Reaping the Benefits of an Electronic Health Records System

Introduction:

In recent years, information technology (IT) has radically changed the way most industries do business. Organizations of all types and sizes have used IT to address numerous business challenges to create new growth opportunities. However, one sector in particular has been slow to embrace the benefits of the IT revolution and that industry is healthcare.

Today, the majority of healthcare organizations are paper-intensive environments with only a handful of cases reaping the benefits of electronic documentation and automation. Unfortunately, these paper-based records are adding to the expense of healthcare administration. According to a research report from “The New England Journal of Medicine”, administration costs account for 31 percent of healthcare expenditures.
Paper-based Health Records

There are inherent problems associated with paper-based health records including:
- The risk of lost or misplaced files
- Significant record storage fees
- Multiple patient record errors and duplication
- Excessive time spent maintaining documents
- Inefficient collaboration and access to patient information
- Auditing difficulties

Here are some startling statistics regarding paper-based healthcare records:
- The average ratio of staff handling paperwork to doctors can be as high as 1:1
- Three of every 10 tests are reordered because results cannot be found
- Patient charts cannot be found during 30 percent of visits
- 86 percent of mistakes made in healthcare are administrative
- It costs nearly $250 billion to process 30 billion healthcare transactions each year

Compliance

Further complicating these administrative issues are compliance requirements. Healthcare is heavily regulated by guidelines such as the Health Insurance Portability and Accountability Act (HIPAA) of 1996. HIPAA imposes numerous requirements on healthcare organizations concerning the use and disclosure of individual health information. These records, known as protected health information (PHI), includes virtually all individually identifiable health details — whether received in writing, electronic, or oral communication.

Some of the challenges HIPAA presents for managing PHI include:
- Ensuring its physical protection
- Securing its access
- Responding to the patient’s right to:
  - inspect and copy their health information, and
  - receive an accounting of disclosures

Electronic Health Records

Cost reduction, improved patient care, and compliance, have created a trifecta for moving to an Electronic Health Records (EHR) management system. EHR implementations enhance caregiver productivity, improve the quality of care, provide better information and heightened communication; reduce unnecessary costs, and ensuring the privacy and physical protection of patient information.

Barriers to Adoption

Presently EHR adoption has been slow. A study from the “New England Journal of Medicine” on The Use of Electronic Health Records (EHR) in U.S. Hospitals published on March 25, 2009 revealed that less than two percent of acute care hospitals have a
comprehensive EHR system intact. Among the hospitals lacking comprehensive EHR systems, the most commonly cited barriers were:

- Inadequate capital for purchase (74%)
- Concerns about maintenance costs (44%)
- Resistance on the part of physicians (36%)
- Unclear return on investment (32%)
- Lack of staff with adequate expertise in information technology (30%)

Similar studies of other healthcare organizations reveal the same types of barriers to the adoption of EHR.

American Recovery and Reinvestment Act

In 2008, both presidential campaigns advocated the greater use of IT to improve America’s healthcare system. In 2009, President Obama’s vision to move the United States to electronic health by 2014 was jump-started by the American Recovery and Reinvestment Act (ARRA). ARRA, signed on February 17, 2009, included $19.2 billion in provisions for healthcare information technology, thus diminishing the cost barrier for adopting EHR systems. The time is now for physicians, hospitals and other eligible providers to adopt EHR in order to be eligible for the new incentives, grants and loans provided by ARRA. Healthcare providers who don’t adopt electronic health systems will find their Medicare and Medicaid reimbursement reduced starting 2015.

Healthcare Prospects:

There are numerous healthcare organizations who need to move toward EHR, including:
- Hospitals
- Multi-physician practices
- Solo-physician practices
- Ambulatory care
- Pharmacies
- Hospice care
- Drug manufacturers
- Dentists
- Assisted living facilities
- Nursing homes
- Extended care providers
- Optometrists
- Insurance providers

Healthcare Applications:

There are a wide variety of healthcare applications that could benefit from being digitized. They can be broken into two key categories.

The first category is healthcare provider. This would include hospitals, ambulatory care and physician offices. Applications include:
- Patient Registration — registering the patient for services to be provided.
Patient Accounting — submission of claims and explanation of benefits to healthcare payers.

