

# e-Health Roadmap for Lebanon

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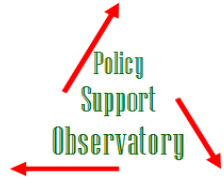
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# Dr. Ghassan Hamadeh

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Chief Medical Information Officer, Professor & Chair of Family Medicine at AUBMC and past president of the Arab Board & the Lebanese Society of Family Medicine. He is a consultant to WHO and advisor to the Ministry of Public Health in primary healthcare, pharmacoeconomics, and technology since 2004. He is leading the PSO initiative on “Building Consensus on the Readiness for EHR in Lebanon”.



## 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.  
Intelligence  
&  
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

قرار رقم ١/٨٨٧

يتعلق باتشاء و ادارة مرصد دعم السياسات الصحية  
في وزارة الصحة العامة

المادة الأولى: ينشأ مرصد دعم السياسات الصحية في وزارة الصحة العامة- المبنى المركزي-  
الطابق الثالث- القسم الذي تم افتتاحه بتاريخ ١٦ نيسان ٢٠١٨

المادة الثانية: تتولى كلية العلوم الصحية في الجامعة الاميركية في بيروت مسؤولية ادارة هذا  
المرصد بإشراف لجنة تضم وزارة الصحة العامة ومنظمة الصحة العالمية وكلية العلوم  
الصحية وخبراء مستقلين.

المادة الثالثة: يقدم مرصد دعم السياسات الصحية المعطيات العلمية والتطبيقية لصياغة وتنفيذ  
سياسات مستدامة تستند إلى الأدلة وتأخذ بالإعتبار الإحتياجات ومواقف الشركاء في  
القطاع الصحي وتوقعات المواطنين وذلك من خلال:

- المساعدة في اعادة تصميم و تطوير نظم المعلوماتية في وزارة الصحة العامة لانتاج  
معلومات ملائمة لصنع القرار.



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



Surveying Stakeholders



General Meeting

**Main outcome: a Request for Information (RFI) document for the “clinical patient care” part of an Electronic Medical Record (EMR) to be used by MoPH.**  
The RFI will list: clinical standards; Interoperability standards, etc.

### Focus Group Discussions

IT Focus Group  
April 24, 2019

- Participants from MOSA, GSF, ISF, SSF, NSSF, COOP, MoPH, BMC, AUB, ITB, CAS, MoD, OMSAR, RHUH, NBUH, WHO, HDF, MoT, ACT, and Akkar hospital

Payers' Focus Group  
April 24, 2019

- Participants from GSF, 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 MoD, COOP, GSF, 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 road map 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 (YLIOS Consulting)*
- HIMSS survey in Lebanon - *Youssef Bassim (ITG)*
- Findings from Survey and Focus Group discussions - *Dr. Ghassan Hamadeh (PSO)*

# Discussions by communities of practice

## لقاءات تشاورية حول

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





## EHR goals

### اهداف الملف الصحي الالكتروني

- 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 يتمكن مقدم الخدمة الصحية من الاطلاع  
الاني علي الملف الصحي لطالب الخدمة مع  
المحافظة على خصوصية المريض.

• ان يتمكن مقدمو الخدمات الصحية و  
الهيئات الضامنة من تبادل المعلومات  
الصحية و الخدماتية و المالية باقل او دون  
عوائق تقنية مع المحافظة على خصوصية  
المريض و امان الملفات و المعلومات  
المتبادلة.

• أن تتمكن الوزارات و الهيئات الصحية من  
جمع المعلومات الصحية لاستخدامها في  
التخطيط و تقديم الخدمات مع المحافظة  
على خصوصية المريض و امان الملفات و  
المعلومات.



