e-Health Initiative…

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What is E-Health?

The term e-health was barely in use before 1999

Terms such as "medical informatics", "health informatics", "telehealth" and "telecare" are all domains that have a large overlap with e-health

"e-Health is the cost-effective and secure use of infor-mation and communication technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research" [WHO] (WHA 58.28 & 66.24 Resolutions)

"The use of modern information and communication technologies to meet needs of citizens, patients, healthcare professionals, healthcare providers, as well as policy makers" [EC]

"e-Health is the use of Information and Communication Technologies (ICT) for Health"

Several trends will drive a transformation in Healthcare over the next decade

Ageing Population
>65 yrs (2012)   9.7%
Life Expectancy   80yrs

Rising Medical Costs
Health expenditure (2009)
52,235,000,000,000 LBP
as % GDP   7.41%

Partnership vs. Authoritarian Models of Care

New Models for Payment

Expanding Role of Government

Increasing Consumer Expectation & Patient Empowerment
internet penetration 61%
Smartphones penetration 63%

Interactive Information Based Medicine
>580 million internet users world wide

How the Internet is Changing Healthcare

- Surveys consistently show that 60-80% of world-wide-web users have used it to obtain health information

- The internet is having profound impacts on health and healthcare. It has the potential to improve the effective and efficient delivery of healthcare, empower and educate consumers, support decision-making, enable interaction between consumers and professionals, support the training and revalidation of professionals, and reduce inequalities in health

How Technology is Transforming HealthCare Delivery

Our world has been radically transformed by digital technology – smart phones, tablets, and web-enabled devices have transformed our daily lives and the way we communicate

How technology will improve your health:

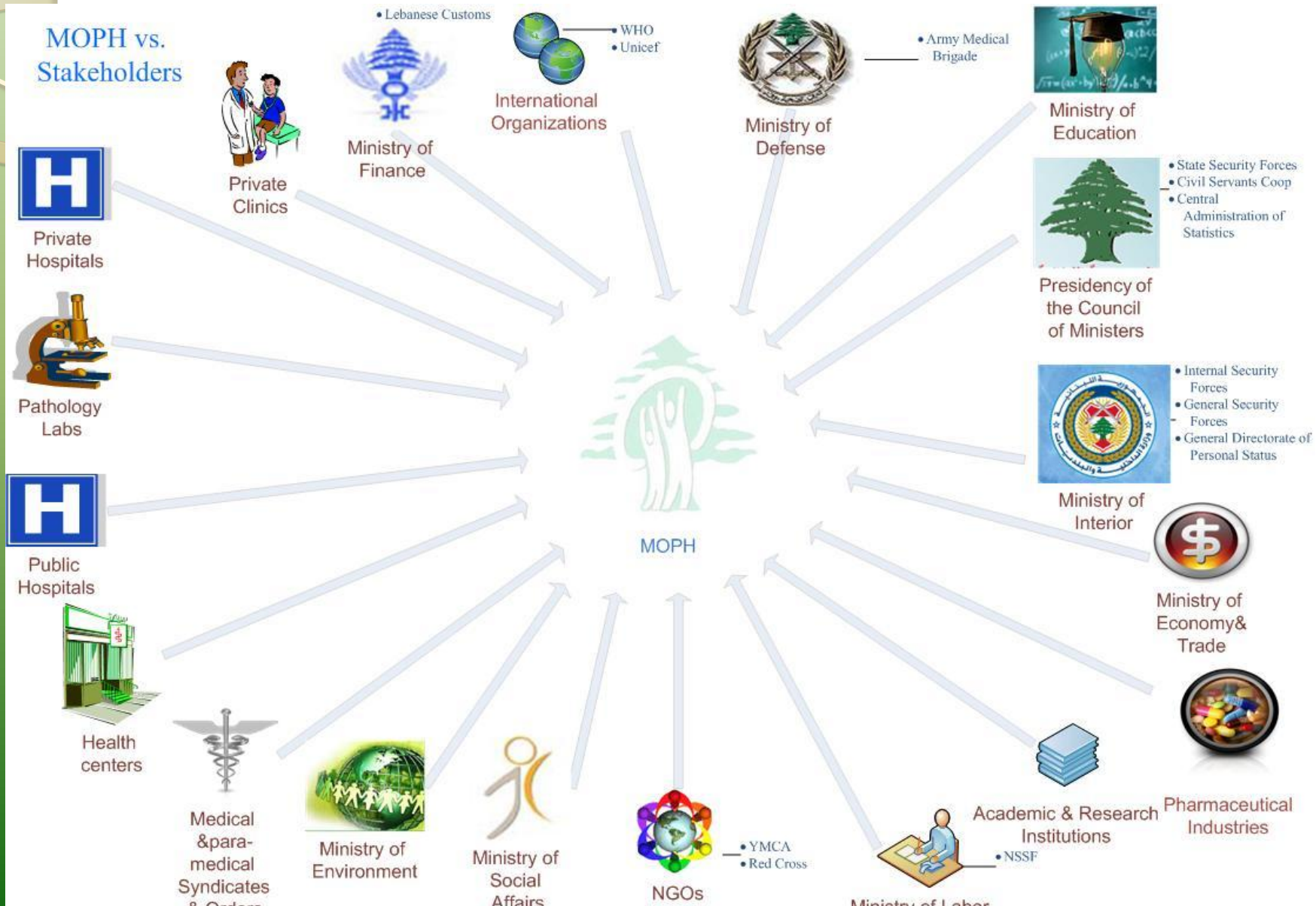Less paperwork | Easy, electronic access to your medical records | Better care coordination among health care providers | Faster, more accurate prescriptions | Fewer unnecessary tests and procedures | Greater control over your health

