Managing technology, healthcare

Technology

The information should be accessible to stakeholders such as hospitals, clinics, labs, and patients, regardless of the specific IT application or vendor used to create the information channel. Errs entail what is essentially a complete record off patient's information and data gathered by each healthcare stakeholder (Carets & Davis, 2006, p. 2). Accessibility of this data allows for health information to be shared amongst each entity. Errs allow a patient's medical history to follow him or her through the various modalities of care engaged by the patient (Garrets & Davis, 2006, p.). However, before a fully functional ERR system can be realized, healthcare providers must establish a sustainable Electronic Medical Record (EMMER) system. Emirs are digital versions of the traditional medical records kept within a single medical facility such as a clinic or hospital (Rouse, 2011). In February 2010, the United States (U. S.) government launched the Health Information Technology for Economic and Clinical Health Act, better known as HITCH. This legislation was designed to combat the nation's costly and operationally Inefficient healthcare systems and processes.

It remotes the adoption of Emirs for the healthcare Industry by the end of the decade and is expected to be a driving force to improve interoperability. HITCH offers nearly $30 billion in incentives to hospitals and physicians who adopt Emirs (Bitten, Flier, , 2012, p. 1). It also penalizes those who do not comply with HITCH guidelines and regulations. Today, some major players in the healthcare industry like Kaiser Permanent, HOC Holdings Inc. , and Suttee Health have already established a high level of Interoperability wealth their respective networks through EMMER (Electronic Medical Records Adoption Model).

EMMER is an 8-step process established by the Healthcare Information and Management Systems Society (WHIMS). WHIMS assists healthcare providers to track their progress towards meaningful implementation of certified EMMER systems with respect to other providers. EMMER ensures that the implementation of Emirs is in compliance with HITCH regulations and prevents non-compliance penalties that will come into effect post 2015. Figure 1 illustrates the U. S. Adoption Model, as provided by WHIMS. Figure 1 - Dynamics of EMMER Adoption in the U. S. IT Trends Impacting the Healthcare Industry

Patient care has long been the most important aspect of healthcare to providers. Recently however, insurance companies have realized that the best kind of care for their insured patients is preventative care. Insurance companies like Blue Cross and Kaiser Permanent realize that if a patient is being taken care of on a constant basis, more expensive illnesses can be avoided. The gap between provider and insurer is rapidly declining in size, partly due to electronic medical records and diverse forms of electronic communication now available that diminishes the need for any paper whatsoever.

Physicians must now follow specific preventative care guidelines provided by insurance companies to decrease the likeliness of more extensive patient illness, which in turn, decreases the possibility of more expensive claims. What used to be on paper is now available via communication networks e. G. The internet. With the introduction of electronic medical records, the next clear step was going into the cloud format of information retention.

Currently, there are a handful of EMMER and patient management companies that offer cloud EMMER as an option with their services.

The benefits of having patient medical records in an internet database are vast. First is the ability for more than one physician to manage a patient's records remotely from different locations. Patients are also able to view their medical records, prescriptions, and tests through internet aesthetics using a login surname and password. This is an important benefit, especially for patients that tend to travel frequently. Insurance companies may also have the ability to view patient records via the internet which allows them to manage payments for services and overall patient care.

This newly offered convenience of logging into your own secure patient portal is quickly becoming a standard of quality that favorably distinguishes healthcare organizations from their competitors. In actuality, software over internet is not a new technology. Applications for EMMER Service (web server, database, programming language), Infrastructure as a Service (networks, visualization, storage) and Software as a Service. This kind of EMMER can be run over a web browser or a secure internet connection, depending on the decisions made by the IT department of a healthcare organization.

Compared to client-server eased systems, cloud systems can be accessed remotely from computers without the need for EMMER software. The average cost of cloud-based medical records is approximately $400 to $600 per month, per physician, depending on the options chosen by specific practice. Some systems offer discounts for facilities with more in-house providers.

There are several advantages to consider when purchasing EMMER software over cloud-based systems. The cost of a client-server based system can cost approximately $17, 000 or greater for a small one to five physician clinic.

This includes setup, database upgrading if necessary, online prescription setup (per Hispanic), form creation for the EMMER, and any other options chosen by the provider to setup. Not having the need to upgrade hardware promotes significant cost- savings through cloud EMMER systems, making implementation more scalable. Lastly, the ability to use a simple web browser as opposed to purchasing newer, more robust enterprise hardware solutions, makes cloud EMMER easier to implement with little to nearly no hardware interruption.

Some of the disadvantages with cloud-based Emirs include limited customizable, lag due to limited network resources, increased possibility of compromising patient information, backups are often controlled by EMMER vendors, outages can cause major issues with all providers, loss of data should the EMMER vendor go out of business, and overall issues with regulatory compliance and liability. Another less obvious con is the fact that over time, the cost for a cloud-based EMMER system will be more than that of a client-server based system. There are a few additional factors to consider when researching cloud-based EMMER and patient management systems.

