HOW READY ARE THE STAKEHOLDERS IN THE PALESTANIAN HEALTHCARE SYSTEM IN GAZA STRIP TO ADOPT e-HEALTH?

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INTRODUCTION

The readiness for e-Health has been defined as the degree to which users, health care organization, and the health system itself, are prepared to participate and succeed in e-Health implementation (Harvard 2002). The purpose of this report is to summarize the research project that seeking to explore how ready are the stakeholders in the Palestinian health care system in Gaza Strip to adopt e-Health?. e-Health describes the application of information and communications technologies across the whole range of functions that affect the health sector. e-Health tools or solutions include products, systems and services that go beyond simply Internet-based applications. They include tools for both health authorities and professionals as well as personalized health systems for patients and citizens. Examples include health information network, electronic health records, telemedicine services, personal wearable and portable communicable systems, health portals, and many other information and communication technology-based tools assisting prevention, diagnosis, treatment, health monitoring, and lifestyle management (European Union Commission, 2004). e- Health has been proposed as a means to enable increased community access to the health care services and education in many health care systems in different countries.

The purpose of this research is to explore the needs and readiness of stakeholders in the Palestinian health care system in Gaza Strip to adopt e-Health. The research was guided by six main objectives:

1. Assessing the health need and e-Health readiness of stakeholders (patients, practitioners, health care organization, and the public through advocacy groups).
2. Determining the best solutions that meet the system and people needs.
3. Understanding the factors that might facilitate or impede e-health implementation.
5. Developing policy suggestions for possible future e-health implementation.
6. Support similar settings in other developing countries.

Research was conducted between July and December 2005 as my PhD thesis project to the University of Calgary, department of community Health Sciences, a
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SIGNIFICANCE OF STUDY:

Many authors (Dowling, 1980; Lyytien & Hirschheim, 1987; More, 1990; Edwards et al., 2000) recognize that it is essential to determine whether an organization or a community is “ready” for e-health implementation before costly investments are made. Jennett et al., (2003) stresses the importance of conducting needs assessments prior to implementing e-Health to identify the existing facilities, type of needs to be met, and understanding the needs from the perspective of key stakeholders.

This study is significant because the possibility of introducing e-health to Gaza Strip increases as a potential to overcome some of existing health care system problems and to improve access and the quality of care delivered. This process must be preceded by sound research that both assesses the need and readiness of stakeholders, and also highlights the barriers and facilitators which, when used by the policy-makers, can guide in the successful planning, and implementation of e-health service.

More importantly, the fact that investments in information technology are associated with a high risk of failure (Dowling, 1980; Lyytien and Hirschheim, 1987; More, 1990) and a big loss of resources (Sauer, Southon, Dampney, 1997, Doolittle, 2001), it would be more efficient to determine previously whether a community or organization is ready for its implementation. This study will help the decision-makers and stakeholders inside and outside Gaza to collaborate in the development and implementation processes necessary to ensure the best chance of success in adoption of e-Health, as well as to help stakeholders decrease the risk of failure associated with such investments.

Moreover, this study and the subsequent investment in e-health can be an important source of productivity and economic growth along with economic development and democracy in the region, reflecting positively on the dialogue and peace process in
the area. Sadowsky (1996) thought that the link between the free flow of information and movement toward democratization cannot be ignored. Also he believed that there is a strong correlation between information, communication and economic growth.

METHODS

The research employed a qualitative case studies methodology approach for data collection and analysis. Researcher conducted interviews for the stakeholders (physicians, nurses, administrators, the public representatives and the patients) and focus groups for the health care professionals in aim to explore the e-Health readiness of Palestinian health care system stakeholders to adopt e-Health. The approach included 5 awareness sessions, five audio-taped focus groups (6-10 participants in each), and 20 face-to-face interviews. Table 1 shows the distribution of these activities in the targeted health care facilities.

Table 1

<table>
<thead>
<tr>
<th>Health care facility</th>
<th>Awareness session</th>
<th>Interview</th>
<th>Focus group</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Gaza hospital</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Al-Nasser pediatric hospital</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Al-Awda hospital</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Sheikh Radwan (Rimal) PHC*</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>

* Primary Health Care Centre

In addition to that I was invited to conduct the awareness session at many of Palestinian institutes interested in this field they are: the Islamic University, The School of Public Health, Department of Continuous Medical Education at the Palestinian Ministry of Health, Medical Arab Association, Al-Quds Open University and the Nursing school.
Also, before and through the course of data collection many meeting were conducted with the Palestinian Ministry of health officials regarding this project. These meeting include his Excellency the Minister of health, the Deputy Minister, the general director of the ministry of health, the general directors of the hospital and the primary health care, the targeted hospital directors and others. They were supportive, expressed their interest in this project and willingness to have this technology in their health care system to address their own problems. Moreover, they see it as an important step to provide the needed information to help them take the necessary actions.

The four cases studied during this research were: 1) European Gaza Hospital: it is a general governmental hospital located in south Gaza Strip. 2) Al-Nasser Pediatric Hospital: it is a specialized governmental hospital located in Gaza city. 3) Al-Awda hospital: it is a general Non Governmental Organization hospital located in the north of Gaza Strip and 4) Sheikh Radwan (Rimal) primary health care centre. Table 2 shows the four health care facilities, their geographic location and the sectors that represent.

