**Impact of Electronic Health Records on the Management of Patient’s Health**

**Introduction**

Since the adoption of Electronic Health Records (EHRs) into the healthcare system, major gains have been realized towards the improvement of service delivery to the patients and the management of health records. Today, doctors, nurses, health administrators and social health workers user EHR systems in their day to day activities in hospitals and clinics. According to King, Patel, Jamoom, & Furukawa (2014), the use of EHR systems in healthcare has improved patient-doctor relationship and restored confidence in the healthcare system. With research and innovation on ways through which data and technology can be used in service delivery, the health sector stands to gain from the gains made.

Despite the gains made in the use of EHR, several challenges have arisen thus putting the integrity of the systems in question. In a study conducted by Wager, Lee, & Glaser (2017), concerns are raised on the possibility of EHR systems compromising the privacy of patient data and thus affecting the quality of patient outcome. In the last couple of years, several healthcare providers have been put on notice for mishandling patient data. According to Glenn, & Monteith (2014), the rapid expansion of health data has encroached the privacy of patient data. This issue has raised a lot of concerned in the medical sector.

Various studies have been conducted to evaluate the impact of Health Information Systems (HIS) on the management of patient data. This research is designed to gather evidence on the challenges experienced with the use of EHR. Majority of these researchers are in agreement that EHR has been very instrumental in improving data management and in supporting evidence based decision making. However, some have raised serious concerns on the security of the data and its implications on the health sector.

**Review of the Literature**

The use of EHR records has benefits which cut which range from effective data management to improved patient outcome. A study conducted by King, Patel, Jamoom, & Furukawa (2014) explored the benefits of EHR records from a clinical perspective. Majority of the clinicians interviewed during the study appreciated the fact that EHR records assisted them in monitoring the patient's chart remotely, alerted them on the probability of medical errors, and took note of critical lab values. About 50% of the physicians indicated that their work had become more efficient with EHR compared to the traditional systems.

Brenner et al. (2015) reviewed the effects of Health Information Systems on the management of patient’s health. In realization of the strength of technology in supporting quality healthcare, the federal government has invested billions of dollars in Medicare and Medicaid EHR programs in an attempt to improve patient outcome. Results of the funding show that the IT is a very powerful tool in improving patient health outcome. After the roll out of this plan by the government, patient coverage under Medicare and Medicaid increased by 31%. The authors however indicate that the implementation of Health Information Systems is faced by challenges such as lack of a unified system for application in the health sector.

Bowman (2013) explored the impact of EHR on the integrity of patient data. In his article he argued that the inclusion of Health Information Technology more specifically EHR, is essential for the transformation of the US healthcare system. However, errors in data enetry could affect the authenticity and reliability of the data leading to erroneous decision making. A similar idea was propagated by Khalifa (2013) in his review of the barriers that affect health information systems. Ozair, Jamshed, Sharma, & Aggarwal (2015) explored the ethical issues that arise from the use of EHR. Previous experiences show that EHR has raised concerns of data confidentiality, privacy, accuracy and consistency. It is important that security measures are implemented to protect patients through the development of firewalls, antivirus software and installation of intrusion detection systems.

**Evaluation of Evidence**

The theories and ideas fronted in the research are supported by evidence from past and ongoing researches on the use of EHR in the management of patient records. First, the evidence demonstrates the need for the doctors, physicians, and clinicians to be fully informed about the benefits of adopting EHR in their institutions. With many organizations automating their systems, the idea of rolling out EHR in in various health facilities is valid and relevant. The evidence used in the research can also be evaluated on the basis of the adequacy of the sources. All the sources used are peer reviewed articles published within the last 5 years. This implies that the evidence used to support the research is up to date. To avoid ambiguity, the number of sources used has been limited to five peer reviewed articles on the application of EHR in the healthcare system.