Among these factors is the ability to implement cloud-based EMMER as " meaningful use" technology. International, state, and local isolation vary greatly. As a result, choosing an EMMER system that complies with all

regulations including the Health Information Portability and Accountability Act (HAIFA) and HITCH is vital. Clear regulatory standards must be discussed with vendors to distinguish appropriate areas of liability in any system security breach or loss of data. A good example of what IT departments should be looking for is compliance under Hippo's Privacy and Security Rules and Hitch's breach notification requirements.

There are currently dozens of vendors that offer cloud EMMER and PM. Figure 2 illustrates the KLAUS survey response for overall performance of the most used Cloud EMMER options. Curved tops of the list with the best response time and performance. Other vendors that have Just begun to offer cloud EMMER, such as McKesson with their Practice Choice System, were not included in this survey. Recently, some cloud Emirs have begun applying their software on applications for Apple and Android devices.

This simplifies the ability to option out of purchasing regular full-size tablets in favor of less expensive tablets such as Apple PAD with ISO and different devices upwards of $500 dollars. This is designed to be more attractive than the more expensive full operating system tablets that sell for $800 and beyond. Figure 2 - KLAUS Survey of Overall Cloud-Based EMMER Performance Managing Supply Chains The supply chain is positioned to play a critical role in the technological transformation that healthcare needs to make in order to provide quality care in a sustainable and affordable manner.

With better visibility to data, greater integration with clinical and financial operations, and improved business processes across trading partners, the

supply chain can address many of the challenges facing the healthcare industry today. In the era of healthcare reform, healthcare delivery organizations are living in two worlds: the past, where they have been paid/ reimbursed for the services they perform, and the future, in which those payments will be based on their ability to report on and deliver quality care in an efficient manner.

Healthcare providers are being required to invest in and ensure meaningful use of ERR technology. Supply chain leaders are in the difficult position of trying to demonstrate the importance of investing in the supply chain. The key is demonstrating how the supply chain can ease the financial strains of healthcare form. Some examples are meaningful use of Errs, value-based care, and lowering overall healthcare costs First, meaningful use of Errs will likely require inclusion of unique device identifiers (Duds) for products used in patient care.

Healthcare providers need to consider how they will include the UDDI in Errs, including capturing data at the point of use and ensuring their supply chain systems integrate with their Second, with the migration to value-based care, hospitals will need ERR systems. To pay closer attention to the cost of the supply chain. This can account for up to 45% of total operating expenses. This is especially important for hospitals that perform a high number of orthopedic and/or cardiac procedures, in which the price of the product can account for as much as 50% to 80% of the cost of the procedure.

Capturing data about use of these products is currently a manual process, often performed by both clinicians and supplier representatives. Information

technology chain. Lastly, by lowering healthcare costs, more care will be delivered outside the acute care setting, which is the most expensive real estate in healthcare. More patients will be treated by community health organizations, surgical centers, retail lining and thorough home-based care programs. Supply chain staff will need to have greater visibility into product purchasing, delivery and utilization beyond the hospital or clinic walls.

Data must be shared in a standardized manner across systems and facilities. Understanding the issues faced by both healthcare providers and suppliers in the face of healthcare reform is crucial for all facets of the healthcare industry. The adoption of standards, process automation and use of cloud-based technologies can help lessen the financial burden, while helping to improve clinical performance. Moreover, technology adoption is the key. Historically, healthcare providers have invested less on back-office automation, including supply chain systems, than other industries.

A study of more than 270 hospitals over a four-year period recently highlighted " the negative impact of long-term underinvestment in back-office infrastructure and processes. " The study, conducted by Oracle Healthcare Insight, provides a strong business case for reversing that trend, noting that " healthcare providers that make greater investments in back-office automation and process improvement enjoy operating cost ratios that are 2% to 4% better than those of their peers. Specifically, the study called on providers to increase investments in tools to enable electronic order exchange with suppliers.

This includes the use of order acknowledgements and advanced ship notices, automated processes around procurement, invoicing and catalog price updates. Industries that invest in technology are better able to integrate various functions and organizations. Accordingly, this can increase appreciation for the interdependent nature of the supply chain. An e-commerce infrastructure, for example, creates connectivity and linkages that enable supply chain partners to share data with one another and elaborate to improve business processes.

The increased use of cloud technologies in the healthcare supply chain can help mitigate many of the financial challenges. Rather than having to invest in expensive hardware, the cloud provides opportunities for trading partners to store, access and analyze data in a virtual environment and take advantage of upgrades more quickly and at lower cost. In summation, the healthcare industry has been late to evolve technologically in ways that synergies today's coordinated care method. Compared to other industries, healthcare has the most opportunities to eliminate inefficiency, waste, and reassurance.