

The Amazon Telemedicine Project for a Remote Indian Tribe

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Introduction: In the 21st Century Telemedicine can be used for the establishment of health care in extremely remote areas of the globe, including: 1) the utilization of satellites; 2) low and wide band internet transmission; 3) the development of “user friendly” interfaces; 4) training of non-skilled communitarian staff. The Amazon Telemedicine Project aims the development and implementation of a Telehealth System for Amazon Indians in Northern Brazil, with applications in the areas of Telecardiology, Teleradiology, Teledentistry, Telepathology, and Videoconferences.

Objectives: The “Amazon Native” is the first step to develop an education and interventionist program consisting of the development and establishment of: (1) a new telehealth network based on internet, connecting a remote Amazon Indian population with a Medical Center in Southern Brazil; (2) a clinical database of a non-assisted Indian population and (3) diagnostic methods and better delivery health care for Indian communities living in the Amazon forest (around 20,000 inhabitants) that currently lack medical assistance.

Methods: A telehealth system is under establishment with satellite and radio transmission of Internet. The project includes the transmission and remote analyses of digital electrocardiograms, conventional x-ray, Papanicolau smears, teledentistry images therapeutical orientation, and IP based videoconferences for sanitary counseling and education. A third-level health care assistance is involved in this network, including one reference centre in South Brazil (PUCRS – Porto Alegre), one Military Hospital in Tabatinga City (44,000 inhabitants) and one Outpatient Care Unit in Benjamin Constant City (22,000 inhabitants). The last two centers are located in the Amazon state and a communitarian assistance unit is located in the Kokama Indian tribe in the Amazon forest.

Results: (1) A telehealth system is under construction with satellite transmission between PUCRS University and the Military Hospital of Tabatinga; (2) A regional internet transmission of data via radio technology was established between the small hospital and health care units in Amazon; (3) videoconferences were successfully performed at PUCRS University as a preliminary test of the system.

Conclusion: This project is feasible, cost-effective and extremely relevant for non-assisted populations in the remote Amazon forest and can be deployed to other areas in South America.