Several researches including the articles by Khalifa (2013) and Brenner et al. (2015) are supported by empirical evidence. The arguments advanced by the authors are supported by statistics collected directed from the field, an aspect that makes the evidence relevant and verifiable. Another important aspect of the research is the use of meta-analysis in the cross-sectional review by King, Patel, Jamoom, & Furukawa (2014). The authors presented evidence supported by multiple studies that had similar results. The sources of the articles also have a major influence on the quality of the data and the evidence used to support the research. The articles and books were drawn from recognized professional journals and publishers.

**Conceptual Model**

The main objective of any healthcare delivery system is to provide healthcare services that improve the welfare of the population. A macro level three tier model that is comprised of the input layer, the process layer and the out layer is proposed for the application of EHR in the management of patient data (Nadell, & Ronis, 2018). The model seeks to ensure that healthcare is inclusive and that decisions are supported by concrete evidence from the physicians, patients and their relatives, clinicians and medical administrators.

The input level is comprised of people who are eligible to use the services provided by various healthcare facilities. The people who will be accommodated on this layer will mainly be patients from across the population. The process level is mainly concerned with the handling and management of patient data. The layer accommodates professionals such as data analysts, healthcare administrators, physicians, nurses, and social health workers. In their encounter with the health management system, they make decisions based on the evidence gathered from the data. The third level is the output layer which mainly involves the outcome of the processes. The basic expectation is that the output will be of benefit to the patients and will improve their outcome.

The model is applicable in health facilities of different levels including clinics, large sized hospitals, physicians’ practices and small dispensaries. Depending on the objectives of the healthcare information systems, the conceptual model can be expanded to accommodate more beneficiaries, processes and better output.

**Summary of the Presented Literature**

 The literature presented clearly shows that research into the application of EHR systems in healthcare management is a viable topic. Today, decision making in healthcare is mainly supported by hard evidence drawn from data analysis. Therefore, EHR systems have a huge role to play in the management of patient records hence improving their health outcome. The literature presented by authors such as Brenner et al. (2015) and Furukawa (2014) on the impact of EHR systems in healthcare management is supported by empirical evidence collected from the ground. This means that the data is verifiable.

The selected literature materials also explore the barriers that affect the implementation of EHR systems in healthcare management. Khalifa (2013) and Bowman (2013) indicate that the main barriers include towards the implementation of EHR systems include, integrity issues, organizational barriers, technical barriers, and professional barriers. King, Patel, Jamoom, & Furukawa (2014) also present their findings on the benefits of EHR in the healthcare sector from a clinician’s perspective. Majority of them appreciated that the use of EHR has helped to improve patient outcome and also made their work easier. A three tier model proposed by Nadell, & Ronis (2018) is proposed and discussed in detail. Such a model would be appropriate for the implementation of EHR. Generally, the literature used in the research is comprehensive, verifiable and inclusive of different aspects of EHR.

**References**

Bowman, S. (2013). Impact of electronic health record systems on information integrity: quality and safety implications. *Perspectives in Health Information Management*, *10*(Fall).

Brenner, S. K., Kaushal, R., Grinspan, Z., Joyce, C., Kim, I., Allard, R. J., ... & Abramson, E. L. (2015). Effects of health information technology on patient outcomes: a systematic review. *Journal of the American Medical Informatics Association*, *23*(5), 1016-1036.

Glenn, T., & Monteith, S. (2014). Privacy in the digital world: medical and health data outside of HIPAA protections. *Current psychiatry reports*, *16*(11), 494.

King, J., Patel, V., Jamoom, E. W., & Furukawa, M. F. (2014). Clinical benefits of electronic health record use: national findings. *Health services research*, *49*(1pt2), 392-404.

Nadell, A. P., & Ronis, N. (2018). A Conceptual Model For Health Care Information Systems. In *Computer Application in Medical Care, 1978. Proceedings. The Second Annual Symposium on* (pp. 652-655). IEEE.

Ozair, F. F., Jamshed, N., Sharma, A., & Aggarwal, P. (2015). Ethical issues in electronic health records: a general overview. *Perspectives in clinical research*, *6*(2), 73.

Wager, K. A., Lee, F. W., & Glaser, J. P. (2017). *Health care information systems: a practical approach for health care management*. John Wiley & Sons.