

From EMISPHER towards the Virtual Euro-Mediterranean Hospital: Best Practise in real-time Telemedicine

EMISPHER Mission & Achievements

The EMISPHER project (Euro-Mediterranean Internet-Satellite Platform for Health, medical Education and Research, EUMEDIS Pilot Project 110, see www.emispher.org/, co-funded by the EC under the EUMEDIS Programme, Strand 2, Sector 1; see www.eumedis.net/) is dedicated to Telemedicine, E-Health and medical E-Learning in the Euro-Mediterranean area.

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 that allows for a reliable diagnosis to be determined by the expert at the receiving site.

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 the southern Euro-Mediterranean area.

The digital divide in the field of health care has a direct impact in the daily life of the citizens and on their quality of life. In recent years, different institutions have launched several Euro-Mediterranean telemedicine projects. All of them aimed to encourage the Euro-Mediterranean cooperation between the European member states and the Mediterranean Countries.

During its implementation over the last two years, EMISPHER has deployed and put in operation a dedicated internet-satellite platform consisting of currently 10 sites in 5 MEDA countries Morocco (Casablanca), Algeria (Algiers), Tunisia (Tunis), Egypt (Cairo) and Turkey (Istanbul) and 5 EU countries Italy (Palermo), Greece (Athens), Cyprus (Nicosia), France (Clermont-Ferrand) and Germany (Berlin), as shown in Fig. 1.

The EMISPHER network hosts three key applications in the field of medical eLearning (EMISPHER Virtual Medical University with courses for undergraduates, graduates, young medical professionals, etc., in real-time and asynchronous modes), real-time Telemedicine (second opinion, demonstration and spread of new techniques, Telementoring, etc.) and

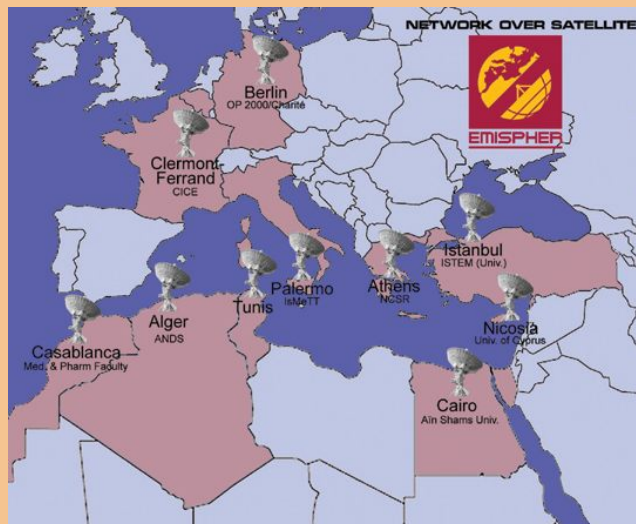


Fig. 1: EMISPHER Network over satellite

eHealth (medical assistance for tourists and expatriates). Within the EUMEDIS programme, EMISPHER strives to strongly pursue joint activities of the 5 pilot projects currently active in the health sector of EUMEDIS: EMISPHER, EMPHIS, BurNET, PARADIGMA and EuMedCancer, as well as with other EUMEDIS pilot projects, e.g. in the education sector: ODISEAME. Health cluster meetings were held in Bari, Italy (November 2002), Paris, France (January 2003) and Turin, Italy (November 2003); a meeting with ODISEAME was held in Cairo (February 2004).



Fig. 2: Interactive live tele-education session between IsMeTT (Palermo) and UCY (Nicosia)



First EUMEDIS Workshop on Infrastructures for Disease Control

Emerging from these various cluster activities, in particular thanks to joint efforts from EMPHIS (Coordinator: Prof. Henri Debois, FONDATION MERIEUX) and EMISPHER, the first EUMEDIS Cluster Workshop on "Infrastructures for Disease Control" was held during the EMISPHER Dissemination conference in Algiers June 24-26 2004 and focussed on infectious diseases.

