THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Implementing Electronic Medical Record Management System in Hospitals

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Abstract:
With different developments in the world, it also faces a string of health problems which include HIV/AIDS and tuberculosis that endanger the lives of millions of people. Want of substructure and qualified, experienced employees is believed as key barriers to scaling up a cure for these maladies. In this journal article, I will explain why information systems are significant in a lot of healthcare ventures in the developing world. One such project is to implement Electronic Medical Record or in short EMR management systems in hospitals. So what is EMR? EMR, in fact, is the electronic middleman letting users get at and recover patients' data, to assess patients' medical history, and to make possible the commencement between patients as well as medical users. The EMR includes an arrangement of recording, working, storing, recording and channelizing health info electronically. Via the utilization of the EMR, quite a lot of restrictions that are linked with the paper-dependant medical record system are undoubtedly defeated. For instance, in comparison to the paper-based records, the EMR can play a better role in medical verdict-making, incorporating the services of different departments, tailor-making patient care, decreasing medical mistakes, ameliorating quality, cutting down costs, etc. Additionally, the EMR can successfully aid to convey patient info from one organization to another and thus assist in recommendations and bettering the approach to healthcare. This article analyzes the setbacks linked to the implementation of EMR systems and then discusses its benefits and its implications on Management. If EMR method is enforced and applied appropriately, it will facilitate in the enhancement of community health.

Keywords: databases, electronic medical records, Electronic Medical Record management system, HIV, Health Information Systems, systems implementation. Electronic document management

1. Introduction

Technologies in the Medical field are flourishing and are followed at startling rates; on the other hand, the situation is not true in case of information technology [IT] with regard to healthcare. The healthcare business falls behind the majority of the mainstream industries pertaining to IT (Burt & Sisk, 2005). Banking as well as hospitality industries, share similarities with the health care industry, and they have recognized the requirement for information technology a number of years ago and have dedicated themselves to the technology via budgeting plus planning, and have productively enforced these technologies within a range of businesses. Within the healthcare industry, the want of IT is well known. Nonetheless, the dedication to information technology is yet not adequate.

In spite of the low utilization as well as insight, the prospective for the healthcare area to leverage IT is vast. The accumulated advantages from acquiring high-tech IT, like EMR, include better access and registering of patient data, the capability to make improved and more well-timed decisions, bettered quality of info, and decreased errors. The net outcome would be enhanced patient care (Marshall & Chin, 1998) and enhanced monetary performance (Hillestad et al., 2005). On the other hand, the authentic accomplishment of an IT solution like EMR is very limited.

Electronic Health Records (EHR) comprises of a depository of info with regard to the health condition of individuals. In an EHR, records relating health is made and handled in digital formats (Handel & Hackman, 2010). An EHR of a patient, in fact, comprises of his/her medical history as well as operations, medications, hospitalizations, laboratory results, previous diagnostic follow-up, radiology reports, and appropriate health care info (Acharya et al., 2013; Rosenthal, 2013). It is a safe and dependable source of clinical data where wellbeing records can be securely shared.

It is very important to avoid any kind of strategic errors while implementing an EMR system as errors and omissions may have permanent impacts on the organization (Stone & Yoder, 2012). Managers who can take advantage of the experience of others, as well as other businesses, are almost certain to be successful in this regard (Stone & Yoder, 2012). The novelty of EMR technologies needs a special level of comprehending from a leadership viewpoint (Stone & Yoder, 2012).

Due to the comparative novelty of technology as well as the regular development, some hospitals repeatedly utilize outside support from the ones who are already conversant with EMR change initiatives (Robichau, 2014). The intricacy of the software prerequisite demands a training program that conveys stakeholders to a fundamental general understanding of the aim and advantages of the innovative system (Robichau, 2014). Due to this necessity, extra training for managers of change is essential (Stone & Yoder, 2012).

Healthcare organizations must accept the responsibility of data schemes and comprehend the want for enhancing approachability to all stakeholders in the system (Stone & Yoder, 2012). Clinical betterments occur by an understanding of data plus procedure measures

(Cahill et al., 2014). Business leaders in the organization must build ownership of the data managing systems, and set up solid associations with vendors who supply the technology (Huang, et al., 2015).

