State of Sharing Clinical Information in a Healthcare System in the Gulf

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ABSTRACT

The main objectives of this paper are to study the extent of automation and the state of sharing of clinical data in out-patient services of a healthcare sector in the Gulf. Based on the findings, it proposes a framework to improve the current automation process further. The paper focuses mainly on how the patients’ clinical data in the local primary health centers (PHCs) and the main hospitals in a Gulf country are stored electronically, and how the clinical data are shared among all major stakeholders. It is anticipated that the proposed framework will significantly reduce the duplication of data and services as well as reduce the use of paper files significantly. The healthcare decision makers will be able to access the relevant data in order to provide best practices and decision supports. It also promotes data sharing among all stakeholders, hence improve healthcare services.

Keywords: Architectural Framework, E-Health System, Electronics Clinical Information, Health Services Process, Out-Patient Services

INTRODUCTION

Qatar is a tiny developing country in the Gulf, occupying the small Qatar Peninsula on the northeasterly coast of the larger Arabian Peninsula. In July 2010, the country had a growing population of approximately 1.6 million. Qatar is one of the promising countries in the region in terms of development activities and quality of life style. It has recently started for massive investment in its infrastructure development. Under the leadership of His Highness the Emir of Qatar, the healthcare sector in the State of Qatar has come a long way to provide the most advanced medical equipments as well as expand the cover of health services all over the country through a wide network of hospitals and well-equipped primary healthcare centers (PHCs). Hamad Medical Corporation (HMC, http://www.hmc.org.qa/hmcnewsite/) in Qatar is the most distinguished premier public medical establishment in the Gulf region (Mofa, 2009).

In Qatar, the National Health Authority (NHA, http://www.nha.org.qa) is the main government body to supervise over HMC, Hamad Specialist and Educational Hospitals, other public hospitals, private medical facilities, laboratories, pharmacies, councils of auxiliary medical professions, hospitals, PHCs and other public medical treatment utilities in Qatar. NHA
regulates the marketing and manufacturing of drugs in accordance with the international quality standards, within the framework of the public policy and objectives of Qatar Government. The Primary Health Services department of HMC supervises 23 PHCs which are conveniently distributed across Qatar. Two additional PHCs are about to open soon.

The main healthcare provider, HMC has 1,623 beds (Huda, 2010). The bed occupancy is more than 80% in HMC hospitals. HMC currently supervises the following major public hospitals: Hamad General Hospital (616 beds), Rumaila Hospital (362 beds), Women Hospital (334 adult beds), Al-Khoor Hospital (119 beds), and Al-Amal Hospital (82 beds) (NHA, http://www.nha.org.qa). The newly built Hamad Medical City Complex (scheduled to open in 2012) incorporates additional specialized hospitals including a 217-bed pediatric hospital, a 200-bed hospital for orthopedic patients, a 230-bed hospital for medical rehabilitation, and a 300-bed nursing home for the elderly people (http://www.hmc.org.qa/hmcnewsite/). This will double the current inpatient capacity of the public hospitals. The public healthcare system is generously funded by the Government of Qatar.

The e-Health arena has received significant exposure in different countries. It is a field referring to health services, information delivered and enhanced through the Internet technologies (Eysenbach, 2001). E-Health uses various applied technologies that collectively provide all stakeholders with the easy access and sharing of clinical information (Wilson et al., 2004). The e-health is of particular relevance within Qatar because currently the healthcare system in Qatar is undergoing major overhaul. E-health promises to deliver various aspects of functionality such as the electronic records of all patients, electronic prescription of drugs, electronic access to and sharing of the patients’ clinical data by the authorized practitioners (Milberg et al., 2004). An integrated e-health system digitizes healthcare related data allowing digital transmission from one authorized stakeholder to other, and manipulation of the data for the benefits of all stakeholders (Agarwal et al., 2004).

The efficient management of clinical data using e-health contributes to the capacity building initiative of a country’s entire healthcare system (Eder, 2000). It is believed that the postulated benefits of an integrated e-health system include increased quality of care, efficiency, and patient autonomy. It should be also noted that e-health systems always do not succeed in terms of their adoption even in the most developed countries as reported in (Ammenwerth et al., 2004; Burt & Hing, 2005), and also failed in developing countries due to insufficient infrastructure and other resources (Watts et al., 2005). It requires a well planned approach and systematic implementation of the plan. Technology alone cannot achieve the goal of e-health.

The e-health project could succeed if the sharing of clinical information among hospitals is effectively administered. It will improve transparency by providing access to clinical data by the authorized stakeholders (Cheong et al., 2009). The easy accessibility of patients to their clinical information has been stressed in order to make e-health systems successful (Khalifehsoltani et al., 2010). One of the conditions for the success of e-health systems is the collection, interpretation, and utilization of clinical data in an effective way. The success of e-health does not mean an increased installation of IT systems and products in the hospitals, rather the effective use of clinical information produced, stored, and disseminated by the IT systems is essential. It is clear that mere the implementation of technologies inevitably falls short of the main goals of e-health systems (Zheng, 2005). Clinical professionals often need transparent clinical data in order to obtain a more comprehensive understanding of the patient’s health status (Kataria et al., 2010).

It is anticipated that the issue of achieving effective use of information technology in healthcare would be better enhanced with the findings of this study. This would certainly benefit the healthcare providers in Qatar. This study opens up further research directions in
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