The goal of the workshop was to review and compare health system organization and strategies in European and Mediterranean countries in the prevention, control, and eradication of infectious diseases, the ultimate goal being the identification of possible limits of the health system and providing solutions to these limits applying modern communication technologies:

The scientific program was composed under the responsibility of the EMISPHER partner IsMeTT (Dr. Daniela Filì) and contained numerous contributions from leading experts from various European and Mediterranean countries: Turkey, Algeria, Egypt, Morocco, Tunisia, Italy and Germany.

The workshop was chaired by Prof. Abdelouahab Dif (Infectious Diseases Specialist, Infectious Diseases Department, EHS El Kettar, Algiers) assisted by Dr. Daniela Filì (Gastroenterology Specialist, Gastroenterology and Hepatology Department, IsMeTT, Palermo).



Fig. 3: EMISPHER Consortium Meeting and Conference Algier June 24-26 2004

Topics discussed during the workshop were:

- organization and strategies of the health system, from an intra- and extra-hospital point of view, for infectious disease control, as illustrated by each of the presentations on hospital infections, abdominal infections, brucellosis, hepatitis and schistosomiasis, HIV, tuberculosis, and poliomyelitis:

- organization and strategies of Algeria's health system, and comparison with the health systems in other Mediterranean and European countries.

- evaluation of possible application of modern communication technologies against infectious diseases in European and Mediterranean countries.

Requirements and difficulties identified during the workshop:

- Need for cooperation between European and Mediterranean countries in the battle against infectious diseases, considering the globalization of diseases in

- Lack of a common language necessary to start a joint work program

- lack of homogeneity as to the possibility of infectious disease diagnosis among individual countries and in the same country (differences among laboratories in terms of availability and quality of techniques)

The contents of the workshop is available both on CD, and on the EMISPHER project website (www.emispher.org).

At the end of the workshop, all experts unanimously agreed to draw up an official document summarizing the conclusions and recommendations and defined a common work plan.

The participants from Algeria, Germany, England, Belgium, Egypt, France, Greece, Italy, Morocco, Russia, Switzerland, Tunisia, and Turkey underlined the need to tackle with all possible means the problems caused by infectious diseases in the Euro-Mediterranean area:

- significant incidence on public health in terms of avoidable mortality and morbidity

- risk of proliferation, emergency or re-emergency caused by the increase of tourism and trade

- development of anti-infection drug resistance

- considerable lack of homogeneity among Euro-Mediterranean countries against such diseases

Recommendations

1. The Euro-Mediterranean Virtual Hospital, a recommendation of the EUROMED 2004 Conference, is an opportunity and a challenge to achieve common goals

2. In an initial phase, the integration of infectious diseases in the Euro-Mediterranean Virtual Hospital calls for:

- creating a list of specialists in the field of infections (infectious disease specialists, pneumo phthysiologists, microbiologists, epidemiologists)

- identify national coordinators and a Euro-Mediterranean coordinator

- link the national networks in the Euro-Mediterranean area, develop new networks, and enable a mutual connection

- elaborate the epidemiological situation and evaluate all partner's possibilities on the basis of common indicators to create a database, and support information circulation

3. In a later phase, the Euro-Mediterranean Virtual Hospital will call for the realization of actions relevant to:

- Creating a Euro-Mediterranean network for infectious disease monitoring and control

- Fostering a collaboration for prevention and treatment of prevalent diseases (standardization)

- developing exchanges among laboratories of the Euro-Mediterranean countries, particularly as regards resistance to anti-infection drugs

- training and developing professional competences against infectious diseases, resorting to modern techniques and communication technologies

- research cooperations

Common work plan

- Phase 1: establish national task forces of experts to fight infectious diseases (at least one infectious disease specialist and one epidemiologist)

- Phase 2: appoint a national coordinator in each national task force, preferably a Ministry of Health representative

- Phase 3: appoint an international coordinator who will act as supervisor and liaison person among national coordinators

-Phase 4: identify a common language necessary to start up a joint program for infectious diseases control in the Euro-Mediterranean area (identify common epidemiologic, microbiologic, and diagnostic indicators to use as standards)

-Phase 5: integrate the program for infectious diseases control in the Euro-Mediterranean Virtual Hospital.