The designed leadership imperatives demand leaders to be educated leaders, who may have a visualization of alteration but not have the technical insight essential for implementation (Shea et al., 2014). The very first step in the change procedure is to identify the roadblocks to accomplishment (Shea et al., 2014). To defeat these roadblocks, leaders of health care should be able to recognize the key actors in the organization, who are prepared for alteration and have a perceptive of how the innovative healthcare technology will influence practice (Lesk, 2013).

The carrying out of an EMR system produces changes in conducts and practices which are not easy related issues (Kokkonen et al., 2013). Personal issues also have a role to play in the change strategy (Sheck et al., 2015). These personal aspects comprise of issues of power as well as professional content awareness, to which management or leadership must reflect on the dynamics in the change procedure (Sheck et al., 2015). Implementation of EMR can progress with the identification of interpersonal components as imperative factors in the managerial process (Khalifa, 2013; Sheck et al., 2015). The advances in the change management procedure rely on the communications among producers, users, as well as external groups (Struik et al., 2014). Obstructions to booming implementation can upshoot from user-level inclinations and organizational-level social systems (Struik et al., 2014).

Management who are entrusted with the job of facilitating change has to take into consideration the time within which they can complete the entire implementation process of a new system by assuring deep training during every step of the process (Struik et al., 2014). The practicality of EMR execution relies on the serviceability and featuring a trained staff (Fritz et al., 2015). Leaders, who already are reputed for cautious decision-making as well as reliability, should lead change in the course of an open procedure agreeable to alteration and development (Fritz et al., 2015; Louie et al., 2012).

1.1. Implementation Policy from the Viewpoint of an Organization

Fareed et al., 2012 states that' "Some organizational theorists studying EMR implementation have advocated for managers to use integrated strategies. Integration and differentiation strategies can facilitate activating mechanisms across organizations to promote behavior change. The current levels of integration strategies within an organization will in part determine management's choice of a particular EMR application enterprise strategy. Various strategies provide benefits and limitations related to health care delivery and to an organization's pace of change."

AnSV(single vendor) policy can assist management to simplify regular processes, like claims management, business costs, and training for competencies (Fareed et al., 2012). Top management bears a precise accountability to make certain performance improves and contouring is sustainable (Naranjo-Gil, 2015). AnSV approach may entail the utilization of schemes that don't suit present clinical procedures, and hence the oddball could contribute to confrontation from employees adapting to a consistent system (Fareed et al., 2012). Leaders have to take into consideration as to how the incorporated approach may or may not go well with the distinctive aspects of the work culture (Fareed et al., 2012).

2. Methods

The amount of medical knowledge available to medical practitioners is growing exponentially. Yet, Weed, (1997) stated that;" the medical industry does not have an IT infrastructure that efficiently connects those who must apply that knowledge with the appropriate knowledge at the point where it needs to be applied. He calls for tools 'to extend the human mind's limited capacity to recall and process large numbers of relevant variables'. EMR and CPOE have been heralded as tools that can help connect healthcare providers with the information they need at the point of care delivery, thus improving the quality of care."

According to the IOM (Institute of Medicine), Electronic document management is an arrangement that renders the capabilities mentioned below:

1) "Longitudinal collection of electronic health information for and about persons, where health information is defined as information pertaining to the health of an individual or health care provided to an individual;

2) Immediate electronic access to person- and population-level information by authorized, and only authorized, users;

3) Provision of knowledge and decision-support that enhance the quality, safety, and efficiency of patient care; and

4) Support of efficient processes for health care delivery." (Committee on Data Standards for Patient Safety, 2003)

2.1. Dilemma in the Adoption of EMR

A foremost apprehension concerning electronic document management shoots from the doubt or difference on the appropriate nucleus elements of electronic medical records as the nucleus elements have in general been absorbed from advertising campaigns of products instead of from well-distinct categorizations. It is apparent that there are many reliable topologies that have been recognized with regard to the core functions of electronic document management that are not essentially identical. Hence, it is imperative to understand that these topologies were chosen founded on the particularity of their definitions and their attempts to categorize electronic document management systems.

