Cross-Border collaboration between Greece and FYROM: Mobile Healthcare Provision

S. Spyrou, D. Vartzopoulos, P. Bamidis, N. Maglaveras

3rd RHA Greece
Lab of Medical Informatics, AUTH
The Network

- A cross-border health network to apply eHealth applications in order to improve the quality of life for the population in cross-border areas in Greece and FYROM
- The requirements, the restrictions, the design of the network are presented
- The results reveal the acceptance of the system from the staff of healthcare organizations
3rd Regional Health Authority of Greece

- 3rd RHA manages 17 hospitals, 17 health units, 166 district health units
- Includes approximately 1.5 million population
INTERREG III

- Community initiative to stimulate interregional cooperation in the EU
- The initiative is designed to strengthen economic and social cohesion in the EU and special emphasis has been placed on integrating remote regions and those which share external borders with the candidate countries. Greece and FYROM are such two countries that share external borders.
The network

- The Cross-Border network concerns the confrontation of asthma and Chronic Obstructive Pulmonary Disease (COPD) and other chronic respiratory illnesses.
- The telemedicine services concerns medical diagnosis at distance, education and prevention of illnesses.
- The creation of a web portal for the education of patients on issues regarding asthma is included.
- The work will also focus in the preventive medicine to people with respiratory diseases that are found in district regions.

The project is in the first phase - including the requirement analysis - and by the end of the first quarter of the next year detailed results of the project will be available.
RHA and eHealth tools - apps

- Primary health care is of paramount importance
- Primary health units do not provide medical services for specific specialities such as pneumonologists etc.
- eHealth tools and apps give the means to the patient / doctor to collaborate with the expert, avoiding the patient flow from rural areas to the urban areas.
Positive attitude of personnel

In 2004, 3rd RHA engaged a survey regarding the attitude of staff of 4 health units towards the use of ICT:

- 90 questionnaires received from doctors, nurses, administrative personnel
- 41.83% of the staff had already used Electronic Medical Record
- 66.67% accomplished part of their work using Internet
- 27.78% used Internet for commercial transactions like banking transactions
- most of the staff regarded that the use of ICT infrastructure would make their work easier, would improve the performance of the provided services and generally would provide a reliable way of working.
Attitude of personnel to the Cross-Border Net

- 64% believe that bureaucracy may cause obstacles to the development of the Network
- Almost all (99%) believe that the project will improve the services provided by the Health Care System
- 70% believe that the patients may be benefit by the services provided by the network
- 93% believe that the network will contribute to the decongestion of the primary care units
eHealth Networks in the Region

Mobile Health Care Provision

Interregional Health Network

http://www.3ype.gr
http://irehenet.3ype.gr

http://www.health-telematics.gr

eHealth beyond the horizon - get IT there

MIE 2008
Göteborg
The framework of the project
The network
- The patients
- Connection with the spirometer
- The results of examination
- The page and the teleconsultation page of the physician
E-learning Environment

www.3ype.gr
lomiedu.med.auth.gr
External contractors of the system

(1) consultant of technical support: for administrative, educational and other issues (Actors1),
(2) health care professionals to support the telemetry central station and the doctors in primary health units (Actors2),
(3) health care professionals and it staff to coordinate and support the creation of educational material for the web (Actors3),
(4) administrative personnel to support the processes (Actors4) and
(5) IT companies to provide and support the project (Actors5)
Phases of the project

(1) PHASE A: Requirement analysis and design of applications,

(2) PHASE B: Development, parameterisations of applications, tests and integration of applications,

(3) PHASE C: Supply and installation of equipment (pcs, microdevices etc),

(4) PHASE D: Period of Pilot Operation - Education of users,

(5) PHASE E: Period of SLA (Service Level Agreement)
## The actions

<table>
<thead>
<tr>
<th>AXIS</th>
<th>Actions in the axis</th>
<th>Involved Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational matters</td>
<td>Reports including: Legislation for security and other matters</td>
<td>Actors1</td>
</tr>
<tr>
<td></td>
<td>Organizational matters</td>
<td>Actors 1, Actors4</td>
</tr>
<tr>
<td></td>
<td>Functional requirements</td>
<td>Actors3, Actors5</td>
</tr>
<tr>
<td></td>
<td>Educational needs</td>
<td>Actors2, Actors3</td>
</tr>
<tr>
<td>Architecture of the cross-border network</td>
<td>Design of architectural model of telemedicine services</td>
<td>Actors1, Actors2, Actors5</td>
</tr>
<tr>
<td></td>
<td>Technical characteristics of infrastructure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design of educational material</td>
<td>Actors2, Actors3</td>
</tr>
<tr>
<td>Financial Planning</td>
<td>Cost-benefit analysis report</td>
<td>Actors4</td>
</tr>
<tr>
<td>Dissemination</td>
<td>Reports including: Acceptance of the system by users, patients, doctors</td>
<td>Actors1, Actors3</td>
</tr>
<tr>
<td></td>
<td>Reliability model of the telemedicine system</td>
<td></td>
</tr>
</tbody>
</table>
Who can profit?

- The citizens with chronic respiratory diseases, as well as those with particular needs of follow-up of their health as:
  - Children with asthma
  - Follow up of chronic disease patients (Old people)
  - Persons with special needs
  - Smokers
  - Persons with heart failures

- The scientists of two regions might examine joint incidents that need investigation, while at the same time is created a medical database for the populations of cross-border regions, allowing thus the conduct of comparative studies and statistical analyses.
Expected Results

- overcome geographic restrictions for diagnosis by distance,
- improvement of quality of provided services of preventive diagnosis and medical care,
- reduction in the costs of resources,
- reduction of expenses of patients,
- reduction of time and costs of hospitalisation
Limitations

(1) lack of specialized personnel to the usage of telemedicine systems,
(2) lack of personnel to support the central station at a 24-hour base,
(3) bureaucracy in the procedures to deploy extra personnel and
(4) integration of EMR with other eHealth systems that are installed in health units or hospitals.
Thank you for your attention

admin@3ype.gr
spirou@med.auth.gr