Primary objective of e-Health is to encourage and enable sharing of Health Information

E-Health Application & Service Components (WHO)

Component	Description	Examples
Individual electronic health Information	Services that support the collection and storage of health information for an individual.	Electronic health records (EHR) Electronic medical records (EMR) Personal health records (PHR)
Health-care communications And collaboration	Services that enable health-care providers electronically to communicate and share information with other such providers as part of providing care to an individual.	Electronic health event summaries, Prescribing and test Ordering Access to an individual's EHR and test results Health-care provider and service directories Appointment booking and management

REPUBLIC OF LEBANON
MINISTRY OF PUBLIC HEALTH

E-Health Application & Service Components (WHO)

Component	Description	Examples
Health-care service delivery Tools	Services that support health-care providers in making diagnosis and treatment decisions, and in managing the delivery of care to an individual, whether electronically or in person.	Medications management Prescription and test ordering decision support Clinical decision support Alerts monitoring and management Chronic disease management Real-time clinical data access and analysis Telemedicine (telehealth) and mobile health (mHealth)
Health information and knowledge	Services that enable individuals and health-care providers to access trusted and verified health information and knowledge.	Consumer health knowledge sources Health-care provider knowledge sources Distance learning and electronic resources

E-Health Application & Service Components (WHO)

Component	Description	Examples
Health-care management and administration	Services that enable health-care managers and administrators to manage effectively the delivery of care to individuals and monitor the health of the broader population.	Adverse event monitoring Risk analysis Compliance monitoring Surveillance and At-Risk Identification Health-care operations management Clinical practice improvement Health programme design and optimization Health policy development Health care and clinical research

Electronic Health Record (EHR)

- EHR is a digital version of a patient's paper chart. EHRs are real-time, patient-centered records that make information available instantly and securely to authorized users across more than one health care organization.
- EHRs Contain a patient's medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, and laboratory and test results

- EHRs can:
  - Improve quality and convenience of patient care
  - Increase patients participation in their care
  - Improve accuracy of diagnoses and health outcomes
  - Improve care coordination
  - Increase practice efficiencies and cost savings

Electronic Health Record (EHR)

What can you do with access to your health record?

Check to make sure your information is correct and complete

Keep track of important health information (e.g., vaccination records and test results)

Have your medical history available if you are changing doctors or visiting a specialist

Keep track of all your medicines and dosages

M-Health

- Mobile applications (apps) can help people manage their own health and wellness, promote healthy living, and gain access to useful information when and where they need it.

- According to industry estimates, 500 million smartphone users worldwide will be using a health care application by 2015, and by 2018, 50 percent of the more than 3.4 billion smartphone and tablet users will have downloaded mobile health applications. These users include health care professionals, consumers, and patients.