# 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)
- Unique national health services users identifier
- Infrastructure
  - 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

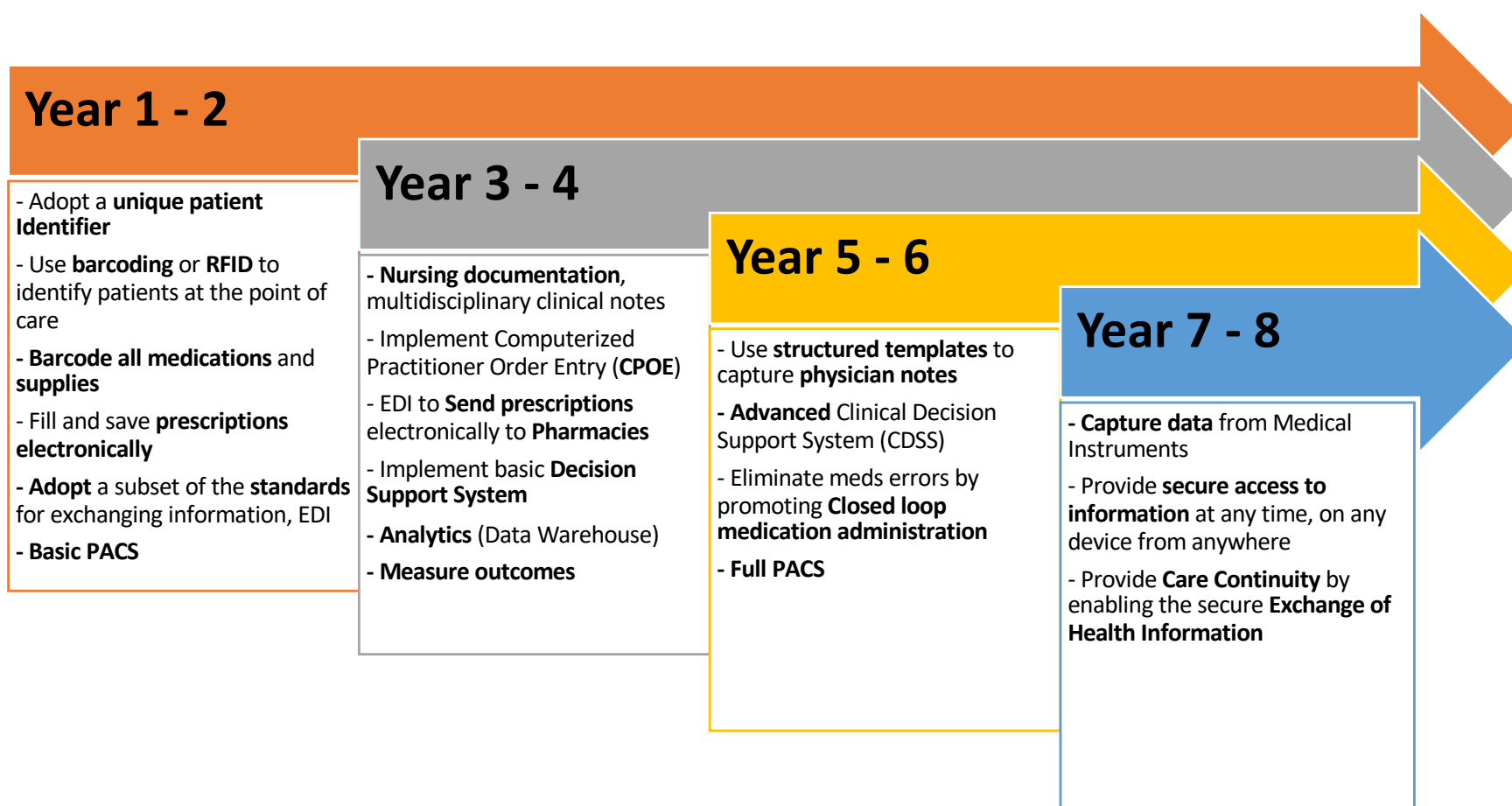
## Terminology standards (Giannangelo, 2015)

- 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
- **Communication** and Connectivity
  - Electronic Referrals
  - Clinical Messaging/ E-mail
  - Medical Devices
- **Administrative** and Billing Support
  - Scheduling Management
- Eligibility Information
- Electronic Billing/ Integration with Practice Billing System
- Drug Formularies
- Clinical Task Assignment and Routing
- **Other**
  - Immunization Tracking
  - Public Health Reporting
  - Patient Support

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



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

JMW @ Hospital Syndicate July 2017