3. Results

3.1. EHR: Effectuation Challenges

Jha, DesRoches, Kralovec, & Joshi (2010) conducted a survey of U.S. hospitals recently and discovered that the hospitals which followed either fundamental or all-inclusive EHR had risen moderately from 8.7%- 11.9 %. Another report accounted that only 20% of practicing physicians as well as 9% of all healthcare services have started and/or accomplished the changeover to EHRs (Lohr, 2008). These determinations highlight the truth that the conversion to a digital healthcare system is composite, demanding, and liable to be a lengthy one.

There are many EHR adoption/implementation challenges out of which a few are listed below:
- Want of a suitable strategy for EHR adoption
- Short of technical knowledge, separation of data, less knowledge with regard to best practices
- Impractical anticipations on accomplishment scope, time, financing, implementation commotions etc.
- Lack of comprehending the benefits of EHR, and how to pull outmax advantage from the arrangement.
- Formulating a sustainable business form
- Acceptance of e-approval and implementation of CPOE (Computerized physician order entry)
- Confrontation to procedure re-engineering. Practice spruce up and quality enhancement techniques are essential to the flourishing use of the full capacities of EHR. (Torda, Han, Scholle, 2010).
- terrible experience on a previous implementation
- Security, communication, training necessities, etc.
- accessibility of specialist help during implementation plus post-implementation constancy phase
- accessibility of specialists for legal, financing, plus dogmatic consequences
- Income may decrease during implementation procedure

3.2. EHR: Post-Implementation Challenges

3.2.1. Process Change
Similar to every new implementation, the clearest change is workflow linked change, and EHR is no exclusion. Everyone including ancillary staff, physicians, nurses, management, and administrators must start capturing, recovering, and sending info electronically rather than storing, retrieving and communicating on paper. Proper training at all stages before going live with EHR is significant. The victory of any implementation relies on how swiftly end users are competent to apply the system competently and efficiently.

3.2.2. Technology Change
EHR is completely reliant on intricate and attuned working elements of many hardware and software. Consequently, assuring that all of these elements work correctly is significant. A team of specialists internal or outsourced has to be accessible 24/7 in any case for some months to a year.

3.2.3. Policies and Procedures
Management must implement customary process control for formation, alteration, modernize, and implement policies and procedures. As IT is in the center of EHR, management accountable for policies and procedures has to keep the IT department in the circle. It is normal IT practice to have analteration control policy to make certain that changes are accepted and correctly tried before being contributed to the production environment.

3.2.4. Management Inferences
An electronic health system comprising of a national network of electronic health records would be are mark able achievement and incredibly significant for the whole medical community. If electronic medical record management were to be acquired nationally, contact to all patient records would be instantaneously possible. Nonetheless, it is not possible to make hospitals paperless. The recognized fact that the medical industry falls behind in technology is adequate evidence to recognize that the medical community doesn't and will not, for a very long duration, in any case, be eager to exclusively depend on technology: computers plus networks. as a result, this electronic health arrangement with electronic health records will not really develop health information management. Actually, it may even make electronic document management even more complicated (Terry, 2003; Sachs, 2005; Walker, 2005).

Ifby some means, a rapid changeover could take place in every physician office plus hospital, electronic medical records on a national electronic health network would be the most excellent thing as sliced bread as every particular patient's records could be invoked in any healthcare organization in the whole country. The final outcomes would be invaluable for patients, healthcare organizations, records management employees, lawyers, administrators, technology companies, etc.

The management inference of an electronic document management system includes electronic medical records is straightforward. There are quite a lot of areas where EMRs can assist. The most important ones are as below (Li, Bahensky, Jaana, & Ward, 2008; McLeod, Clark, Warren, & Dietrich, 2008; Ayal & Seidmann, 2009):
- Perk up effectiveness, fullness, and precision;

- Do away with unwanted procedures as well as treatments;
- Enhance the decision with regard to diagnosis and patients' satisfaction;
- Step-up physician verdict competence
- Decrease hospitalizations, plus screening prescriptions.
- Free physicians from disgraceful lawsuits
- Decrease all healthcare linked insurances plus overall costs

4. Conclusion

Implementing electronic document management in the healthcare industry is quite a lot of steps at the rear that of other industries. Lack of IT is expensive in both time plus money. The insertion of a National Health Information Network for electronic health records, which President Bush, and subsequently President Obama has demanded, is a huge step in the direction of satisfying the IT gap (Coile, 2000; Babcock, 2005; Himmeistein & Woolhandler, 2005).

