

MEDNet is a European project which has developed a health care network in rural areas in Peru and Brazil. Isolated clinics at rural areas communicate via satellite communication, based on DVB-RCS (Digital Video Broadcasting – Return Channel via Satellite), with central hospitals in Peru and Brazil. In addition, there are 3 more sites connected via ADSL with a central hospital in Brazil. Physicians at the isolated sites are sending ultrasound examinations in order to get a second opinion from expert physicians. The system has been in full operation since June 2010 and a number of teleconsultations take place daily.

Technology

MEDNet system architecture and major components are:

- TeleConsult
- Jabber communicator
- AmerHis

Teleconsult

TeleConsult (Figure 1), provides medical doctors with all necessary tools for communicating and

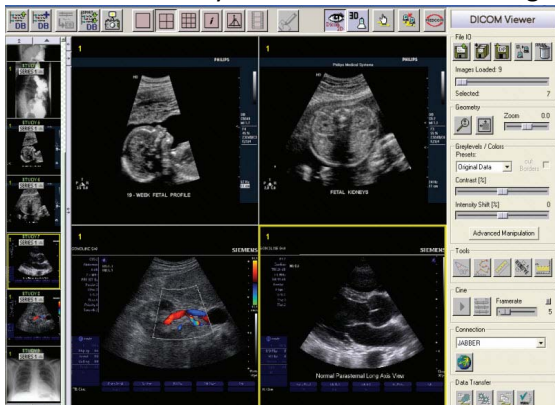


Figure 1

exchanging medical information over different communication channels such as Internet, ADSL, or conventional phone lines. TeleConsult provides a wide spread of possibilities to enrich a given image material with additional information and to send it as a message. This can happen in offline-mode or in online-mode. Moreover, the online-mode gives the opportunity to communicate over long distances with a given partner in real time. In this case, both doctors observe the same image data set through text messages and transferred mouse actions to the remote PC, where they can discuss interactively over a medical case.

A client/server architecture over Instant Messaging protocol provides the central storage of all data of a telemedicine center and the access to this data from every fixed or mobile computer station, which is equipped with the client-software. Members of a telemedicine network store their data in their local database and send their queries to the consultant centre via Internet, ADSL or any other available communication channels. The medical history of a patient, necessary for the assessment of a case, is sent anonymously and automatically along with the messages. This application allows:

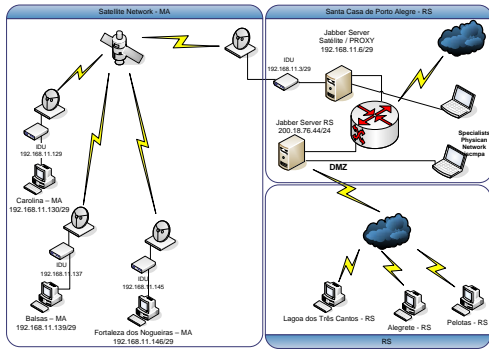
- The loading and handling of 2D and 3D medical images
- The transmission and reception of messages including annotated medical images over Internet, ADSL or PSTN line in off-line or on-line mode.
- The enrichment of the images with graphical and textual annotations and pictograms.
- The interaction of the physicians involved in the on-line mode using chat windows and mouse movements, while the workstations employed share the same display ("what you see is what I see"). The storage of images, patient relevant information, and exchanged messages in a central database accessed by doctors belong to the same network.

"...many patients here 'won in the lottery', they got their diagnosis, they were operated, many thanks are

Deployment & Teleconsultations

Brazil: Seven installations were finalised during the last months of the project. The referral hospital is Santa casa hospital in Porto Alegre, and the sites are:

1. Pelotas
2. Alegrete
3. Lagoa dos Tres Cantos
4. Balsas
5. Fortaleza dos Nogueiras
6. Carolina



Brazil Deployment

Santa Casa hospital is connected via satellite with Carolina, Balsas and Fortaleza dos Nogueiras. Santa Casa hospital is extending the medical network to include besides Ultrasound also MRI and CT imaging modalities. Three (3) of the remote hospitals near Rio Grande do Sul states that need medical tele-consultation on MRI and CT cases will make use of ADSL communication for data exchange.

In Brazil over 350 teleconsultations already performed with success and minor problems.

All the sites communicate via satellite with the referral hospital in Huancayo and the consultations include ultrasound examinations. More than 200 hundred teleconsultations have been performed till today.

A small testimony of Dr. Marcus Dalsasso from a Brazilian site gives an idea of the positive feedback from his experience with MEDNet:

"...some answers sent by the specialists were very useful for me... many patients here won in the lottery, they got their diagnosis, they were operated, now they are working... this has no price."

Timetable:	from 01/2008 - to 12/2010
Total cost:	€ 2.177.440,00
EC funding:	€ 1.399.403,00
Instrument:	SICA
Project Identifier:	FP7-2007-ICT-215479

Important Links:

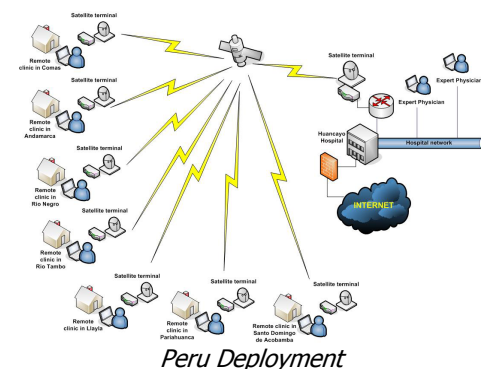
- Project website: www.e-mednet.com
- Project factsheet: http://ec.europa.eu/information_society/activities/health/docs/projects/fp7/mednet-factsheet.pdf
- ICT for Health website: http://ec.europa.eu/information_society/ehealth

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Peru: Eight installations have been finalised with success in Peru. Referral hospital is in Huancayo and the sites are:

1. Chongos Alto
2. Comos
3. Pariahuanca
4. Puerto Ocopa
5. Mazamari
6. Rio Negro
7. S.M. de Pangoa



Peru Deployment