


Performance Evaluation of Adopting the Electronic Style in Hospital Services

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ABSTRACT

Globally, health information systems and technologies are being used increasingly and are seen as a way to increase the efficiency and quality of patient care. One of the factors blocking the use of electronic healthcare system from widespread acceptance as experienced in the manual method is the concern about patients' data confidentiality. This paper is set to discuss and appraise the adoption of electronic style in the provision and management of hospital services for efficiency, accuracy, and timely delivery of services in order to enhance the data confidentiality. Data collected from questionnaire were analysed and evaluated based on two identified significant aspects: the problems of either adopting the electronic healthcare or manual system of keeping patient information and the efficiency, problems, and barriers of adopting the electronic healthcare style in hospitals. It is observed that the adoption of electronic style will improve interactivity in all areas of specialization in hospital management.

KEYWORDS

Data Analysis, E-Healthcare, Electronic Health Records (EHRs), Electronic Medical Record (EMR), Information Technology (IT), Medical Personnel

1. INTRODUCTION

Information technology (IT) is emerging in health care in the form of electronic healthcare (e-healthcare) with the introduction of modern health care facilities (Aceto et al., 2018). Some research at the individual level has found that doctors have typically not embraced e-healthcare systems very effectively and rather prefer to use paper records (Williams, 2018). E-healthcare is important because firm-level benefits are ultimately garnered when individuals in critical roles in healthcare organizations embrace and use implemented systems (Venkatesh, et.al., 2011) and (Loo et al., 2020). If such uses occur, invariably, it could lead to positive outcomes (Lichtner et al., 2020). There has also been work on user acceptance and usability, for example, by bringing people together, information technologies have the potential to improve both the quality of and access to health care in the remotest areas of the developing world (Mitchell and Kan, 2019).

DOI: 10.4018/IJARPHM.20210701.oa1

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In most of the hospitals or health centres in developing economies, electronic communication between patients and all interface of the hospital is not typically employed but, rather, the patients still does the moving around (Alotaibi and Federico, 2017). Metahri et al., (2020) also added voice to the credibility of an automated system for healthcare delivery by presenting a performance comparison of manual dispensing and automated drug delivery. To improve this process, communication should be done electronically from different phases (Rotenstein et al., 2017). E-healthcare systems are software modules set to meet the health needs of target populations (Alrasheed et al., 2016). In some certain administration and countries healthcare planning is dispensed among market attendant (Land and Trudy, 2019), whereas in some, planning occurs more centrally among governments or other team up bodies through the adoption of such modules (Parsons and James, 2019).

Advances in e-healthcare technology over the last few decades have improved the delivery of health care and significantly improved life expectancy (Rotenstein et al., 2017). It is a fast emerging area, where medical informatics, communal healthcare, health service providers and the information through Internet and its related information and communication technologies cooperate strongly to achieve uniformity in dispensing good health care (Aceto et al., 2018). Recent research on the development and use of information and communication technology (ICT) has focused on the emergent use of technology in practice and the multiplicity of outcomes being simultaneously negotiated by different groups and individuals (Chung et al., 2018). In working in tandem with known scholars (Wang, 2020), this paper is set to raise some pertinent questions about how e-health facilities are adopted and used, and in addition answers to these questions are sought to ensure that the problems of manual adoption to the provision of hospital services are clearly highlighted and solutions proffered.

The remaining sections are organized as follows. Section 2 discusses background on challenges associated with managing patients' records manually, the process of the electronic health records management and related literature. Section 3 presents the context in which the work was developed. Section 4 describes the user interaction process with a potential e-healthcare system. Section 5 itemises the data collection and analysis requirements, which discussed the performance evaluation metrics that addressed the benefits of accepting the electronic style in hospital services. Section 6 concludes the paper.

2. RELATED LITERATURE

One of the features of electronic healthcare system is patient management. For this simple fact, electronic health records (EHRs) have become standards for care, medication safety and duty bound implementation by medical professionals. In a number of examples cited by Whalen (2018), after implementation, there was a tremendous increase in the overall number of medication safety reports involving doses and dosing volumes, productivity in service for ordering clinicians, and standardized safeguard procedures. However, Whalen (2018) revealed that there were reported cases of medication error rates for specific application areas in neonatal and pediatric subsets spanned through a period of time, which further stressed the point that, there is need to be focused on standards and guidelines on implementing electronic health records that encompasses all age context. This work is therefore contingent on this need to ensure error free interactivity across the various duties that can possibly be offered in a hospital.

Kruse et al., (2018) discussed that in some instances, electronic health records being the core of adopting e-health services in hospitals have also shown lack of interoperability, functionality and medical errors. Kruse et al., (2018) further stated that, even though a few errors may occur, electronic health records are being commonly used and provide many benefits. They have emerged to improve the quality and efficiency of healthcare, and health disparities in population health. The primary objective to ensure that there is widespread availability of electronic health records with the full promised benefits of utilization was presented by Reisman (2017) and as well, some challenges of managing patient records as closely linked to the abuse of patient information was also identified.

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