Medical Records — the capture, management, storage and distribution of all patient information including histories, physicals, operation notes, physician and nurse notes, etc.

Auditing — maintaining an accurate audit trail of access to patient information to be able to provide an accounting of disclosures to patients and regulatory bodies.

The second application category is healthcare payer. This is the insurance companies including HMOs and Medicare. Applications include:

- Enrollment — processing all documents associated with new customer enrollment.
- Claims Processing — processing customer claims for payment for services provided.
- Customer Service — manage all customer information efficiently in order to provide timely responses to customer inquiries.
- Auditing — maintain an accurate audit trail of claims to be able to demonstrate to regulatory bodies that they have paid claims appropriately and promptly.

Healthcare Solution:

- An Electronic Health Record (EHR system is designed to maintain an individual patient’s medical record in digital format. The EHR coordinates storage and retrieval of patient records for real-time access. The benefits of an EHR system can be improved physician efficiency, reduction of cost associated to paper files, and a more complete patient record.

- Enterprise Content Management (ECM) can help healthcare organizations by automating the collection, distribution and management of their information. ECM can be a critical first step to EHR management which will result in significant cost savings, an increase in productivity and improved patient care.

- Selected ECM technologies that are particularly beneficial for the healthcare sector include the following:
  - Document imaging — to convert paper-based health information into electronic documents. Document imaging is helping to bridge the gap from paper-based to EHR While an EHR is the ultimate vision for healthcare organizations, a growing trend is to use document imaging as a bridge to achieve that vision. Document imaging helps healthcare providers and payers transition from the paper-based retrieval methods of today, to accessing the same information electronically. Document imaging can play a critical role for every healthcare organization as it will enable them to convert their paper legacy to an electronic format.
  - Forms processing — for processing claim forms such as HCFA/CMS-1500 and UB04. Healthcare claim data can be captured automatically and accurately lowering costs and increasing productivity. Other forms processing applications include capturing data from Explanation of Benefits (EOBs) and automatic classification of patient records. Advances in this technology allow organizations to capture data from either structured or unstructured forms. The use of forms processing software for transactional data can reduce cycle time from weeks to literally hours.
• Image Enabling — gives organizations the ability to create a link between line of business (LOB) and clinical applications and the ECM repository. As a result a user can access all health related records directly from the LOB application and unite information that otherwise may be hard to capture for a more complete record. This extends ECM functionality to critical LOB applications.
• Document distribution – can be used to electronically distribute documents eliminating the time and resources to fax or courier documents for referrals and second opinions.
• Business Process Management (BPM) — can be applied to automate business processes by routing electronic documents to appropriate departments or individuals to expedite patient care. Healthcare organizations are using BPM for scheduling, coding, pharmacy and many other business processes.

The Benefits:

There are many benefits to be realized from implementing ECM to address today’s healthcare challenges including:
• Reducing the possibility of misplaced and lost records. Leveraging ECM technology, doctors, administration staff, physicians, etc., are able to file and retrieve digitized copies of documents at the point of origin.
• Faster access, retrieval and distribution of patient information. Due to on-line access to patient information, physicians will be able to provide more accurate diagnosis, prescribe more appropriate treatments that will ultimately lead to higher quality and more successful healthcare.
• With EHR, it is easier to control and track access to ensure the privacy of patient information and to produce more accurate audit trails to demonstrate regulatory compliance.
• Redundant off-site storage protects data and ensures business continuity should there be any type of data storage disaster.

