro leads all governmental programs in Telehealth, making available several tools for synchronous and asynchronous communication among health professionals. Into the groups coordinated by UERJ, 3 special interest groups – Pediatric Radiology, Psychiatry and Intensive and High Complexity Nursing – act for education, services and collaborative research. This study intends to demonstrate the preliminary results of the fusion of two technologies for teleconference as a means of integrating groups.

Methodology

The Special interest groups [SIGs] are concerned with some particular interest in health services, telehealth infrastructure or legislation. Usually they work on education, services or research. Telehealth Center of State University of Rio de Janeiro[3] has been working on twenty-eight SIGs, but only three of them used video and web conference in association: Pediatric Radiology, Psychiatry and Intensive and High Complexity Nursing. The connection for SIGs among university hospitals is made through videoconference demanding high speeds as well as specific equipment, while for the webconferences among universities and remote munipalities, only a computer with internet is necessary. To associate these technologies, UERJ-RJ Telehealth Center included an endpoint, linked to a work station with a web server, in order to transmit the webconference's audio and video to remote points. For that management, the software used was Adobe Connect Pro (Burlington, New Jersey USA), installed in a Dell server, Windows Server 2008, Intel Xeon Processor E5450, 3GHz, and RAM memory of 4GB. The combination of both technologies was made capturing the audio (using a sound board) and the video through a capture card. Secondly, they are sent to a workstation and distributed to the points connected to the webconference. The remote access is made through a web browser and an add in that opens the virtual room of the webconferences.

Results

From May to December 2011, 56 teleconferences were held employing web and video conferences concomitantly. In them, there was at least 1 point in each state participating, in average. In addition, some videoconferences counted on the participation of Canada, U.S.A., Germany, Chile, Bolivia, Colombia, Argentina, Guatemala, Panama, Spain and Australia (Fugure 1).

Figure 1: Areas attended by the fusion of both technologies

Conclusion

A worldwide network in Telehealth is being created, connecting people around the globe, so that they may share information, exchange experience and learn with each other, what allows professional refinement and a better care, especially of the

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