- The FDA issued the Mobile Medical Applications Guidance for Industry and Food and Drug Administration Staff[2] on September 25, 2013, which focus only on the apps that present a greater risk to patients if they don't work as intended and on apps that cause smartphones or other mobile platforms to impact the functionality or performance of traditional medical devices.

Benefits of E-Health

- Improving transparency and accountability of care processes and facilitating shared care across boundaries;

- Improving diagnostic accuracy and treatment appropriateness;

- Improving access to effective healthcare by reducing barriers created, for example, by physical location or disability;

- Facilitating patient empowerment for self-care and health decision making;

- Improving cost-efficiency by streamlining processes, reducing waiting times and waste.

- Improving communication among healthcare stakeholders;

- Reducing medical errors;

- Enhancing reporting capabilities;

- Encouraging disease prevention and wellness;

- …

E-Health @ MOPH

- **National E-Health Programme**
- **MOPH Mobile Application**
- **MOPH Website (Drugs Section)**
- **Interoperability with MEHE**
- **Lebanon Health Net**

National E-Health Programme

- Establishment of the National E-Health Program according to Minister Decision Nb. 227/1 date 4/3/2013 reporting directly to the Director General of Health.
- Main tasks:
  - Strengthening the health information system

  - Information and data sharing (Interoperability) electronically between MOPH and other administrations

  - using mobile communication devices, such as mobile phones, tablet computers and PDAs, for health services and information (m-Health)

  - use of telecommunication and information technologies in order to provide clinical health care at a distance (Telemedicine)

MOPH Mobile Application
Towards Health for All…

The main objectives of the Ministry of Public Health (MOPH)'s Mobile Application are:

1. To develop the health sector and to improve the quality of health care delivery through the use of Information and Communication Technology
2. To increase transparency through the dissemination of health-related information
3. To facilitate access to services delivered by using the best and fastest possible electronic means.
4. To increase the accountability through the adoption of a mechanism for raising complaints.
5. To ensure equity in services' availability and utilization.

Main screen

From here you can access the following different parts:

- Drugs Price list (check price, dosage, form, legalization..)

- Rules and Guidelines concerning MOPH disbursed expensive drugs and chronic diseases drugs

- Information on Immunization Program

- Public / Private Hospitals and Primary Health Care Centers Directory and Geographic Distribution

- Media Gallery (Ministry Activities & events)

- Report fraudulent actions directly to the Ministry of Health

- MOPH Directory, call center (1214)

- Ministry's Latest News

Minister Resolutions related to Drugs Sector automation

✓ **قرار وزير رقم 733/1 تاريخ 5/6/2012 يتعلّق بنشر جداول أعمال وقرارات اللجنة الفنية على موقع الوزارة الالكتروني**

✓ **قرار وزير رقم 1619/1 تاريخ 09/10/2012 يتعلّق بالمستحضرات المصنفة بحكم الدواء**

✓ **قرار وزير رقم 227/1 تاريخ 4/3/2013 يتعلّق بإنشاء البرنامج الوطني للصحّة الإلكترونية**

✓ **قرار وزير رقم 310/1 تاريخ 21/3/2013 يتعلّق بتطوير تطبيق جديد للوزارة MOPH Mobile App.**

✓ **مذكرة وزير رقم 50 تاريخ 27/5/2013 تتعلق بتنظيم عمل التأشير على البيانات الجمركية في مصلحة الهندسة الصحية ودائرة الاستيراد والتصدير**

✓ **قرار وزير رقم 1635/1 تاريخ 9/10/2013 والمتعلّق باعتماد دليل إجراءات المعاملات الإدارية في مصلحة الصيدلة والدوائر التابعة لها.**

WWW.MOPH.GOV.LB

Drugs Registration Section

تسجيل الأدوية والمستحضرات المصنّفة بحكم الدواء

- القرارات والأنظمة التي ترعى إجراءات تسجيل الأدوية والمستحضرات المصنّفة بحكم الدواء

- النظام الداخلي للجنة الفنية للدواء

- دليل إجراءات تسجيل الأدوية والمستحضرات الصيدلانية في لبنان

- جدول تقديم طلبات تسجيل الأدوية لعام 2013 بحسب التسلسل الزمني

- لائحة المستحضرات المصنّفة بحكم الدواء

- **أعمال اللجنة الفنية:**

  - جداول أعمال اللجنة الفنية

  - قرارات اللجنة الفنية **(sms to agents)**

Interoperability with MEHE

- A new project with the Ministry of Education and Higher Education (MEHE) coordinated and funded by OMSAR.

