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Outcomes of a Three Year Videoconference Program for Family Practice Professionals

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Abstract

This article describes the challenges and results of the application of videoconference technology to support family practice professionals in the Northeast of Brazil. The NUTES – telehealth network was established in 2003, connecting four cities in the state of Pernambuco. Continuing Health Professional Education (CHE) and Teleconsultations were available to five videoconference rooms connected in this network. The Videoconference CHE Program was highly demanded but the Teleconsultation Program not. From August 2003 to December 2005 eighty five videoconferencing educational sessions were held with two thousand and three hundred participants, and until November 2006 a hundred and twenty sessions. In conclusion, besides the barriers to acquire technology in a poor region of an under development country, cultural barriers have to be undertaken by health professionals and by health managers to achieve full potential of telehealth technologies.

Keywords:

telemedicine, videoconferencing, public health, family practice

Introduction

Pernambuco is a state located in the Northeast of Brazil, it has 98,311.616 Km^2, 185 cities and around 8,5 million people living in this state, most of them on poverty condition. [1]. Providing healthcare in to so many remote locations is a difficult task. Considering access to specialist's expertise and access to high complexity exams is out of question. Several problems arise from this logistics. Hospitals in Recife (Pernambuco's capital) cannot support all demand from the state. Trying to minimize this problem a national program implementing family practice started in 1994, the Health Family Program (PSF) [2]. This program is under implementation in several cities in the country, but the goal of solving 80% of theirs income health problems has not been achieved resulting in several inappropriate patient referrals. The UFPE University Hospital, Clinics Hospital (HC) based in Recife, admits around 1,000 inpatients and provide assistance to 13,000 outpatients per month [3]. A great number of patients come from cities of Recife's metropolitan area. Beside the lack of specialized and tertiary healthcare units in the country area, another great number of patients come from remote locations. Travel is a major limiting factor even inside the metropolitan area, financial expenses, time off from work and poor public transportation system conditions are major obstacles to patients access specialized care. Based on these facts, a telehealth service was introduced to provide support to family practice professionals and reduce referrals to HC-UFPE leading to faster and better care of high complexity level medical cases.

Methods

Using videoconferencing technology, PSF professionals from Recife and other three metropolitan area cities were connected to specialists at the HC-UFPE. In 2003, a telehealth network, Rede de Núcleos de Telesaúde (NUTES) of Pernambuco, was established as a pilot project coordinated by TIS-UFPE (Health Information Technology research team), and financed by Brazil's Ministry of Health. A main telehealth center NUTES-HC-UFPE coordinates the telehealth network and four additional partner sites were connected: a PSF in Cabo de Santo Agostinho, a PSF in Camaragibe, a PSF in Igarassu, and Lessa de Andrade Policlinic in Recife. These four cities were chosen based on referral information from the epidemiology department of HC-UFPE. Two videoconferences services have been offered, a Health Continuing Education (HCE) Program and teleconsultation on demand. In each partner one videoconference room was deployed with: a videoconference dedicated system (point-to-point), a TV, a document camera, a personal computer, a printer, a webcam, a scanner and a digital camera. At NUTES-HC-UFPE the videoconference system is multipoint bridging the partner sites. The sites are connected using ISDN lines

(Integrated Services Digital Network) at 384Kb/s rate. The videoconference HCE Program is provided once a week over an annual agenda based on cities epidemiological profile and theirs local health priorities. On the other side, the speakers, most of them from HC-UFPE, were identified based on the agenda themes.

Results

From August 2003 to December 2005 eighty five videoconferencing sessions were held with two thousand and three hundred participations, most of them, physicians and nurses. A set of artifacts was introduced to follow-up the program: presence notes, videoconference agenda spreadsheet, speakers register, assessment questionnaire and spreadsheet statistics. The first videoconference session was in August 2003 about child abuse. Since then until November 2006 a hundred and twenty (120) sessions occurred: 15 in 2003, 35 in 2004, 35 in 2005, and 35 in 2006. Several specialties have presented videoconference sessions, most of them on Medical and Nursing fields. The most frequent specialties were Pediatrics (30%), Nursing (20%) and Obstetrics (16%). A survey was conducted from January 2004 to December 2005. About one thousand questionnaires (50% of attendance) were collected analyzing technical and educational aspects (such as infrastructure, devices, support team, content and speakers) and more than eighty (80%) percent of the attendance classified the sessions as “good” or “excellent”.

Discussion and conclusion

This project was originally designed to focus on teleconsultations, but results demonstrated that continuing education was far more used by health professionals. Several reasons could justify this finding. At a continuing education activity, you can ask questions to the specialist only if you want to, while teleconsultation is a direct confrontation with a specialist. Besides that, if the teleconsultation schedule is not introduced as a regular routine in the service, it is easier to order a referral using just a piece of paper with patient name, health problem and specialist required. Informing regular teleconsultation schedules could facilitate this process [4]. Most speakers were specialists and there is a significant gap between family practice and hospital practice. There are different protocols and resources to assist the patients. In 2006, the Residency of Family Physicians was created at HC-UFPE and was engaged on the videoconference sessions. The audience satisfaction has increased once the videoconference session has achieved more practical approaches than those presented by specialists. Some success factors should be considered in a telehealth program for family practice in public health. First, health department’s managers should be strongly involved and understand the requirements and benefits of a telehealth program to their communities. Telehealth must be included in health policies of the city, allowing financial support for these initiatives as a way to achieve sustainability. While in other countries, telemedicine services are financed [5], in Brazilian public health system it is still not a reality. A strategy to get a better professional engagement on telehealth services is first to introduce in their routine a videoconference program for educational purposes. A teleconsultation service should be introduced only after they get used to videoconference technologies. Technical aspects should consider not only acquiring equipments, but also maintaining and training staff in telehealth. Communication lines should achieve a good cost benefit ratio concerning the proposed service. It is also important to make consulting staff understand the possibility of reducing inappropriate referrals using a telehealth program, once it is possible to help the primary care professionals solving common clinical problems within their communities. In addition, both consultants and primary care professionals can better qualify themselves to assist their patients. Telehealth is a strong weapon to provide solutions to solve local problems and benefits all players involved.

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References

[1] http://www.ibge.com.br, accessed on 12/01/2006.
[2] FALK, JW. A Medicina de família e comunidade e sua entidade nacional: histórico e perspectivas. Revista Brasileira de Medicina de Família e Comunidade 2004:1(1).
[3] http://www.ufpe.br/hc, accessed on 12/02/2006.
[4] NOVAES, M.A., MATTOS, S.S., BARBOSA, A.K.P., ARAUJO, K.S. Telehealth in Northeast Brazil: a pilot program for the public sector. MEDINFO 2004. M. Fieschi et al. (Eds). Amsterdam: IOS Press. © 2004 IMIA.
[5] J.R. Moehra,, J. Schaafsmab, C. Anglinc, S.V. Pantazia, N.A. Grimma, S. Anglinc. Success factors for telehealth -A case study. International Journal of Medical Informatics 7 5 (2 0 0 6) 755–763.
[6] Hersh WR, Hickam DH, Severance SM, Dana TL, Pyle Krages K, Helfand M.Diagnosis, access and outcomes: Update of a systematic review of telemedicine services. Journal of Telemedicine and Telecare. 2006;12 Suppl 2:S3-31.

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