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Role of Electronic Patient Records in Global Health Care of the VEMH

Virtual Euro-Mediterranean Hospital

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The Reason

A Virtual Euro-Mediterranean hospital structure is expected to:

- provide ease of access to care
- provide shared care and continuity of care at regional, national and international level

Enablers

- Create a network of healthcare delivery
- Inter-connect participating hospitals healthcare processes (cross-organizational healthcare processes)
- Support the cross-organizational healthcare processes by information and communication technology (ICT)
- **Provide integrated patient information at the point of care (Electronic Patient Record - EPR)**
- Telemedical services
- E-Learning

Electronic patient records

- provide access to integrated patient information irrespective of the location where it has been stored
- support the continuity of healthcare and the shared care
- reduce practice variability and patient care costs
- improve medical decision making

Role of an EPR in VEMH

- Support the cross-organizational healthcare processes executed
 - within the boundaries of a health district (e.g. the case of a patient transfer to another healthcare organization for continuation of care),
 - within the boundaries of a country (integrated patient data at national level) and
 - among the hospitals of the VEMH (e.g. a second medical opinion)
- Support the telemedicine services (e.g. tele-consultation)
- Form the basis for creating virtual healthcare workgroups at regional, national and international level

Electronic Patient Record Requirements

- Address the integrated information needs of the participating hospitals
 - Authorized access to integrated patient information.
 - Timely patient information exchange among the participants in healthcare delivery processes.
- Support interoperability among heterogeneous healthcare systems.
- Preserve existing investments on information systems made by the participating healthcare organizations.

Web-Based EPR

The web-based EPR envisaged

- is based on a horizontal, process-oriented view of healthcare delivery
- supports the cross-organizational healthcare processes executed between the healthcare organizations participating in the VEMH
- preserves existing investments on information systems made by the participating healthcare organizations.

The EPR system will

- Provide access to already existing patient data in a standard format and structure using the same semantics
- Provide tools for selecting and exchanging portions of integrated patient data (e.g. concerning a specific patient medical problem)
- Provide advanced search capabilities for retrieving anonymous patient data for knowledge acquisition, comparison of performance and research purposes

Implementation Methodology

- Identify a number of cross-organizational healthcare processes and develop corresponding process models
- Study these models and specify
 - the collaboration and coordination needs among the participating hospital
 - the information retrieval and exchange activities
- Design a system architecture that enables incorporating heterogeneous information systems
- Incorporate to the system a security policy
- Create a prototype implementation
- Evaluate system implementation

System architecture

- Document-oriented approach (XML clinical documents encoded into CDA)
 - documents are the basic information objects
 - document exchange is the basic inter-organizational interface
- Web services implement the information retrieval and exchange activities of the cross-organizational healthcare processes

Thank you for your attention