

# VEMH: Virtual Euro–Mediterranean Hospital for Evidence–Based Medicine in the Euro–Mediterranean Region

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## INTRODUCTION

Telemedicine aims at equal access to medical expertise irrespective of the geographical location of the person in need. New developments in Information and Communication Technologies (ICT) have enabled the transmission of medical images in sufficiently high quality, which allows for a reliable diagnosis to be determined by the expert at the receiving site (Pande, Patel, Powers, D’Ancona & Karamanoukian, 2003; Lacroix et al., 2002).

At the same time, however, these innovative developments in ICT over the last decade bear the risk of creating and amplifying a digital divide in the world, creating a disparity between the northern and southern Euro-Mediterranean areas (Dario et al., 2005; Grasczew, Rakowsky, Roelofs & Schlag, 2003a; Grasczew, Roelofs, Rakowsky & Schlag, 2004).

In recent years, various institutions have started Euro-Mediterranean telemedicine projects (EMISPHER, [www.emispher.org/](http://www.emispher.org/); BURNET, [www.burnet.org/](http://www.burnet.org/); PARADIGMA, [www.paradigmamed.org/](http://www.paradigmamed.org/); EMPHIS, [www.emphis.org/](http://www.emphis.org/); EUMEDGEN, [www.eurogene.org/](http://www.eurogene.org/); ODISEAME, [www.odiseame.org/](http://www.odiseame.org/); EUMEDCONNECT, [www.eumedconnect.net/](http://www.eumedconnect.net/); GALENOS, [www.rrk-berlin.de/op2000/Deutsch/projekte/galenos.html](http://www.rrk-berlin.de/op2000/Deutsch/projekte/galenos.html)), which were intended to foster a cooperation between the European EU-Member countries and the Mediterranean countries (Grasczew, Roelofs, Rakowsky, & Schlag, 2002; Grasczew, Roelofs, Rakowsky, &

Schlag, 2003b; Rheuban & Sullivan, 2005; Wootton, Jebamani, & Dow, 2005).

All these projects have demonstrated how the digital divide is only part of a more complex problem: the need for integration. Therefore, provision of the same advanced technologies to the European, Mediterranean, and Adhering countries should be the final goal for contributing to their better dialogue for integration.

## BACKGROUND

Already in the framework of the EMISPHER project (Euro-Mediterranean Internet-Satellite Platform for Health, Medical Education and Research, EUMEDIS pilot project 110, see [www.emispher.org](http://www.emispher.org), 9/2002-12/2004, cofinanced by the EU in the framework of the EUMEDIS program), an Internet-satellite platform for telemedicine in the Euro-Mediterranean region was established and put into operation (Grasczew, Roelofs, Rakowsky & Schlag, 2005). Other telemedicine systems are used; for example, for tele-ultrasound in rural areas where telementoring by live videoconferencing allowed guiding the ultrasound technician to record additional images of the patient (O’Neill, Allen & Brockway, 2000); for clinical assessment of pediatric burns, which showed a good agreement between the face-to-face consultation and seeing the patient via videoconference (Smith, Kimble, Mill, Bailey, O’Rourke & Wootton, 2004); and for home telecare services likely to improve quality of health services

(Guillen et al., 2002). Other systems are described in Sable (2002); Latifi, Peck, Porter, Poropatich, Geare & Nassi (2004); and Eadie, Seifalian & Davidson (2003). Currently the network consists of 10 partners in Morocco, Algeria, Tunisia, Egypt, Turkey, Italy, Greece, Cyprus, France, and Germany (see Figure 1) and offers applications in the domains of medical e-Learning (courses for undergraduates, graduates, young medical doctors, etc., in real time and asynchronously), real-time telemedicine (second opinion, demonstration and dissemination of new techniques, telementoring, etc.), and e-Health (medical assistance for tourists and expatriates). The EMISPHER network serves as a basis for the introduction of a virtual hospital in the Euro-Mediterranean region.

Due to the experience in the exploitation of previous European telemedicine projects and, in particular, to activities carried out in the framework of the EUMEDIS program, an open Euro-Mediterranean consortium would like to propose the Virtual Euro-Mediterranean Hospital (VEMH) initiative.

VEMH aims to facilitate and accelerate the interconnection and interoperability of the various services

being developed (by various organizations at various sites) through real integration. This integration must take into account the social, human, and cultural dimensions, and strive toward common approaches but open and respectful of cultural differences: multilateral cooperation instead of aid.

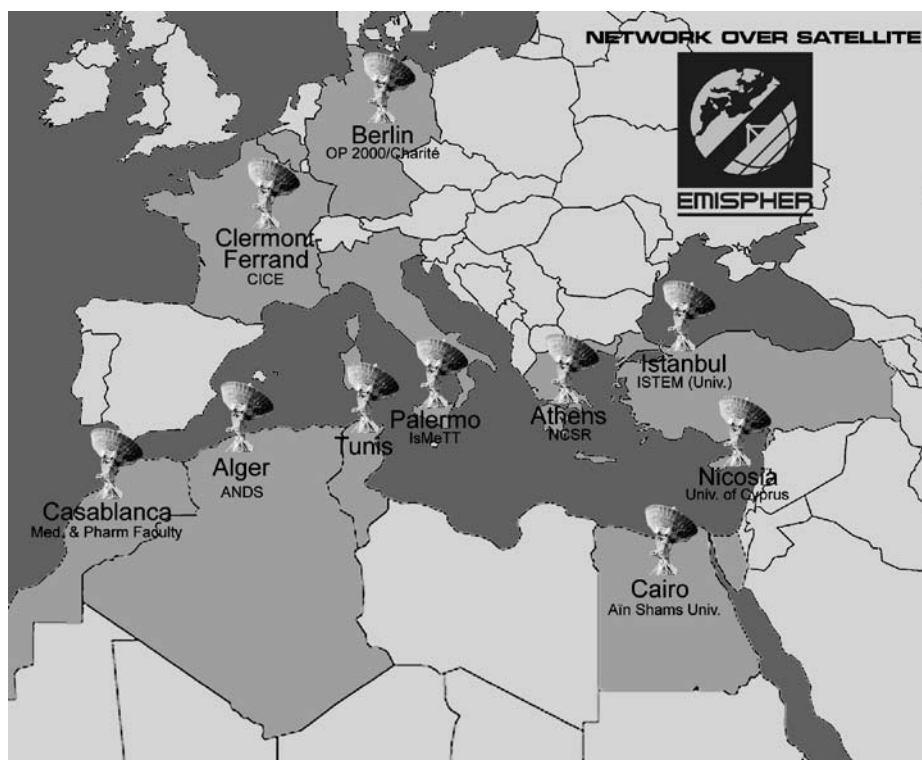
## **THE VIRTUAL EURO-MEDITERRANEAN HOSPITAL (VEMH)**

VEMH will provide a heterogeneous integrated platform consisting of satellite links and terrestrial links for the application of various telemedical services. Evidence-based medicine will be integrated more and more in the following three main dedicated medical services.

### **E-Learning**

In the project, the Mediterranean Medical University (MeMU) will be developed. The leading medical centers

*Figure 1. Centers of excellence in the EMISPHER project interconnected by a satellite-based network for bridging the digital divide in the Euro-Mediterranean health care area*



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