e-Health Roadmap for Lebanon

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Policy Support Observatory
مرصد دعم السياسات الصحية

Support Health Sector Governance & Policy

I. Improved MOPH machinery & readiness
II. Improved service provision operations and financing
III. Intelligenc e & information
IV. Policy Dialogue

3. Expansion of UC schemes
4. Electronic health records
5. People-centred care
6. Scaling up accreditation
7. Overmedicalisation
8. Humanising palliative care

Policy Dialogue
The Policy Support Observatory unit at the Ministry of Public Health (MoPH) is engaging all health care providers and stakeholders to define a roadmap for eHealth in Lebanon through determining its essential pre-requisites and elements.

Building Consensus on the Readiness for EHR in Lebanon

**Focus Group Discussions**

**IT Focus Group**
April 24, 2019
Participants from MOSA, GSIF, ISF, SSF, NSSF, COOP, MoPH, BMC, AUB, ITb, CAS, MoD, CMSAR, RHUH, NBUH, WHO, HDF, MoT, ACT, and Akkar hospital

**Payers’ Focus Group**
April 24, 2019
Participants from GSIF, ISF, SSF, IMC, YMCA, UNICEF, GlobeMed, MoPH, LiBS, and COOP

**Hospitals’ Focus Group**
April 25, 2019
Participants from Lebanese Order of Nurses and representatives from prominent hospitals

**Public Focus Group**
May 28, 2019
Participants from MoO, COOP, GSIF, ISF, SSF, NSSF, LC, MoPH, and CAS

Major themes discussed: benefits of implementing EHR; challenges; pre-requisites; timeline for implementation; channels and means; legislations.

**Surveying Stakeholders**

This survey explores the readiness, acceptance and needs of Lebanon Health Institutions to implement EHR and sharing medical information among them. It aims at setting recommendations on the content of an e-Health roadmap for Lebanon.

**General Meeting**

A general meeting for all stakeholders (Public and Private hospitals, Payers and IT) will be held on June 15, 2019 at AUBMC. Main topics:

- Jordan’s experience in transitioning to EHR - Mr. Ghassan Lahham (EHSI)
- Europe’s roadmap for eHealth - Mr. Karim Hatem (YULIC Consulting)
- HIMSS survey in Lebanon - Yousef Bassim (ITG)
- Findings from Survey and Focus Group discussions - Dr. Ghassen Hamadeh (PSO)
Discussions by communities of practice

1. Readiness of Lebanon hospitals to adopt electronic health records

2. Expectations of Lebanon hospitals of an electronic health record

3. Document to be used by the ministry of public health to explore available vendors able to provide the perceived needed EHR

Electronic Health Record (EHR) = EMR that conforms to nationally recognized interoperability standards and can be available across more than one health care organization
Survey for hospital readiness and perspective on EHR

- EMR availability and HIMSS level
- Organizational support / alignment
- Human resource readiness
- Operational readiness
- Technology / infrastructure readiness
- Interoperability / eHealth readiness
Consensus building on eHealth Roadmap
توافق و ليس تنافس
EHR goals
أهداف الملف الصحي الإلكتروني

• To provide any health care provider a spontaneous and secure access to a patient’s medical record when necessary and with due respect to patient’s privacy.

• To allow exchange of medical, service and financial information among health care providers, insurers and administrators with minimal technical limitations and due respect to patients privacy and information exchange security.

• To allow ministries and health institutions to collect medical information for planning and delivering services with due respect to patients privacy and information exchange security.

ان يمكن مقدم الخدمة الصحية من الاطلاع الآني على الملف الصحي لطالب الخدمة مع المحافظة على خصوصية المريض.

ان يتمكن مقدمو الخدمات الصحية و الجهات الضامنة من تبادل المعلومات الصحية والخدمات والمالية باقل أو دون عوائق تقنية مع المحافظة على خصوصية المريض و أمان الملفات والمعلومات المتبادل.