Return on Investment:

In addition to improving the quality of healthcare, moving to an EHR system can help healthcare entities achieve significant cost savings and return on their investment.
• Reduces the costs associated with:
  ➢ Record filing and retrieval,
  ➢ Paper and supply cost, and
  ➢ Staff for records management.
• Reduces physical storage requirements for patient health information.
• Significantly decreases record administration enabling physicians to see more patients.
• Provides more accurate healthcare which reduces the threat of timely and expensive malpractice suits.
• Uses forms software for transaction processing so healthcare organizations are able to recover the payments for services faster and improve their cash flow.
• Manages patient information more efficiently, ensuring its privacy and physical protection, so healthcare facilities reduce the risks of litigation and financial penalties for not meeting regulatory requirements.
Supporting Case Studies:

Pediatric Associates of Richmond

The Need for Advanced Technology to Better Manage Medical Practices and Patient Records

Doctors need all the critical information they can obtain when treating a patient, but too often data is trapped in filing cabinets and disparate systems that can’t be easily accessed when needed the most. Pediatric Associates of Richmond, Inc. (PAR), with thirteen doctors, four nurse practitioners, two office locations and thousands upon thousands of documents, was looking for an Electronic Health Records (EHR) management solution for their pediatric practice that would do just that — help to improve the quality of patient care and safety.

PAR was motivated to adopt a robust EHR platform not only because they believed it would decrease inefficiencies within their practice, but also they knew this type of information technology was already gaining traction in helping to improve care and reduce costs.

“Our document management process was completely manual. Our staff had to copy handwritten patient information, and then store it in each patient’s personal file, as well as manually update the information,” said Matthew Andrako, in-house IT support, Pediatric Associates of Richmond, Inc. “This process was time consuming and created increased labor costs.”

The goal of an EHR system is to provide doctors with all the comprehensive information for each patient at the point of care. Traditionally, PAR stored patient records in a family chart in which staff recorded information by hand. The charts were only loosely organized and there was often time lost getting the chart to the provider. PAR set out to avoid these discrepancies by digitizing all patient information to save time and money related to filing and storing paper records, allowing doctors to share and access patient charts remotely.

PAR Gets Healthy With the Right Team

PAR started its information technology search when its practice management system became obsolete. What started as a practice management upgrade turned into a full EHR implementation. PAR hired a consultant to define the needs for the project and determine the requirements to take PAR from a manual filing system to a sophisticated and capable EHR management program. The selection criteria in choosing the appropriate vendors were cost and workflow capability. Based on these requirements, PAR selected Pulse Systems, Inc. Patient Relationship Management, a comprehensive and powerfully integrated software solution for tracing and managing the processes involved in providing patient clinical services and keeping accurate EHR and efficient billing and collections. PAR went live with the practice management system (PulsePro), enhancing the clerical and billing office administration and providing the new scheduling and billing module. PAR then implemented the Pulse EHR system (Clinical Dashboard), integrating patient flow, workflow and cash flow in a single solution, providing PAR with unprecedented productivity and organizational results.

Providing paper-based chart information to clinical users in an electronic format is crucial so as part of the implementation process, Pulse, also a reseller for Fujitsu Computer Products of America, Inc., introduced document-imaging scanners, the Fujitsu fi-5120C and fi-5650C color duplex scanners, to help convert the existing paper-base file system into the new EHR system. The implementation of these scanners helped to better manage documents and save on
operation costs by scanning paper-based files into electronic format for easy accessibility and electronic filing. The Fujitsu fi-5120C and fi-5650C scanners offered PAR the perfect balance of speed and versatility, scanning in color, grayscale or monochrome at fast duplex speeds.

“Once we learned about the Fujitsu fi-5120C and fi-5650C scanner benefits and viewed the demonstrations, we knew it was the right option,” said Andrako. “Their small footprint, fast scanning speeds and ability to handle a variety of paper types was what sealed the deal for us. Additionally, installation was painless and, thus far, management of the scanners has not been an issue. We have installed ten fi-5120Cs and two fi-5650Cs, even hosting scanning parties with our team to get over 24,000 patient records online. We had college kids home for the summer scanning our chart room and turning our manual system into a digital workflow.”

PAR also wanted a device that would allow them to access patient information and that provided the option of typing notes or using a stylus with digitized forms. The Fujitsu LifeBook® T4215 Series tablet PC fit the bill perfectly, putting patient information at the staff’s fingertips. This technology, along with the flexible Pulse User and Patient Dashboard’s software design, allows PAR doctors and nurse practitioners to use the Fujitsu tablet PC as a conventional notebook with a keyboard and display. Alternatively, they can easily convert the notebook into a slate by swiveling the display 180 degrees and laying it flat on the keyboard. Using a stylus, they can check off digital forms, take notes in their own handwriting or convert their handwriting into typed text. Today, PAR has 38 Fujitsu LifeBook T4215 Series tablet PCs complementing its EHR deployment.

