4/29/02

Imaging, Clinical Systems and Work Flow: All Roads Lead to the CPR

Leslie Ann Fox, MA, RHIA and Patty Thierry, MBA, RHIA, CCS

Thank you to Advance Magazine for permission to use this article

Leslie: As the health care industry yearns for a reduction of administrative costs, and health information management (HIM) professionals advocate the efficiencies of a paperless environment for pa-tient records, it has been fascinating to watch the resurgence of interest in enterprise-wide imaging systems. For organizations that want a document management solution, imaging is a key component. Lately, I have noticed in some organizations, imaging is implemented first in the business office and then migrates over to the HIM department. Is this good news for HIM departments?

Patty: Business office workflow is very different than workflow in the HIM department, so one can't simply extend the business office functionality to HIM overnight. While the scanning, routing and storage architecture exists; it needs to be customized to support the multitude of medical record forms and indexing requirements as well as support medical record workflow. Workflow includes automating analysis of missing documents, routing records to authorized users and providing them with viewing terminals (such as clinics, researchers, emergency department), completing records online via electronic signature and designing work queues to support functions such as coding, registry reporting, case management, record completion, release of information, etc.

Leslie: So it is good news that imaging is becoming more available to HIM, to assist in moving toward automation, but HIM workflow functionality is the key component to achieving outcomes that improve the efficiency of managing medical records and delivering HIM services.

Patty: That's right Leslie. We also have to keep in mind that preparing forms for an imaging solution is a large undertaking. It is very time consuming and requires that each form meet a standard that achieves maximum scanning throughput and automates indexing. Ideally, forms will have a barcode for the document type as well as a barcode containing demographic information (name, MR number, billing number, encounter date). Form colors affect scanning throughput, storage and often readability.

Leslie: From our experience, implementing an imaging solution can take as much as nine months if you redesign forms and build workflow to support the processing of incomplete and complete records. The implementation timeline can be reduced if a decision is made to use imaging for archival purposes only. For archival only, the record can be scanned once it is deemed "completed." The timing of scanning must be a well thought-out decision. If electronic signature capability is not available, enough lessons have been learned from our peers to suggest scanning be done once the record is complete.

Patty: We must keep in mind that an imaging system, while serving a significant role in facilitating simultaneous access to records and automating HIM functions, is just one component of a computer-based patient records (CPR). To keep us grounded in our understanding of a CPR, it's important that we revisit the Institute of Medicine's (IOM) CPR Study Report completed in 1991 and then revised in 1997. The IOM CPR

study defined the CPR and serves as a means to evaluate and compare functionality among vendors selling CPR systems.

Leslie: In the IOM CPR study report, "The Computer-based Patient Record: An Essential Technology for Health Care," the IOM defines the CPR as "an electronic patient record that resides in a system designed to support users through availability of complete and accurate data, practitioner reminders and alerts, clinical decision support systems, links to bodies of medical knowledge and other aids." The IOM study also defined that integrating or interfacing with a document imaging system is a critical attribute of a CPR.

Leslie: In the April 2002 ADVANCE for Health Information Executives issues, the article "A New Dawn for the CPR" provides a review of leading CPR systems using the IOM gold standards as a benchmark. From this report, at a glance, one can better understand the components of a CPR and can identify the capabilities stated by a vendor. For example, looking at the imaging vendors on the list, it is clear that they cannot support clinical physician order entry (CPOE) but can support simultaneous access to patient data.

Patty: Interest is high today in implementing clinical systems. Driving this is an industry movement to reduce medical errors and deploy technology to improve the delivery of health care. As you recall, clinical systems typically include multidisciplinary documentation, results reporting, rules based clinical decision support and CPOE. This new focus on clinical systems may affect the strategy to implement imaging as a standalone system. Some of the leading vendors realize that they will need to incorporate imaging into their clinical solutions to help their customers achieve a CPR.

Leslie: So as we go down the road to the CPR, some hospitals are approaching it from the perspective of document imaging systems, and some are approaching it from the clinical systems perspectives, but at the end of the day, both types of systems will converge to create the complete CPR.

Patty: Yes, that is how I see it. Further, to achieve optimal benefits for both clinical management of care and HIM functions, HIM professionals must have a clearly defined role in selecting and implementing the components of what will eventually become their organization's CPR. When a clinical system becomes the foundation for a CPR, other applications such as document imaging, diagnostic imaging and ancillary data integrate or interface with the clinical system. HIM professionals play a different leadership role in this scenario and implementing an imaging component is completely different than implementing an enterprise imaging solution.

In an enterprise-wide imaging solution, the imaging system is the foundation for the CPR. Data from disparate systems are fed into the imaging system and are stored along with scanned documents. HIM professionals re-engineer workflow and develop rules-based work queues, simultaneous routing and new processes to support the implementation of imaging. HIM professionals typically drive the implementation of an imaging system and its affects are most profound on the department and to users who can now access patient data remotely (i.e., do not have to come to the medical record department.)
In both scenarios, a legal record is created. But, when clinical systems become the foundation, we get closer to achieving the CPR as defined by the IOM.

Leslie: If a clinical system is being considered within an organization that is implementing or has implemented an imaging solution, HIM professionals will need to work with their imaging vendor to ensure that they can integrate their system with future clinical systems. If a clinical system exists or a plan is being developed to acquire clinical systems, HIM professionals will need to champion the addition of an imaging component.

Patty: Yes, it is important for HIM professionals to understand their organization's strategy toward the

implementation of a CPR and to have the knowledge regarding what a CPR is and is not. And they must realize that each strategy requires a different way to think about workflow requirements.

Leslie: And we are not just talking about HIM workflow. To date, one of the obstacles in implementing a CPR has been physician acceptance. CPRs have not been designed to match a physician's workflow. In the past, clinical systems required physicians to change their workflow patterns and adapt to technology. This is beginning to change as leading CPR vendors realize the im- portance of clinical workflow management. How each system handles physician input will be a major deciding factor in selecting a vendor.

Patty: It's going to get exciting! For some, the CPR may be a reality in the next decade. For many, several components of the CPR will be implemented. Throughout this transition, the creativity and innovation skills of HIM professionals will be challenged to transform traditional HIM practices as the CPR evolves.

Leslie Ann Fox is president and chief executive officer and Patty Thierry is vice president and chief information officer of Care Communications Inc., a Chicago-based HIM services company. They invite their readers to send their thoughts and opinions to lfox@care-communications.com, or pthierry@care-communications.com.