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Towards a National Electronic Health Record in Qatar: Building on International Experiences

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Background

During the past decade, the IT industry has introduced several new concepts within the health domain including e-health, electronic health record, digital hospital, and many more. Although each of these terms has brought its own unique definition and perspectives, they were all based on the foundation that healthcare and wellness management are dependent on effectively using technology to access accurate data in a timely fashion; ensuring enhanced patient care and medical error reduction. The Electronic Health Record (EHR) is an integrated system that collects data from different healthcare providers to create a unified electronic record for each patient among the population. Today, the patient's health information is scattered across different healthcare facilities causing significant inefficiencies within the healthcare system. A national EHR system will tackle these challenges by producing a personal health record for each patient, integrating information from all healthcare providers, and additionally giving access to patients themselves allowing their contribution.

Motivation

There are many health IT implementations for EHR programs around the world that serve as great learning experiences for Qatar, offering it a great opportunity to leverage the best national EHR implementation strategies and practices. National EHR initiatives in Qatar emphasize the need to have secure electronic management of health data in structured and standardized formats, which can be communicated across its hospitals, primary healthcare centres, and other healthcare facilities. Personalized medicine initiatives share and extend these goals, with additional precision provided by genetic/genomic-based improved diagnostic, prognostic, and preventive information; thereby

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demanding a coordinated extension for the adoption and implementation requirements of an integrated national EHR system. It is for this purpose and understanding that the State of Qatar has taken the first concrete steps towards a promising EHR journey that will promote significant changes on how healthcare services are delivered, and more importantly, how each individual in Qatar can be empowered to become an active contributor to the management of their own health. In moving towards the widespread adoption and implementation of a national EHR system in Qatar, it is important to study the different challenges and trends used for the adoption of EHR systems, under national strategies, in other countries. This is essential for health informatics researchers, clinicians, and policy makers, to gain greater insight into the issues concerning the transformation of healthcare using a national EHR system. The results of this review study shall complement, explain, and extend the conclusions of earlier studies commissioned to explore the health information technology ecosystem in the State of Qatar.

Objectives

The purpose of this study is to review EHR programs from various countries with regard to the issues documented in the studies commissioned in these countries. Our analysis will derive the most common critical aspects and lessons learned from international experiences during the implementation of national EHR programs. Additionally, it will explore opportunities, constraints, and characteristics present in Qatar, necessary for tailoring the strategies and approaches to fully realize a national EHR system in the country. This review study presents two important contributions: 1) it will significantly support promoting health IT solutions that are right for Qatar's need, recognizing the size and capabilities of the country, leveraging existing healthcare organizations and solutions, and respecting the unique cultural characteristics of its population. 2) it will serve as a baseline from which comparisons, performance against target measures, and forward thinking can be scoped; allowing significant contribution towards productive future development of health information technology and personalized medicine initiatives in Qatar.

Methods

The data collection techniques included: (a) literature review for articles about EHR adoption under national strategies in several countries, (b) review of reports regarding national e-health strategy and government policies in Qatar, and (c) interviews of people participating in the policy making for national EHR system in Qatar (health and academic professionals involved in health IT research in Qatar). The reviewed EHR programs were selected according to the following criteria: (a) program for the implementation of national EHR system has been initiated since at least 5 years, (b) pilot projects have already been conducted, and (c) the planned EHR systems encompass various approaches of implementation. In line with these criteria, the EHR programs that have been studied were those of the following five countries: United States, England, Estonia, Japan, and Australia.

Results

The analysis performed on the selected international EHR programs revealed many lessons learned, including: 1) To achieve a successful EHR implementation, it is critical to increase the awareness of the Qatari population about the upcoming changes in their healthcare experiences, paving the way to a smoother transition while having people's trust and confidence in the new system. 2) It is essential to legally define the legislation of privacy protection of personal medical data to support new e-health concepts and eliminate the risk of violating the privacy of patient data. 3) It is important to allow appropriate time for procurement, utilization, benefit realization and the complete project, otherwise you may risk having stakeholders and the public lose confidence in the EHR project. 4) Financial incentives for healthcare providers proved to be an effective method towards raising the EHR adoption rate. 5) To expedite EHR program acceptance, it is imperative to recruit knowledgeable and experienced technical staff and healthcare leaders, who encourage others to play a critical role during the transition process, and view this change as a dominantly positive one. 6) In order to make EHR an everyday tool for doctors, nurses, patients and public authorities, it is necessary to implement services based on the interests of the healthcare providers and society. 7) Continuous adjustment and enhancement is needed in order to sustain a successful and efficient system.

Conclusion

Experiences from other countries suggest that a clear focus needs to be carefully placed on technical, clinical, organizational, financial, social, and patient perspectives to ensure that the full benefits of a national EHR system in Qatar can be realized. In addition, it demonstrates that strategic and human challenges are more difficult to master than technical aspects. The results of this review study can be used as a baseline to provide recommendations on how to tackle potential barriers towards successful adoption of a national EHR system in Qatar.