Electronic health records, the major objective calling for the utilization of IT, have been in the offing for quite a lot of years but have just recently started to gather attention. Even though these electronic records have been accessible, they haven't been willingly received or used by healthcare providers – merely those who have direct contact to the local intranets on which these records are positioned could even think about the alternative. With the current destruction of New Orleans, patient records have been misplaced, damaged, or the patients have emptied or been required to move somewhere else; consequently making the idea of a national health electronic system as well as electronic health records more attractive and even essential (Ragbupathi, 1997; Palattao, 2004; McGee, 2005).

5. References

i. Anderson, H. (2009). Hospital IT spending surge predicted by HIMSS analytics. Health Data Management Magazine. Retrieved from http://www.healthdatamanagement.com/issues /2009_69/38719-1.html

ii. Ayal, M., Seidmann, A. (2009). An empirical investigation of the value of integrating enterprise information systems; The case of medical imaging informatics. Journal of Management Information Systems,26(2), 43-68.

iii. Babcock, P. (2005). National plan for e-health records gains momentum. HR Magazine, 29-39.

iv. Burt, C., & Sisk, J. (2005). Which physicians and practices are using electronic medical records? Health Affairs, 1334-1343.

v. Cahill, J., Gilbert, M., & Armstrong, T. (2014). Personal health records as the portal to the electronic medical record. Journal of Neuro-Oncology, 117, 1-6. doi:10.1007 /s11060-013-1333-x

vi. Coile, R., Jr. (2000). E-health: Reinventing healthcare in the information age. Journal of Healthcare Management, 45(3), 206-210.

vii. Committee on Data Standards for Patient Safety. (2003). Key capabilities of an electronic health record system. Washington DC: Institute of Medicine.

viii. Fareed, N., Ozcan, Y., & Desharo, J. (2012). Hospital electronic medical record enterprise application strategies: Do they matter? Health Care Management Review, 37(1), 4-13. doi:10.1097/HMR.0b013e318239f2ff

ix. Fritz, F., Tilahun, B., & Dugas, M. (2015). Success criteria for electronic medical record implementation in low-resource settings: A systematic review. Journal of the American Medical Informatics Association, 22, 479-488. doi:10.1093/jamia/ocu038

x. Hennington, A. H., & Janz, B. D. (2007) Information systems and healthcare. XVI; Physician adoption of electronic medical records; Applying the UTAUT model in a healthcare context. Communications of AIS, 2007(19), 60-80.

xi. Himmeistein, D., & Woolhandler, S. (2005). Hope and hype: Predicting the impact of electronic medical records. Health Affairs, 24(5), 1121-1123.

xii. Hillestad, R., Bigelow, J., Bower, A., Girosi, F., Meili, R., Scoville, R. and Taylor, R. (2005). Can electronic Medical Record Systems transform health care? Potential health benefits, savings, and costs. Health Affairs, 24(5), 1103-1117.

xiii. Huang, Z., Dong, W., Bath, P., Ji, L., & Duan, H. (2015). On mining latent treatment patterns from electronic medical records. Data Mining and Knowledge Discovery,29, 914-949. doi:10.1007/s10618-014-0381-y

xiv. Jha, A. K., DesRoches, C. M., Kralovec, P. D. & Joshi, M. S. (2010), "A Progress Report On Electronic Health Records In U.S. Hospitals", Health Affairs, 29(10), pg. 1951

xv. Khalifa, M. (2013). Barriers to health systems and electronic medical records implementation: A field study of Saudi Arabian hospitals. Procedia Computer Science, 21, 335-342. doi:10.1016/j.procs.2013.09.044

xvi. Kokkonen, E. W., Davis, S., Lin, H., Dabade, T., Feldman, S., & Fleischer, A. (2013). Use of electronic medical records differs by specialty and office settings. Journal of the American Medical Informatics Association, 20, 33-38. doi:10.1136/amiajnl-2012-001609

xvii. Lesk, M. (2013). Electronic medical records: Confidentiality, care and epidemiology. IEEE Security and Privacy, 11(6), 19-24. doi:10.1109/MSP.2013.78

xviii. Li, P., Bahensky, J., Jaana, M., & Ward, M. (2008). Role of multihospital system membership in electronic medical record adoption. Health Care Management Review, 33(2), 169-177.