**Pediatrics of Richmond Saves Time and Increases Productivity**

Since the completion of PAR’s EHR solution installment, PAR employees have accelerated their workflow and have added peace of mind knowing that scanned documents are in a secure location. PAR is confident they comply with the Health Insurance Portability and Accountability Act (HIPAA), which requires healthcare providers to protect patient’s health information and physical records. PAR achieved his transition within a 12-month period of time, an accomplishment less than 5 percent of EHR installations achieve.

“After years of manually processing information, we knew there had to be a better way to process critical patient information that would allow us to instantly capture any document in its original form,” said Andrako. “With the Pulse software and Fujitsu scanners and tablet PCs, PAR has experienced a dramatic increase in employee productivity with the reduced time it now takes to manage healthcare documentation.”

“Our practice recently realized a dream by migrating to a fully electronic platform with tablet computers that run an electronic health records system,” said Andrako. “In the process of moving from a paper-based office to paperless one, we have become more conscious of the workflows involved in such a transition. Much more goes into this process than initially meets the eye, PAR made the conscious decision to work with experienced partners, exceptional technology and an internal staff that was dedicated to training.”
Pediatric Associates of Richmond benefit snapshot:

- Improved billing efficiency
- Improved AR
- Improved patient care
- File retrieval time-savings
- On-call doctors are able to access information remotely to respond to phone queries
- Ease of use
- Highly reliable and secure data access
- Adherence to government regulations (HIPAA)

Swedish Medical Center

Since 1910, Swedish Medical Center has been a hallmark for excellence in healthcare. With over 70 clinics and four hospital locations, Swedish is the largest, most comprehensive, nonprofit healthcare provider in the Greater Seattle area. Swedish is not just about facilities, research and new techniques, it’s about people coming together to provide the most compassionate care possible. From nurses and physicians, to social workers and dietitians, the dedicated team at Swedish Medical Center is defining, on a personal level, what excellence really means. In fact, in an independent research study conducted by the National Research Corp., Swedish is consistently named the area’s best hospital, with the finest doctors, nurses and overall care in a variety of specialty areas.

As a direct result of Swedish’s large number of clinics and hospital locations, their staff was constantly doubling their efforts to process and share critical documents that affected the care of their patients. Hospital administrators were limited to the use of unreliable fax and copying devices that required them to turn their backs on patients while copying and faxing their plastic insurance cards and sensitive health records. They were continually dealing with paper jams and send-error messages, when they could have been assisting with patient care and customer service.

In 2005, upon the opening of Swedish/Issaquah, a brand new medical clinic offering 24/7 emergency services and comprehensive specialty care, Swedish Medical Center embarked on a fresh and innovative journey that changed the way they managed workflow. Swedish was in search of a more efficient system for managing the flow of their documents to boost productivity within their hospitals and clinics. Given that the quality of patient care is often linked with operational efficiency and staff workflow, Swedish opened their doors to the idea of Electronic Records Management (ERM).

Paper Burdens Patient Care: Seeking a Resolution

Swedish Medical Center’s advantage as a multi-specialty healthcare provider made them unique within the industry because they were able to expose patients to diverse care by coordinating efforts across multiple offices, practices and hospitals. However, communicating between the various locations proved to be a burden when it came to records efficiency. Patient information that was archived in different departments was difficult to access and distribute. Swedish’s first objective was to employ an
enterprise level Electronic Medical Record (EMR) system which would require a reliable, cost effective, and intuitive, document imaging device that would replace the copy and fax machines in the office and move these stored records into a central repository for quick and easy access.

Due to the shapes, sizes and textures of documents that needed to be copied, faxed, and stored, such as insurance cards, 8 ½ x 11 papers, etc., Swedish required a robust scanner that encompassed an impressive resume of abilities including double-sided scanning, the capacity to scan a variety of documents at once in black & white and color, and unprecedented speed. Also, the information on each document was critical to patient care. The images on each scan needed to be as clear as possible and with the accumulation of dirt, lint, gum, paper, etc., on insurance cards, it was necessary to utilize a machine that was capable of cleaning the image to the best quality and capture minute details.