- Sharing of educational information for Health Professionals licensing permits from MOPH.

Lebanon HealthNet

- Create a uniform nation-wide network dedicated to the Health Sector in Lebanon **HealthNet** which is Secure, Economic and Efficient in collaboration with WHO.

Lebanon HealthNet

- Weaknesses:
- ≈ 300 point-to-point connections between MOPH (star topology)→ Expensive
- Information Systems Silos: individual and disparate systems
- Inefficient: need to manage different set-ups and network and problem solving
- Incompatibility: the tools and modus operandi are different from one system to another
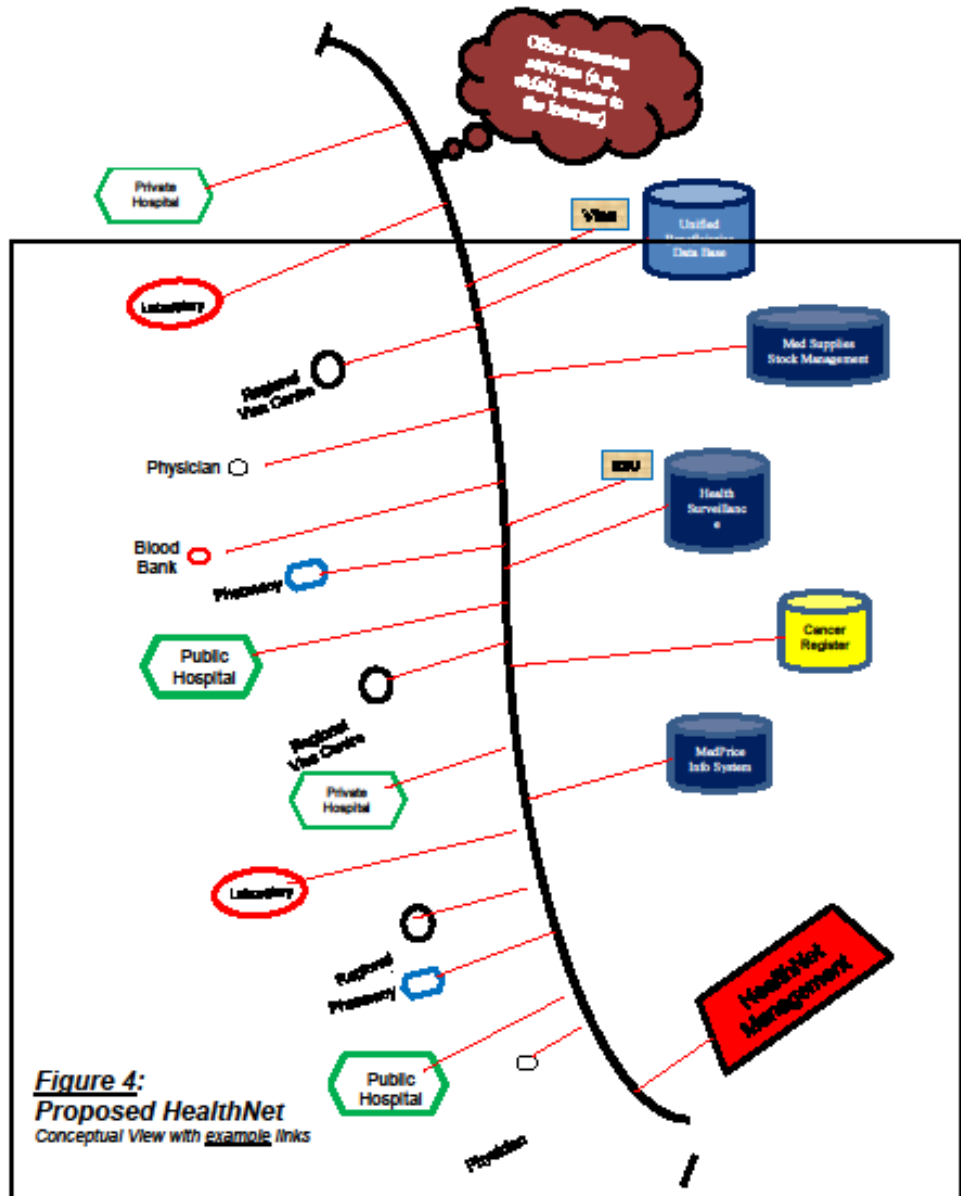
Lebanon HealthNet

Figure 4:
Proposed HealthNet
Conceptual View with *example* links

Opportunities

➢ **In 2013:**

- According to ITU's Measuring of the Information Society (MIS) 2013 Report, Lebanon's rank in the ICT Development Index (IDI) improved 9 places from 2011 to 2012.