The workshop was also successful in terms of collaboration between the EMISPHER and EMPHIS projects.

Because of the importance of infrastructures for disease control for the quality of healthcare in the Euro-Mediterranean region it was decided to organise the next workshop focussing on cardiovascular diseases during the final EMISPHER Conference on September 16-18, 2004 in Istanbul.

EMISPHER International Dissemination Conferences

- Casablanca (Morocco): "Medical E-Learning", 9-12 October 2003 Host: Faculty of Medicine and Pharmacy Casablanca, FMPC, (Prof. Mohamed Kebbou)

- Cairo (Egypt): "Public Health in the Euro-Mediterranean Region", 19-22 February 2004 Host: Ain Shams University (Prof. Gamal Wafa)

- Algiers/Nicosia (Algeria/Cyprus): Twin Conferences on "The Virtual Euro-Mediterranean Hospital and Continuity of Health Care", 24-27 June 2004 Host: ANDS (Prof. Hamid Kessis) and University of Cyprus (Prof. Marios Dikaiakos)

- Istanbul/Tunis (Turkey/Tunisia): Twin Conferences on "Infrastructures for the Virtual Euro-Mediterranean Hospital and Best Practice in Real-time Telemedicine", 16-18 September 2004 Host: ISTEM, Istanbul University (Prof. Cavit Avci) and Faculty of Medicine of Tunis (Prof. Riadh Gouider)

Moving towards a Virtual Euro-Mediterranean Hospital

EUROMED 2004, the first Euro-Mediterranean Conference on "Views on Health" was organised by the Algerian Ministry of Health, Population and Hospital Reformation, on February 14-15, 2004 in Algiers, Algeria and was attended by more than 1200 participants, among them many international experts from the health sector and political decision makers.



Fig. 4: Interactive multipoint teleconsultation during laparoscopy (OP 2000 - Berlin, FMPC - Casablanca, CICE - Clermont-Ferrand)

The proposal of the Algerian Government, recommending the development and deployment of a *Virtual Euro-Mediterranean Hospital as key structure for future activities for lasting and sustainable international co-operation in health care in the Euro-Mediterranean region*, resulted in the official EUROMED 2004 resolution of 10 concrete recommendations (see EMISPHER Newsletter June 2004).



Fig. 5: Official opening of the second EMISPHER Conference in Cairo February 19-22 2004

Continuing the work of the EUROMED 2004, the EMISPHER Conference in Algiers brought together international experts from the health sector and political decision-makers. The Algerian government was represented by the Minister of Health, Population and Hospital Reformation who officially opened the Conference, accompanied by 6 colleague Ministers, the Secretary General of the Government, Presidents of various national Councils and the Vice-President of the Algerian Parliament. Furthermore, the Head of the EC Delegation in Algiers, 7 Ambassadors of European and Mediterranean countries, as well as high representatives of various international organisations like W.H.O, UNICEF, UNPD and UNFPA were present. In total, the Conference was attended by ~300 high-level international health experts.

Based on the official recommendations of EUROMED 2004, a round table discussion was held by 20 health key players from various Euro-Mediterranean countries (Algeria, Egypt, Morocco, Tunisia, Turkey, France, Greece, Italy and Germany) to further identify and define key aspects and requirements for a Virtual Euro-Mediterranean Hospital. Concrete technical, medical, scientific and political steps towards the Virtual Euro-Mediterranean Hospital were recommended:

"The realisation of a "Virtual Euro-Mediterranean Hospital (VEMH)" could be achieved and accelerated through the following actions:

1. Provision of global geographical coverage within the Mediterranean could be achieved after concrete political and economic actions that are necessary to identify the infrastructure for the future Virtual Euro-Mediterranean Hospital.

2. This process could be coordinated and undertaken effectively by beneficiary countries; EU member states will provide technical and scientific consultancy.