Dependability was also a key factor in the selection process. For over a year, Swedish had been using a Fujitsu document scanner at the Issaquah site without any service calls. Considering that criteria, Swedish employed the use of the Fujitsu fi-5120C Color Duplex Workgroup Scanner, which had capabilities that surpassed scanning devices from other considered manufacturers. Not only was the Fujitsu fi-5120C scanner equipped to perform all of the necessary functions that Swedish required to capture their documents, but it was extremely easy to use and deploy, had zero service issues, and its physical real estate was no more than a small footprint, freeing up space in each office location.

Additional scanners were also implemented including the Fujitsu fi-5750C color duplex document scanner and the fi-6130 sheet-fed scanner (the next generation version of the fi-5120C). The Fujitsu fi-5750C features an automatic document feeder (ADF) that swivels to accommodate different users and installations and scans up to 57 ppm/114 ipm in color and monochrome. The Fujitsu fi-6130 sheet-fed scanner is a sophisticated model optimized for superior scanner performance with a reliable advanced paper handling technology for preventing paper jams and feed errors.

"We knew we had to start with the root of the problem, in order to design a seamless user interface that would have the smallest impact on our users, while providing the best results," said Cathy Johnson, who implemented the imaging system at Swedish Medical Center. "The foundation of patient care begins with the administrative staff. If they’re not supplied with the proper tools to do their jobs quickly and effectively, the entire office is affected — doctors can’t do their jobs without consent forms or HIPAA records, lab technicians can’t file their test results. In making sure that our team has the highest quality tools to communicate their health records management needs, our patients receive the best care possible."

"We already had Kofax software installed in our systems at the Issaquah location which was supported by our integrator, ImageSource," said Johnson. "We looked to ImageSource for help as we learned how to best deploy a total solution using Epic Systems® 2009 and the Fujitsu scanners. They partnered with us in the imaging integration that supports our electronic medical record needs 24/7."
ImageSource, a provider of Enterprise Content Management solutions, provided Swedish with expert counsel on maximizing their utilization of Kofax, an image enhancement software, packaged with the Fujitsu scanners that gave Swedish staff the option of scanning directly to PDF, file, print or batch, and integrate with the Epic Systems ERM. Furthermore, the initial utilization of the Fujitsu scanners at Swedish/Issaquah clinic proved so successful that the Fujitsu scanning devices were implemented in all of Swedish Medical Center’s increasing the number of clinics and hospitals in conjunction with Kofax and Epic Systems deployments.

The Results Are In
Since the deployment of the first Fujitsu scanner, Swedish Medical Center has implemented over 240 Fujitsu document scanners into their various locations and has digitized over four million pages of documentation, eliminating the need for photo copying and faxing. In addition, Swedish’s transition to the full EMR system where it hosts all of its mission critical information, has equipped staff within the various clinics with the resources to decrease the time that it took to manage and retrieve health records and claims, and increase workflow, patient uptime, safety and satisfaction.

With the EMR system in place, the health records and insurance and billing claims are digitized and ready for instant retrieval within the various facilities and not easily misplaced or destroyed. Moreover, personnel spend less time searching for paper charts and gained the ability to access medical records from many locations. Swedish Medical Center has also freed up time to channel their efforts on creating a greener workplace. They are working on transitioning their clinics and hospitals to an environment with entirely paperless patient charts, within the next five years.

“With the EMR system in place, we at Swedish no longer have to deal with the inefficiency of massive amounts of paper documentation,” said Johnson. “Now when a patient comes in, we just capture the documents, verify the quality of the scanned images, and upload them directly into the patient’s EMR — making them secure and instantly available throughout the system, freeing up more time for face-to-face interaction and care. It’s a really huge win for customer service, staff time, and — of course — paper reduction.”

Other Resources of Information:

The following web sites have been beneficial in the research of this report and may prove beneficial for further research on this subject:

- The Association of Information and Image Management: www.aiim.org
- The Association of Records Management Professionals: www.arma.org
- HIMSS

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