

Cost-benefit analysis of the electronic medical records system in government hospitals in Sri Lanka

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Medical Records (MRs) are a powerful tool that allows the physician to track the patient's medical history and identify problems or patterns that may help to determine the cause of health care and treat patients. Electronic Medical Records (EMRs) are the digital version of the traditional paper base MRs. Currently, the Sri Lankan health care system is piloting an EMR system and a few institutes are using some forms of the EMR system. This study carried out a cost benefit analysis and an opinion study regarding the perception of health care professionals, patients and supporting staff. Two Sri Lankan government hospital Out-Patient Departments (OPDs) were selected. Hospital D has an EMR system and Hospital AR has a traditional paper based recording system. This study calculated the depreciation value for the computers and hardware for the year 2015 and annual costs for usual daily operations for both hospitals for the year 2015. Cost reductions were calculated through comparing both hospitals' costs. Cost reductions were taken as benefits for each hospital relative to the other. Benefits-to-costs ratio was calculated for the year 2015 for the OPDs. Three different questionnaires were distributed separately among Health Care Professionals (HCP), Supporting Staff (SS) and patients. The study found that benefits-to-costs ratio for the year 2015 of OPD of Hospital D was 0.269 and for Hospital AR it was 0.0589. According to the results the benefits for Hospital D relative to Hospital AR were (1) reduction in stationery cost of Rs 61201.36 per month, (2) reduction in patient queue waiting time cost of Rs 192553.82 per month, (3) reduction in supporting staff number Rs 183779.75/month (4) reduction in indirect costs Rs 19851.45/month. The OPD of Hospital D was able to save Rs 5 488 636.58 for the year 2015 because of the EMR system. The opinion study found that patients do not have a thorough knowledge about their previous disease conditions and administered drug regimens. The majority of patients thought MRs are very important for their current and future health care management and to save their time by reducing waiting time at health care institutes. The study found that the average time spending in Hospital D was 50 minutes and in Hospital AR it was 63minutes. Ninety five percent of HCP and 83% of the SS stated that MRs are very important in caring for patients. The majority of HCP and SS agreed to the need of a policy for MRs for Sri Lanka. Poor legibility and misplacing were identified as major problems with traditional paper base MRs for HCP and 91% of HCP suggested EMR as the best solution for them. The majority of patients, HCP and SS though that EMR systems can increase the efficiency of the Sri Lankan health care service. Implementing EMRs sans paper base recording in the Sri Lankan health care system leads to cost reductions. An EMR system only in OPDs of government hospitals can save millions of rupees. If the EMR system is expanded to all units of all hospitals with an inter connection, it may save billions of rupees annually and the Sri Lankan public can have an efficient health care service due to reduction in hospital waiting time.