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Research Article

Proposed Information System towards Computerized Technological Application – Recommendation for the Acquisition, Implementation, and Support of a Health Information System

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ABSTRACT
The aim of this study is to propose a health information system for addressing the continuum of care. The selected setting or scenario is Bethany Place, with the facility's specialty being long-term care. At the institution, the current aim lies in expanding to achieve rehabilitative care, yet electronic health record systems are yet to be adopted. Instead, the institution's scanned and automated claims are sent to private partners and Medicare by using third-party services. Due to the lack of electronic health records, some of the current problems include delayed record accessibility and poor communication and engagement between physicians and patients. Also, there are risk management and quality issues about medication reconciliation, especially in situations involving patient transfers. The affected areas include the rehabilitation extension facility and Bethany Place's current facility. To address these issues, it is proposed that an electronic medical record (EMR) system is acquired and implemented. In this study, the feasibility of EMR usage is evaluated. Specific areas of focus include EMR acquisition, planning, implementation, and support for future sustainability.
Keywords: Rehabilitative care, electronic medical record (EMR), feasibility of EMR.

INTRODUCTION

Indeed, EMR is deemed as feasible and a solution to the problems at Bethany Place because the current paper-based system faces issues such as inconsistent layouts, lack of clear audit trails, error proneness, delayed accessibility of records, limited security, lack of backups, and inappropriate scalability whereby paper-based records demand a lot of physical storage space. Other issues include damage, unavailability, duplication difficulty, and delayed search.

In relation to the implementation of EMR as a solution to the current problems, benefits might include intelligence alerts that reduce possible dangers, clinical support to ensure that problems are identified and corrected in a timely manner, improved organization of patient care information, an ease-of-use state while sharing patient and health care information with third-parties, and improvements in the capacity of report production, as well as billing accuracy.

From a legal perspective, several issues are worth considering. They include the need for EMR training among physicians at Bethany Place (which would improve cooperation and balance the relations between physicians and IT systems), the need to ensure that health information is protected from unauthorized access, theft, and breaches, and the need to adhere to HIPAA regulations regarding issues such as disclosure and accurate documentation. Other regulatory issues to consider should include EMR vulnerability to fraud claims, guidelines in the Antikickback Statute and the Stark Law, and affiliation to a safe harbor that would ensure that the exchange of health information is secure.

Apart from the need to secure affiliation to a safe harbor, which would prove critical especially during referrals, other legal issues that ought to be considered in the proposed system include medication error possibility due to EMR system-related problems such as spelling issues and accidental mouse clicks. Therefore, the adequate training of physicians is required to ameliorate these potential adversities.

Legal issues also ought to consider possibilities of medical malpractice claims, especially because Bethany Place would be moving from a familiar paper-based system to a new EMR system. Some of the issues in the state law that should be

followed (which govern health information system operations) include the types of EMR records that parties such as plaintiffs could access, and date stamps. In summary, legal and regulatory issues that are worth assessing include confidentiality, privacy, security, and information integrity and availability.

METHODOLOGY

From a SWOT summary perspective, EMR implementation at Bethany Place comes with mixed outcomes. Whereas the system's strengths include quick and timely information access, a major weakness includes lack of adequate hardware and other infrastructures at the institution. Opportunities that are worth exploiting include possible data sharing between sectors or departments and the firm's access to various health statistics, which make EMR implementation a timely and informed idea. Major threats include possible resistance to change among physicians and the clinical staff, as well as lack of strategic planning in the area of EMR. Regarding the aspects of vendor partner recommendation and evaluation, the proposed steps include conducting a broad search of different EMR systems, analyzing EMR working copies via case scenarios, conducting site visits to the headquarters of EMR vendors to assess EMR system user practices, engaging in detailed and in-person EMR feature demonstrations, and holding brief reviews of EMR features.

Additional evaluation steps that are recommended relative to decision-making among appropriate EMR vendors include engaging in the development of detailed EMR evaluation forms, conducting surveys of the desired EMR functionality, interests, and barriers, evaluating the training ability of EMR system vendors (because of the anticipated presence of novice users at Bethany Place), and assessing the initial on-site EMR availability, should the need for modifications or system improvements arise. Another proposed step includes assessing the compatibility of the operating system, database, and hardware platform of the EMR system with the needs of the hospital.

RESULTS AND DISCUSSION

Findings from this study suggest that at the planning stage, an implementation team should need to be formed to spearhead the EMR rollout process. The scope of this project is that it targets Bethany Place and its anticipated rehabilitation extension facility. Some of the key stakeholders behind the rollout process include members of the hospital IT team at the institution. Some of the risks that are anticipated include privacy and security violations (which should be addressed through a collaborative effort between the software vendor and the IT department), usability issues concerning system and user errors (which should be addressed via adequate staff training), the complex nature of time and data migration from a paper-based to an EMR-based platform (which should be countered by adopting a scanning system in the form of optical characteristic recognition software), and interoperability (which should be mitigated in such a way that the IT tam should verify the compatibility of the proposed health information system).

