Abstract

Sri Lankan health sector rely heavily on paper base documents to maintain personal health records. Inherent problems associated with paper based records have driven the policy makers worldwide to adopt electronic health records (EHR). The purpose of this research was to identify a suitable EHR reference architecture as the precursor to the successful implementation of an EHR in Sri Lanka.

The literature survey revealed that to address the issues stemming from paper based health records, introduction of a longitudinal electronic health record was necessary. An extensive reading was carried out encompassing a detailed study of available reference architectures and implemented EHR projects from other countries which were both insightful and informative. Legal structures and the measures to maintain security, privacy and confidentiality in implemented EHR projects were analysed to propose the best suited EHR reference architecture for Sri Lanka.

In the course of the study, EHR requirements to suit Sri Lanka were identified and the proposed architecture was developed to address these needs. Proposed EHR reference architecture, which carries a holistic view of an EHR, is based on the draft state health system architecture and the service oriented architecture model. Possible component modules of the EHR were identified including service components such as longitudinal services, data registries, privacy rules and EHR generation software. A solid legal foundation, a dependable network requirement, system and data security and provincial level hosting of EHR were identified in the study as complementary action required to build trust, confidence, efficiency and dependability of the system. Special measures such as encrypting the personally identifiable data and limitations on access levels were proposed to protect personal privacy and confidentiality of data to minimize any public agitation over accessibility of private information. Process of implementation and long term governance of the system were briefly described along with the expected obstacles during the implementation stage.

It is concluded that an implemented EHR would yield positive results across by adding a new paradigm and a whole new dimension to the Sri Lankan health sector.