3. As primary coordinator for this undertaking the government of Algeria therefore emerges as a strong partner.

4. The formation of a high level committee, under the auspices of the Ministry of Health of Algeria with participation from other MEDA countries' Ministries of Health, could be very helpful to accelerate the process of organisation of the infrastructures for a Virtual Euro-Mediterranean Hospital. It is further suggested a first meeting of this committee to take place during the final EMISPHER Conference in Istanbul, Turkey, September 16-18, 2004."

The Virtual Euro-Mediterranean Hospital aims to facilitate and accelerate the interconnection and interoperability of the various services, being developed by different organisation at different sites, through real integration. This integration will take into account the social, human and cultural dimensions and strive towards common approaches but open and respectful of cultural differences: striving to move step by step from aid towards multi-lateral cooperations. Activities will include various real-time telemedicine services to support implementation of Evidence-Based Medicine, as well as Fellowship programmes for training of young medical doctors, providing complete and area-wide coverage including all Mediterranean countries.

During the final EMISPHER Conference in Istanbul (16-18.09.04) various workshops & discussions rounds will take place to identify and define key characteristics of such a "virtual hospital", as compared to the known situation of a "real hospital". These workshops & discussions rounds on the Virtual Euro-Mediterranean Hospital, all focussing on the transition from a real hospital to a virtual hospital will cover:

- Medical Infrastructures
- Communication Infrastructures
- Collaborations in Virtual Medical Communities
- Medical Services and the New Role of Medical Faculties
- Legal & Regulatory Aspects
- Business & Sustainability Models
- Perspectives of Hospital Administration and International Health Organisations

Following the official recommendations of the EMISPHER Conference in Algiers, the Algerian Government has taken the pro-active role and started preparations for a first meeting towards the recommended high-level committee of Ministers of Health of all Mediterranean Countries to create the right conditions for the realisation of the Virtual Euro-Mediterranean Hospital (VEMH).



Fig. 6: Visit of Prof. A. Farouqi, Dean of the Faculty of Medicine and Pharmacy Casablanca (FMPC) to Charité, Berlin (8-10 September 2004): Meeting with Prof. D. Ganten, General Director of Charité

Co-ordinator's Corner

Extension of EMISPHER as first step towards a Virtual Euro-Mediterranean Hospital

Dear Colleagues,

After two years of work, we can look back on successful implementation of the network. More important is not just to look back, but to focus our views on the future and jointly make the next steps towards the Virtual Euro-Mediterranean Hospital.

In order to facilitate the creation of the supportive political and economical conditions required for the realization of the concepts of a Virtual Euro-Mediterranean Hospital (VEMH), we work on an extension of EMISPHER.

Such an extension would allow for consolidation and enlargement of the EMISPHER network, its services and its contributions to improved healthcare. This is particularly important during the upcoming period of necessary preparations of political and economical conditions that should set the stage for the committed start of development and implementation of a Virtual Euro-Mediterranean Hospital and further integration with the other Health Cluster projects.

It is proposed that besides the existing network sites in the MEDA countries Morocco, Algeria, Tunisia, Egypt and Turkey the EMISPHER network will be extended with five more University Hospitals in Lebanon, Syria, Jordan, Israel and the Palestinian Authorities as significant step towards full geographical coverage, as officially recommended for the VEMH.

In the extended network medical applications will focus on the EMISPHER Virtual Medical University for medical eLearning and various services for real-time telemedical applications.

Based on the success of the previous EMISPHER Dissemination Conferences and particularly the concept of Twin Conferences, simultaneously held at two different MEDA partner sites linked via the EMISPHER network, it is also foreseen to organize two sets of Dissemination Twin Conferences. These conferences have in the past proven to be a very efficient and effective way of dissemination on national and regional level and facilitates the integration of local infrastructures and services in the EMISPHER network, thus enlarging both the action radius of the network and the number of people profiting from improved health care.

As integral part of the Dissemination Twin Conferences and EMISPHER's continuing cluster activities, various dedicated EUMEDIS cluster workshops on Infrastructures for Disease Control and on the Implementation of evidence-based medicine will be organized.

The EMISPHER Management.

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