Financially, the cost of system adoption, installation and implementation might exceed the initially anticipated budget, implying that EMR deployment would come with up-front costs. However, on a long-term basis, beneficial effects might outweigh the perceived costs that might be felt initially, especially by saving money and time regarding health care service provision and record storage, access, and retrieval. Furthermore, staff morale is expected to be boosted in such a way that EMR would ensure that the labor or effort needed to conduct the target services is minimal.

From an implementation perspective, initial phases of process and workflow analysis should include an evaluation of the current procedures and processes at Bethany Place, the identification and effecting of changes in situations where opportunities for improvement are identified, and the identification of sources of data, as well as interfaces to other systems. Other steps should include the determination of the number and location of workstations that would be required and redesign of physical locations based on the EMR demands.

After the process and workflow analysis procedures, the next phase should entail system installation. At this point, major steps should include software customization or tailoring to the needs of Bethany Place, interface and software installation, IT infrastructure implementation, preparing computer rooms, and hardware system ordering and installation. Additional stages should include determining system configurations, ensuring that the EMR system functionality is tested, retested, and tested again,

and engaging in a staff training exercise, as well as upgrading the procedure manuals.

The implementation process should also involve data conversion or migration from a paper-based to an EMR-based system, the establishment of communication mechanisms through which concerns and problems could be identified and addressed, and fostering regular communication with necessary departments and constituent groups. Other phases should entail the selection of a date perceived to have a relative low patient volume and the preparation for the go-live date through the review and effecting of process engineering, establishing mechanisms of new system reporting and correcting problems, and bringing adequate staff on EMR implementation on board.

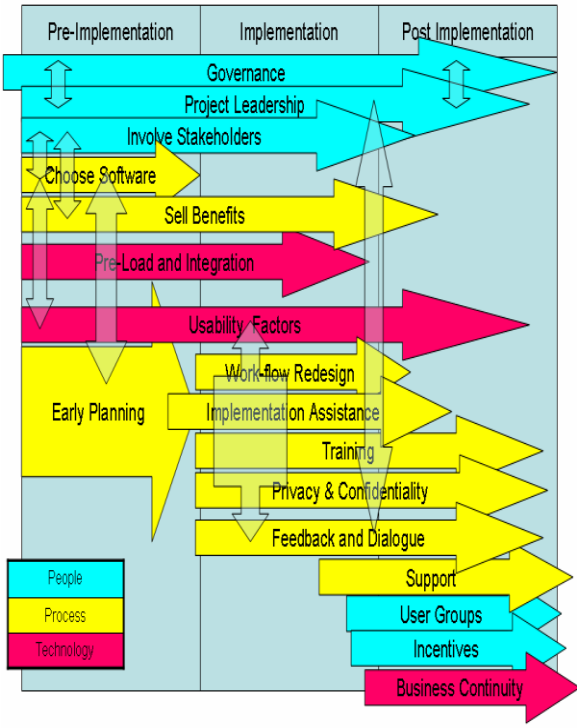

Fig:1

The figure above summarizes the steps that should be followed from the pre-implementation to the implementation and post-implementation stages.

At the post-implementation stage, there should be a financial sustainment plan towards support and sustainability, in terms of the documentation of the time and cost efficiencies of the EMR system, upon which relevant incentives should be indicated for inclusion in annual healthcare budgets at Bethany Place. Regarding the end-user technical support plan, there should be a business continuity plan establishment for disaster recovery and data protection, besides allowing EMR champions to lead structured formats or scheduled meeting towards addressing technical issues, especially via ongoing end-user training. It is also notable that the attribute of the proposed health information system (EMR) fits with emerging industry technologies because it is poised to interact or align with and play a complementary and supportive role to clinical support systems, as well as the e-prescribing platform.

CONCLUSION

For Bethany Place, the proposed EMR system, upon successful implementation, is projected to yield several beneficial attributes that would account for competitive advantage, they include more efficient health outcome assessment, quicker access to clinical data at the points of care, an increase in health care efficiency, improvements in the safety of patients (hence, satisfaction), greater financial returns from a business perspective (due to the boosted staff

morale and quick and timely storage, access to, and retrieval of health records), and reduced costs of operation. Overall, there would be up-front costs but long-term benefits are predicted to outweigh the perceived EMR-related financial demands significantly.

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