- Telecommunication services (Ogero) covers 90% of Lebanon

- The other 10% can be and are partly covered via wireless broadband services.

- 3.9 million cell phone subscribers (92% of the population)

- 2 million of them use the internet on their cell phones (52%)."

- Internet penetration 61%

- Penetration of social networks among internet users 87%

- Smartphones penetration 63%

- Mobile internet access across smartphone owners 85%

E-Health Challenges

Delivering of various Health services to end users "anywhere, anytime".

- Information (Inaccurate and Incomplete)
- Human resources (Inadequate or Brain-drained)
- Infrastructure
- Quality and security of data
- Financial and legal issues
- Authenticity

Legal Framework

To be effective, e-Health requires appropriate regulatory, legal and policy frameworks in both the telecommunications and the health sectors.

- Current situation in Lebanon:

<u>Laws:</u>

1. Unique ID law Nb. 241 date 22/10/2012

<u>Draft Laws:</u>

2. E-Signature 2004

3. E-Transactions Decree nb. 9341 date 17/11/2012

Challenges, Main Obstacles and Difficulties

✓ Lack of national plan for the e-health practice in Lebanon.

✓ Absence of e-health policy and standards.

✓ The health sector is influenced by many factors in the country, such as political instability, privatization control, and political power.

✓ The high cost of technology

✓ The lack of funding resources in addition to budgetary constraints.

✓ Reluctance to change from the traditional health practice to e-health practice.

Challenges, Main Obstacles and Difficulties

- ✓ Lack of qualified e-health professionals and training in the use of new technologies.

- ✓ Lack of collaboration between the private and governmental healthcare organizations/institutions.

- ✓ Lack of leadership and expertise for e-health practice (policy makers, managers).

- ✓ Lack of awareness about e-health benefits in healthcare practice.

- ✓ The need to update the administrative and organizational structures of governmental and health institutions.

- ✓ Lack of health information websites.

- ✓ …

Socio-cultural Challenges

✓ Patients' preference of the face to face meeting and interaction with the healthcare provider.

✓ Lack of patients' awareness about the benefits of e-health practice.

✓ Lack of computer literacy among some patients mainly older patients.

✓ Poor internet or lack of internet access especially in villages and remote areas.

✓ Fear of e-health failure in a politically unstable country.

✓ Electronic signature is not legalized yet by the government.

✓ Complexity of the Social Security System dealing with public health insurance

Next Steps and Recommendations

❑ Develop a National e-health strategy aligned with national health plan and patient-centered emphasizing service quality and patient safety.

❑ Build trust and collaboration with stakeholders and encompassing Public/Private Partnerships (PPP) where necessary.

❑ The first step towards e-health is to create the backbone: the electronic health record (EHR) for the Lebanese citizens. The EHR will make patient health information available electronically whenever and wherever it is needed.

❑ Provide Unique Identifiers for patients, health care workers and health care providers with verification and authentication procedures.

Next Steps and Recommendations

❑ Define a core set of minimum standards and ensure interoperability and draft a policy and governance framework for full adoption at national and sub-national levels.

❑ Developing e-health competency framework to guide and help ensuring sufficient skills for various healthcare professionals

❑ Build human resources capacity at all health care workers level.

❑ The need of transparent and innovative regulatory framework, legalizing electronic signature and making it lawful by the Lebanese government

Next Steps and Recommendations

❑ We must reform our educational system by including e-health concepts in medical and nursing curricula programs towards preparing qualified healthcare providers proficient in e-health practices.

❑ Providing secure, reliable, accessible and durable broadband connections with high capacities.

❑ Raising awareness among the various stakeholders about the opportunities in the e-health sector in Lebanon.

E-Health has the capacity to create a number of new Opportunities...

...Don't let these Opportunities pass by

THANK YOU