The Benefits of Telemedicine Applications in the Middle East: Hashemite Kingdom of Jordan

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eHealth and Telemedicine

- **Telemedicine**: “the use of electronic information and communications technologies to provide and support health care when distance separates the participants.” [1]

Middle East

Lower middle ($1,046 to $4,125)
- Yemen
- Syria

Upper middle ($4,126 to $12,745)
- Jordan
- Lebanon

High-income (> $12,745)
- United Arab Emirates
- Kuwait

http://data.worldbank.org/about/country-and-lending-groups
- GNI $11,670 (Upper middle)
- Population around 6,388,000
- 106 hospitals, 63 private and 43 public
- 4984 registered doctors
The Situation

- Available infrastructure
- Support from the government

But

- Lack of fund
- Fear of technology
Barriers of Applying Telemedicine in Jordan

• **Funding**
  
  “Why shall I risk my money in a project that may not give a good profit? It is still unclear how it works” (Dentist/ Amman)

• **Training in IT**
  
  “I have been working in public hospitals for 20 years and have never taken any course related to healthcare or IT. How can I run a telemedicine application?” (A&E Doctor/ rural area)

• **Doctors’ Resistance**
  
  “Actually, and to be honest, these days we are looking more for the business side more than the spiritual side.” (Radiologist/Amman)

• **Patients’ Resistance**
  
  I don’t believe in talking to a screen (Patient/ Amman)
The Guideline Framework

- Fully understand the readiness of telemedicine in the country.
- Study the needs of the country and its requirement for telemedicine applications.
- Differentiate between urban and rural requirements, as there can be large differences between the two areas in Jordan.
- Study the availability of essential resources, both technical and human.
- Employ local resources in the telemedicine application so that people will be motivated and more involved in the application.
- Consider the status of the infrastructure and the limitation of telecommunication in the country.
- Conduct feasibility studies and cost effectiveness analysis with consideration of any policy restrictions.
- Apply an efficient model to facilitate payment transactions between patients and doctors in rural areas as people in rural areas in Jordan were not introduced to modern payment methods such as credit cards and e-banking.
- Understand all current government policies regarding telecommunication and healthcare service provision as the government in Jordan may apply new rules and tax regarding telecommunication.
- Understand the social and cultural requirements (religion, language, etc) because it will have a direct effect on the adoption of telemedicine in Jordan.
- Consider the situation and the relationship between Jordan and any other countries that may be connected via telemedicine, as certain issues regarding communication and medical practice may be specific to particular countries In addition to the time difference between Jordan and other countries.
- Provide training to healthcare staff through seminars, courses and online conferences, and facilitate all the training resources (books, journals, computers etc) to keep the staff updated on and motivated about the application of telemedicine.
- Create a partnership with government organizations in Jordan to guarantee the support from the government and to ensure smooth progress of the adoption of telemedicine applications.
- Establish a connection with international health organizations (e.g. WHO) to gain support and help.
- Promote the project properly through campaigns and advertisements so it gains acceptance by everyone, especially the patients in Jordan.

The Current Situation

- **Electronic Health Solutions (EHS)**
  - Electronic health records

- **Cisco**, regional telemedicine project
  - Connecting three hospitals, video technology

**How?**
- **Increase of awareness**
- **Oasis500**
  - Fund providers
Cisco Telehealth

- Telehealth network
- Cisco HealthPresence
- High-definition video and advanced audio

Hakeem Program

• To provide easy access to complete electronic health records

• First installation of VistA in the Middle East and Africa

• Connected five hospitals, aiming to connect 50 hospitals and over 800 clinics

• EHSI
A study was conducted by the USTDA and financed by the USAID to assess the impact of implementing EHR Systems by Hakeem in Jordan

The study consisted of 21 indicators which included:

- 9 indicators related to improving healthcare services
- 4 indicators related to operating costs reduction
- 8 indicators related to projects implementation progress
Hakeem Implementation Outcomes

The Value of Saving in Medication Consumption
-24%

Increase in Lab Test Efficiency
%56

The Value of Saving in Radiology Films
-28%
-51%
-26%
Benefits of Applying Telemedicine in Jordan

- Exchange knowledge
  - Provide a second opinion and exchange medical data
- Gain experience
  - Staff of rural hospitals
- Bridge the distance
  - Connecting rural hospitals with the capital
- Save time and cost
  - Travel and referral
- Save the environment
- Save lives
Questions?