Table 2

<table>
<thead>
<tr>
<th>Health care facility</th>
<th>Type of H C facility</th>
<th>Geographic location</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Gaza hospital</td>
<td>General Hospital</td>
<td>South of Gaza Strip</td>
<td>Government</td>
</tr>
<tr>
<td>Al-Nasser pediatric hospital</td>
<td>Specialized pediatric hospital</td>
<td>Gaza City middle</td>
<td>Government</td>
</tr>
<tr>
<td>Al-Awda hospital</td>
<td>General Hospital</td>
<td>North of Gaza Strip</td>
<td>NGOs*</td>
</tr>
<tr>
<td>Sheikh Radwan (Rimal) PHC</td>
<td>Primary Health Care services</td>
<td>Gaza City North</td>
<td>Government</td>
</tr>
</tbody>
</table>

* Non Governmental Organizations
FINDINGS

The first objective of my research was to assess the e-Health readiness of stakeholders in the Palestinian health care system in Gaza Strip to adopt e-Health. Jennett described four types of readiness that are: “core readiness” where a need for change was identified; “engagement readiness” expressed by questioning and needs assessment; “structural readiness” where there is need for the human and technical infrastructure to operate the system; and “non-readiness” which means lack of need or failure to recognise need (Jennett et al., 2003). e-Health readiness is unique to each community or country and determined by the interaction of a set of factors such as technology capacity, socio-economic, culture and tradition, geographical, policy and other factors to indicate the level of e-Health readiness. The patient, practitioner, health care organization, and public shared some factors of readiness. According to Jennett et al. (2003) classification of readiness, different levels of readiness were founded in each targeted health care facilities and among them could be divided into core, engagement, and structural readiness.

High level of readiness was found at the European Gaza Hospital. They have network, 120 computers, computerized system in all departments, electronic data medical and administrative, trained staff, videoconferencing, and a plan to connect the hospital with an Italian medical centre. It can be considered structural level of readiness. At Al-Nasser paediatric hospital, they have videoconferencing equipment at the seminars room and try to use it but they failed. No network, the computers only found in the administration. Knowledge about what e-Health, its benefits and sense of need was expressed clearly in the text. It can be considered an engagement level of readiness. Alawda Hospital has a plan to fully computerize the system, they feel the need for e-health strongly as a tool to improve the delivery of services and update their practitioners’ knowledge and skills. It can be considered an engagement level of readiness. Regarding Sheikh Radwan primary health care centre (Rimal) they have the lowest level of readiness. They expressed dissatisfaction with the current situation and realize the need for e-Health to improve their communication, service delivery and strengthening the referral system to the secondary level. It can be considered core level of readiness.
The second objective of our research was to determine the best solution (application) that meet the system and people needs. The findings suggest that the potential benefits of e-Health deployment for organizations, health professionals, patients, and the public if it is applied in the areas of clinical consultation (telemedicine) and e-learning (education) for the health care professionals patients, and public and in the area of medical records. The benefits can be grouped under the following themes: increased access to health care and education, better communication, sharing expertise, improve the quality of information, overcoming the isolation that result from the political situations and the physical separation of the Palestinian land, reduced the transfer of patients for treatment abroad and decrease their suffering, better use of the scarce resources and socio-economic benefits such as productivity, economic growth, dialogue and democracy.

The third objective of our research was to identify and understand the factors that might facilitate or impede e-Health implementations. The results suggest that the factors that might facilitate the process of e-Health adoption are: perceived need of e-Health, available financial resource, high level management commitment, availability of the needed infrastructure (networks, computers, and servers), and practitioners' belief in the potential value for their patients and themselves, public cooperation, awareness sessions, considering the privacy and confidentiality and staff training. The factors that might impede the deployment the e-Health are: cost and funding, insufficient trained staff, poor commitment of policy-makers, resistance to change, loss of privacy, lack of readiness and acceptance, cultural and social barriers.

The fourth objective was to assess Information and communications technology (ICT) infrastructure needs. The findings show that the need to ICT infrastructure is vital to the whole idea acceptance. In the time where we found some health care facilities has good ICT infrastructure (European Gaza hospital), others health care facilities lack the basic ICT infrastructure (Sheikh Radwan PHC). In common they need the following ICT infrastructure: networks in and among the facilities, computers, servers, internet, and videoconferencing equipment.
CONCLUSION

Readiness for e-Health is a key prerequisite to successful implementation, it is important that stakeholders (patients, practitioners, organizations and the public) understand the nature, applications and the benefits of e-Health. Decision-makers also need to understand the complex nature of e-health, the set of factors such as technology capacity, socio-economic, culture and tradition, geographical, policy and other factors that interact to determine the level of e-Health readiness.

Investment in such technology is potential to failure risk; it would be more efficient to determine ahead of time whether a community is ready for adaptation of e-Health. The findings demonstrate that e-Health has the potential to address some challenges in the delivery of health services, education and information system in the Palestinian health care system.

The knowledge gained from this research will provide a valuable resource for the decision-makers and those involved in services planning in the Palestinian ministry of health as they consider e-health implementation. It is hoped that a clearer understanding will arise of the process needed to introduce e-health to the Palestinian health care system in the Gaza Strip. This understanding, from the stakeholders’ perspective, will assist decision-makers at all levels to structure future e-Health programs in a meaningful and effective way. It is important here to point that these findings are preliminary and not reflect the exact results since I did not complete the analysis of the data.
REFERENCES


