



By Malina Jordanova

## Telemedicine / eHealth: The Bulgarian Experience

### Government projects

**T**elemedicine has been practiced for a long time in Bulgaria and is widely used to transmit information between medical schools, hospitals or physicians in order to enhance the processes of consultations, diagnostics, treatment and distant education.

Unfortunately, systematic governmental politics for the progress of telemedicine has not been developed although some funds have been put aside to start telemedicine projects such as:

- *International Joint RTD Centre for Healthcare Informatics and Applications*: will design and introduce a framework for the development and implementation of novel IT-based approaches to healthcare management, telemedicine, scientific and professional networks.
- *Patient Oriented Health Information System for the Specialized Network of Oncology Hospitals* will develop a technological framework and information system that will reduce the cost and improve the efficiency of the existing oncology hospital network, serving over 250,000 patients.

In the pipeline are (1) *Human Organ Transplantation Network Using Novel Information Technologies for Efficient Management and Logistics Control* and (2) *Development Of Health And Social Security Information System Using Personal Information Carrier for Medical Records*.

### Private R&D projects

The development of telemedicine does not depend exclusively on government funding. The main R&D centres engaged

in telemedicine projects are The Medical University, Sofia and BAS:

- The former took part in the EU-funded project **GALENOS** (Generic Advanced Low-cost Trans-European Network Over Satellite). As a result, an information system with a clinical database and electronic patient records is in use at several Bulgarian University Hospitals and has enhanced the possibilities for consultations and data transmission between hospitals located in various parts of the country.
- System for Monitoring and Analysis of Sleep Apnea (**MA-1**) was developed in BAS.
- *Emergency WebInfokit* (EWIK) contains EWIK Members' personal medical data in English within a scope defined by the individuals themselves and their personal physician. The EWIK database will be accessible 24 hours a day, 365 days a year through the use of a Member ID and password. The information is accessible by EWIK to the emergency medical teams within seconds at each point throughout the world.
- *Bulgarian ITU (International Communication Union) Project for Rural Areas*. The two-year project is co-funded by Bulgaria and the ITU and started on October 1st, 2003. Developed in conjunction with the Valetta Action Plan, the strategic objective of the project is to develop a packet-based wireless access infrastructure in one semi-mountainous rural region, connecting in a network the telecentres of 10 villages, including the Medical Emergency Services Center (MESC) of the only town in the

region. The network will be also connected to a teleserver operated by the Telemedicine Group at BAS in the capital. If successful, similar wireless systems will be recommended in rural areas in other countries.

### Telecardiology and telepsychology

The telecentres will operate on 2 levels: (a) an administrative and public communication service, i.e. easy access to governmental organisations, e-mail, Internet, libraries, business information, etc., and (b) a telemedicine service with special emphasis on tele-cardiology. Development of telecardiology is essential as cardiovascular diseases are the leading cause of death in Bulgaria. For the realisation of the telemedicine services general practitioners in the villages are supplied with portable telecare devices - electronic blood pressure meters and ECG holters, suitable for long term cardio-vascular monitoring. The network allows the possibility of transferring difficult diagnoses of ECG records to MESC or, if necessary, to the capital. A system for on-line telepsychological consultations focusing on mental healthcare will also be introduced.

Through this project we hope to illustrate the potential for online clinical work, and to share our evolving understanding of what is truly possible.

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