

Good example of technology: health informatics essay

[Business](#), [Management](#)



INTRODUCTION

Electronic Health Records forms the forefront of health information technology in a medical institution, and as such, the choice of the vendor, implementation and transition from paper to electronic records system should be conducted with the utmost care and efficiency. Healthcare technology has been promoted by laws such as HITECH Act in order to motivate the industry to invest in information technology as an avenue of improving health care provision and minimizing cost.

It thus makes sense that adopting the wrong HER system can wreak havoc on a clinical practice: resulting in productivity losses, low speed of referral and increased waiting time, consequently disgruntling patients and staff.

One of the obstacles clinical organizations face in EHR adoption is an unclear understanding of the return on investment. Without an unclear mind on the ROI, organizations are reluctant in spite of the meaningful use and the billions of dollars in incentives provided by governments. Therefore, the rule of the thumb is to adopt an EHR system that justifies the cost of implementation.

A

Cost-benefit analysis

Cost-Benefit analysis is a tool widely used in financial decision making. It is used to estimate the total equivalent monetary value of the benefits and the cost of projects to determine whether the project is viable economically.

Cost-Benefit analysis involve the determination of project goals, estimation of project benefits and costs, discounts on cost and benefits at an

appropriate rate, and a complete analysis using any of the decision making methods such as NPV.

Determination of cost and benefits incurred and derived from the project implementation consecutively involve a series of cash flows over its lifetime. An enormous investment is required to set the project running but, with time financial benefits are anticipated following reduced costs and improved revenues. Cost associated with an EHR implementation includes system cost and induced cost. System cost refers to the software and hardware, training, implementation, support and maintenance. Induced cost refers to the related temporary productivity loss equated to the implementation of the new system. Cost analysis is required to estimate the system costs. A list of vendors is requested to provide the costs of software, hardware, implementation, training, support and maintenance over the lifetime of the system. When these costs are compared with financial benefits from averted costs and increased revenues, a decision is made on the preferred vendor. Benefits are characterized as payer-independent benefits, benefits under fee-for-service reimbursement and benefits under capital reimbursement.

- RFI vs RFP

Request for Information refers to planning documents sent informally without binding agreement to vendors to solicit information about the vendor's company, capabilities, skills, and experiences. Specific project details and budget are not essential in RFI's except when the facility is looking for a short-term vendor for a small project.

Request for Proposal are complex documents that organizations create to attract bids and proposals from outside vendors. RFP is complex in that it

includes the projects budget, timeline, criteria of execution, and projects goals and objectives. Also, specifications and scope of the project are included to solicit detailed responses from potential vendors. Vendor's responses include their company's information, offer price, history and list of related projects details of how the vendor will execute and manage the project.

RFI's are used for small projects that do not require complex tendering and procurement processes. They are easy to formulate and the time of execution is reduced.

RFP's are applicable when the project undertaken spans complex requirements and large amount of money.

Both can be used when a company requires the implementation of a new project. In this case, it requires RFI's to solicit basic information detailing different vendors without entering in a binding agreement with any of them. When a final decision has been made, it solicits RFP's to enter into binding agreement for project execution.

A Request for Proposal is a complex document used to attract bids and proposals from potential vendors. Its contents entail:

- Introduction section giving an overview of the company, opportunities and RFP goals
- Means of award
- Proposal duration
- Additional clauses on liabilities, audits and confidentialities

- Scope of services, service levels and other requirements
- Award duration
- References and contract terms

Each of the contract parties appoints their representative for gathering information, and entering agreements as required by RFP. The hospital facility will appoint an agent to represent it, preferably the head of the EHR Project Management Team. Likewise, vending parties will appoint their representatives to represent them in any activities conducted with the hospital.

A good working relationship is required between EHR Project Management Team, vendors, and their representative parties. By conducting every activity in a professional and transparent way, a favorable working environment will be achieved. All contracts undertaken must be documented in a way guided by the provisions or under the law. In addition, any disagreement resulting will be solved with the help of a mediator.

Communication between project management team and outside parties is the key to the success of the project, in that sense; constant communication will be effected throughout the implementation process.

B1

Clinical applications - Imaging and laboratory results retrieval application

- Used to maintain and display patient X-ray results, lab results, and medical graphs among others.