xix. Lohr, Steve (2008), "Most Doctors Aren't Using Electronic Health Record," The New York Times, June 19.

xx.   Louie, B., Kritz, S., Brown, L.S., Chu, M., Madray, C., & Zavala, R. (2012). Electronic health information system at an opioid treatment programme: Roadblocks to implementation. Journal of Evaluation in Clinical Practice, 18, 734-738. doi:10.1111/j.1365-2753.2011.01663.x

xxi.   Marshall, P. D., and Chin, H. L. (1998). The Effect of an Electronic Medical Record on Patient Care: Clinician Attitudes in a Large HMO, Proceeding of AMIA Symposium.

xxii.   McGee, M. (2005, September 19). Time for the industry to take its medicine. InformationWeek, 120.

xxiii. McLeod, A. J., Jr., Clark, J. G., Warren, J., Dietrich, G. B. (2008). The impact of information systems on end user performance: Examining the effects of cognitive style using learning curves in an electronic medical record implementation. Communications of AIS, 2008(22), 165-184.

xxiv.   Naranjo-Gil, D. (2015). The role of top management teams in hospitals facing strategic change: Effects on performance. Journal of Healthcare Management, 8, 34-41. doi:10.1179/2047971914Y.0000000078

xxv.   Palattao, K. (2004). Essential EMR functions; A perspective from the front lines. Health Management Technology, 25(11), 22.

xxvi.   Ragbupathi, W. (1997). Health care information systems. Communications of the ACM, 40(8), 81-82.

xxvii. Robichau, B. (2014). Healthcare information privacy and security regulatory compliance and data security in the age of electronic health records. New York, NY: Apress.

xxviii. Sachs, M. (2005). Transforming the health system from the inside out. Frontiers of Health Services management, 22(2), 3-12.

xxix.   Shea, C., Reiter, K., Weaver, M., McIntyre, M., Mose, J., Thornhill, J., Weiner, B. (2014). Stage 1 of the meaningful use incentive program for electronic health records: A study of readiness for change in ambulatory practice settings in one integrated delivery system. BMC Informatics and Decision Making, 14, 1-7. doi:10.1186/s12911-014-0119-1

xxx.   Sheck, A., Hefner, J. Sieck, C., & Huerta, T. (2015). Journey through grief: Insights from a qualitative study of electronic health record implementation.

xxxi.   Health Services Research, 50, 463-486. doi:10.1111/1475-6773.12227

xxxii. Sittig, D. F., Krall, M., Kaalaas-Sittig, J., & Ash, J. S. (2005). Emotional Aspects of Computer-based Provider Order Entry: A Qualitative Study. J Am Med Inform Assoc, 12(5), 561-567.

xxxiii. Stone, A., & Yoder, L. (2012). Strategic considerations during electronic health record implementation. Journal of Nursing Administration, 42, 208-214. doi:10.1097/NNA.0b013e31824ccdb2

xxxiv. Struik, M., Koster, F., Schuit, A., Nugteren, R., Veldwijk, J., & Lambooij, M. (2014). The preferences of users of electronic medical records in hospitals: Quantifying the relative importance of barriers and facilitators of an innovation. Implementation Science, 9, 1-11. doi:10.1186/1748-5908-9-69

xxxv.   Terry, K. (2003). EMRs what you need to know. Medical Economics, 80(9), 5-7.

xxxvi. Torda, P., Han, E.S., and Scholle, S.H. (2010), "Easing The Adoption And Use Of Electronic Health Records In Small Practices", Health Affairs, 29(4), pg.668

xxxvii. Walker, J. (2005). Electronic medical records and health care transformation. Health Affairs,24(5), 1118-1120.

xxxviii. Weed, L. L. (1997). New connections between medical knowledge and patient care. BMJ, 315(7102), 231-235.