إن تتمكن الوزارات والهيئات الصحية من جمع المعلومات الصحية لاستخدامها في التخطيط وتقديم الخدمات مع المحافظة على خصوصية المريض و أمان الملفات والمعلومات.
Important Findings

- HIMSS classification
- Certified Medical Record
- Interoperability Standards
- Infrastructure
- Human capacity

- Quality & safety of patient care
- We need to work together
- We need common standards and legislations
- Let us learn from others
Suggested **Pre-requisites** for eHealth and EHR **success**

- **Regulation & Coordination**
- **Legislation**
  - Electronic Transactions legislation
  - Electronic signature
  - Software and data licensing
  - Privacy and security and compliance with HIPAA & GDPR
- **Standards** for data storage and interoperability
- **Database**
  - Databases and codes for professionals, hospitals, insurers, citizens, etc..
  - Unique Object Identifiers (OID)
- **Infrastructure**
  - Unique national health services users identifier
  - Central or distributed servers
  - Fiberoptic lines
  - Interface systems
- **Human resources capacity building**
  - Health workers IT skills
  - Citizens IT skills
  - IT workers advanced skills
- **Non human resources**
  - Funding
  - Modes of operations
Terminology standards (Giannangelo, 2015)

• Diagnoses
  • ICD-9, ICD-10, ICD-11
  • Diagnosis-related groups (DRG)

• Drugs
  • National Drug Code (NDC)
  • National Drug File Reference Terminology (NDF-RT)
  • RxNorm/RxTerms

• Laboratory
  • LOINC

• Procedures and diagnostic studies
  • CPT-4, HCPCS, CDT

• Nursing
  • NANDA, NIC/NOC, Omaha, etc.

• Literature
  • Medical Subject Headings (MeSH)

• Devices
  • Universal Medical Device (UMD) Nomenclature

• Comprehensive
  • SNOMED Clinical Terms (CT)
  • Unified Medical Language System (UMLS)

• Others
  • DSM, ICF, ICPC, commercial, etc.
Suggested EHR essential functionalities

- **Organize Patient Data**
  - Patient Demographics
  - Clinical/Encounter Notes
  - Medical History
  - Record Patient-Specific Information
  - Patient Consent
  - Generate Reports
  - Advance Directives

- **Compile Lists**
  - Medication Lists
  - Allergy Lists
  - Problem/Diagnoses Lists

- **Receive and Display Information**
  - Laboratory Test Results
  - Radiology Results
  - Radiology Imaging Results
  - Capture External Clinical Documents

- **Order Entry (CPOE)**

- **Electronic Prescribing**
  - Reorder Prescriptions
  - Laboratory Order Entry
  - Radiology Order Entry

- **Decision Support**
  - Reminders for Care Activities
  - Dosing Calculator
  - Preventive Services
  - Drug Alerts
  - Disease or Chronic Care Management
  - Knowledge Resources
  - Clinical Guidelines

- **Eligibility Information**
  - Electronic Billing/Integration with Practice Billing System
  - Drug Formularies
  - Clinical Task Assignment and Routing

- **Other**
  - Immunization Tracking
  - Public Health Reporting
  - Patient Support

- **Communication and Connectivity**
  - Electronic Referrals
  - Clinical Messaging/Email
  - Medical Devices

- **Administrative and Billing Support**
  - Scheduling Management

Suggested roadmap:
Incrementally build the maturity of IT systems in Hospitals

**Year 1 - 2**
- Adopt a unique patient Identifier
- Use barcoding or RFID to identify patients at the point of care
- Barcode all medications and supplies
- Fill and save prescriptions electronically
- Adopt a subset of the standards for exchanging information, EDI
- Basic PACS

**Year 3 - 4**
- Nursing documentation, multidisciplinary clinical notes
- Implement Computerized Practitioner Order Entry (CPOE)
- EDI to Send prescriptions electronically to Pharmacies
- Implement basic Decision Support System
- Analytics (Data Warehouse)
- Measure outcomes

**Year 5 - 6**
- Use structured templates to capture physician notes
- Advanced Clinical Decision Support System (CDSS)
- Eliminate meds errors by promoting Closed loop medication administration
- Full PACS

**Year 7 - 8**
- Capture data from Medical Instruments
- Provide secure access to information at any time, on any device from anywhere
- Provide Care Continuity by enabling the secure Exchange of Health Information

Healthcare needs Leaders with courage, skills, and a clear vision to move forward

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