Administrative systems - patient registration and discharge application

- Patients are admitted and discharged using administrative modules

Financial systems- billing, resident/client financial system

- The module is used for invoicing, billing, remuneration and auditing for the organization or patients

Computerized Provider Order Entry CPOE

- CPOE is used by clinicians to enter a variety of orders like medications, consults, admission and discharge orders, nursing orders, diagnostic tests, and dietary services

B2. Human resources in acute care setting

- Medical personnel
- System analysts and administrators
- Physicians and clinicians
- Nurses
- Management

There is a need to have training needs for the human resource team. It will help the human resource staff to know how the applications in their departments work. One of the needs is to have the skills of the information technology applications that are to be introduced.

B3.

New technology is introduced in phases after rigorous testing process. For old systems to match with new technology with less downtime, it must be interoperable. Interoperable systems make changeover period significantly

reduced.

C

Population health management system – public health system, disease surveillance, bioterrorism

- This application is used to monitor the health of the population and report disease outbreaks among other related statistics

Communication and connectivity systems – email, text, web, integrated health records, telemedicine

- This application is used to initiate and keep a constant communication between outpatients and the hospital facility.

Barcode Medication Administration system

- It is an application used to eliminate errors and promote safety in administration of medicine. It can be combined with CPOE, pharmacy dispensing system and e-Medication Administration Record.

- Resources
- Patient output
- Clinicians and nurses
- Physicians
- System administrators and analysts
- Customer care personnel

D

Health information exchanges are categorized by how patient information health records are stored and can be accessed by legitimate members. The two common models are centralized model and decentralized model.

Centralized model, also referred as the consolidated model involve a scenario where all data is stored in a single warehouse or data repository and users are able to view the data while at the same time being able to view it through external data delivery methods. The method is useful in community networks where a single system used for community wide data is queried easily for analysis and local public health issues. The system relies on participants to submit data and issues of data duplication can be realized. Also huge financial startups and ongoing management and maintenance are required.

Decentralized model also known as distributed model is where all data stays at the point of service (POS) and the user, a member of a healthcare facility consents to share their information with the rest of the members. Behind this model is a Record Locator Service, a unique health information service subject to privacy and security requirements and is defined by open standards developed by ONC. RLS holds the location of the data where health information is stored.

Health information exchanges provide a host of benefits including coordinated patient care, minimization of data duplication, and avoidance of costly errors. They include;

- Improved efficiency derived from unnecessary paperwork handling
- Minimize redundant and unnecessary testing
- Increased public health reporting and monitoring
- Vibrant health care consumers in regards to their health information
- Improved healthcare quality and outcome
- Minimal healthcare costs

- Challenges to health care information exchanges

The first challenge is fragmented information creation and storage processes due to isolated health care information systems within hospitals, physician's practices, laboratories and pharmacy's. This is exacerbated by changes in insurance coverage, reliance on multiple providers and a surge in specialty care services

The phenomenon of aggregating personal health information on a single repository has aroused security and privacy concerns from patients as well as control and usage concerns from providers. This remains a significant detriment to HIE adoption

Lack of unanimity in keeping a central data repository has impacted in information exchange since most providers employ transaction-based approach that maintained the independence of each provider's database.

E

First, the perception that efficiency, effectiveness, and time saving are realized from the use of PHR. An organization should consider the validity of this statement in its context.

Second, computer and health literacy as well as the ability to navigate the health system should form the basis of adopting PHR.

Lastly, an organization should be clear about how PHR-related services are paid for, who pays for them and under what circumstances.

Organizations offering personal health record services are Google (Google Health), Dr Chrono (On patient), and Microsoft Health Vault.

Health information is increasingly shifted to electronic platform and this presents the issue of privacy and security should be considered. The personal health record service should be subjected to privacy and security regulations such as HIPAA.

The cost of implementation determines whether or not hospitals can adopt the service and whether return on investments will be realized in the long run.

The functionality of a public health record system is of immense importance to its success in a health facility. The adopted PHR should exhibit usefulness in patient identification, access to images, electronic creation of graphs, ADA codes for billing, and treatment planning tools.

References

Cast, L. (2013). EHR FOR LONG-TERM AND POST ACUTE CARE: A Primer on Planning and Vendor Selection. LeadingAge.

Sheckman, C. (2013). Electronic Health Records for and Applications for Managing Patient care . Nelson.