Moving Forward with Document Imaging and Never Looking Back to Paper

by Mark Hagland

Many healthcare facilities are exploring document imaging solutions and enjoying the benefits of increased accessibility and faster workflows. The transition requires significant planning, however. In this article, learn how several healthcare organizations implemented document imaging systems and how their facilities have changed as a result.

Sean Donohoe, RHIA, knows well the challenges and advantages of implementing a document imaging system in the HIM department of a hospital system. He and his colleagues developed such a system in 1998 for Memorial Health Care System, both at flagship Memorial Hospital in Chattanooga and at smaller sister hospital Memorial North Park Hospital in nearby Hixson. Donohoe, the director of health information services/coding and reimbursement at Memorial, concedes that, "Of course, there are some rough bumps when you get it going," but he quickly adds that he and his colleagues can't imagine going back to the old way of doing things, either.

"It completely changes the functionality of the department when you go to a totally image-based record," Donohoe says. "Two to three days post-discharge, we have no more paper, because the record has been scanned into the system. No longer are you shuffling papers."

With 63 individuals (42 FTEs) on two campuses including himself, Donohoe reports that having a document imaging system marks a fundamental change from previous practice. The system requires three preppers/scanners, four quality control professionals, and three analysts whose work produces an imaged record at the point of discharge. In the inpatient hospital, all records are now electronic at the point of discharge (except progress notes, nurses' notes, and physician orders) and interfaced with the hospital's clinical information system, which makes the patient record available appropriately throughout the hospital and in many physicians' offices.

The goal of moving to a document imaging system, Donohoe says, "was basically proficiency and access to the record. I can have 10 people access the record at both campuses. Those things are absolutely huge; and then, just getting away from the actual paper." In fact, with the document imaging system in place, he notes, he and his colleagues at Memorial have stopped short of investing in a complete electronic health record (EHR) system. "I'm not sure what benefit it would give me compared to what I have," Donohoe says. "Physicians have access to the record online two to three days post-discharge--that's pretty darn fast. We have efficiencies and the ability to complete the record in the system," he says.

Variations on a Common Theme

Across the country, many hospitals and health systems are having very similar experiences. HIM directors and information systems managers are implementing document imaging systems of different kinds, as they consider their options and either move concurrently toward a full EHR or stop short of a comprehensive EHR system.

For example:

- Northwestern Memorial Hospital in Chicago is in the process of implementing a comprehensive inpatient EHR. The HIM department began scanning emergency department records into the system in 2000 and outsourcing their management (though the scanning is expected to be brought in-house at some point this fall). But through a series of rollouts, the hospital's managers plan to turn every aspect of their patient records system electronic, concluding with physician order entry in 2004. For Northwestern, record scanning is a transitional EHR strategy.

- At Elmhurst Memorial Hospital in Elmhurst, IL, a similar document imaging system was implemented in 1998 and linked to the hospital's EHR, which encompasses nurse charting. The system, executives say, has enhanced productivity in many areas, though it hasn't led to any decrease in HIM or IS staff.

Have there been challenges in the implementation and management of document imaging systems? Inevitably yes, say HIM professionals. For one thing, it can take months of preparation.

"With the last system I worked with at a major teaching hospital," recalls Kertis Tomlins, RHIA, a senior manager for Boston-based First Consulting Group, "one of the biggest challenges was simply getting our arms around all the different reports and documents flowing around the hospital. Especially in an academic medical center, you can have literally hundreds of documents and if you're not diligent enough with forms control or forms management, you can run into some difficulties." Tracking and consolidating forms became a nearly four-month effort, resulting in winnowing down about 140 forms and documents to 77, notes Tomlins. In many cases, it was a matter of concerted committee work to consolidate duplicative forms and documents. That forms preparation process, he emphasizes, can take several months.

Benefits Emerge Immediately

Such challenges are a part of the process, say those HIM managers who have implemented document imaging solutions, and the obstacles and challenges all tend to be minor and temporary, they insist. And they all quickly add that the benefits almost immediately outweigh any implemental challenges. Among the benefits cited by those involved in document imaging implementations are:

- multiple-user access to the patient record in an electronic setting
- faster workflow and document flow within the HIM department and across the hospital organization
- faster coding, indexing, and related processes, eliminating the delays involved in processing and transmitting paper documents and records
- freeing up large amounts of often urgently needed space for other uses in the hospital
- a more efficient use of staff. In most cases, the same staff members who used to handle paper records become scanners, preppers, and analysts, but staff members are now facilitating electronic transmission, storage, and maintenance of patient records, rather than paper
- if a full EHR is being contemplated or planned, the reengineering of roles that comes about in moving into document imaging also helps prepare the HIM department for changes in roles brought about by the shift to the EHR

At some organizations, long-term strategy is definitely at the forefront of the shift to document imaging. "We started scanning our emergency room records back in January 2000, because we thought it would be of great benefit to the emergency room to have access to those records electronically, since there's a patient population that continually returns to the emergency room. Theirs tend to be very active records," reports Julie Bryant, RHIA, Northwestern Memorial's interim director of medical records. This was done, she notes, with full awareness of the organization's inpatient EHR implementation, stages of which are now in place as well--laboratory, radiology, and cardiology records are now fully electronic at Northwestern.

In the next two years, Bryant says, "We have a very aggressive timeline in which we'll bring all nursing documentation online, then pharmacy and surgery, followed by computerized physician order entry in the spring of 2004." Scanning is a part of that overall electronic strategy, she says.

In fact, scanning fits well into the phased elimination of any paper that is available in a final electronic format at the hospital. "As nursing documentation, orders, and pharmacy come online, we will not be retaining any of the paper associated with that documentation," Bryant continues. "So in the end, what we envision happening is all the up-front documentation will be done electronically at the point of care, and any other administrative paperwork, such as consent forms, copies of insurance cards and driver's licenses--those will be scanned to complete the electronic medical record." In other words, it's all a part of paperlessness--and, in her view, document imaging was a logical first step in that direction.

Fortunately, Bryant reports, "The ER scanning process has been pretty clean and pretty seamless for us. The few things we need to ensure as we bring this process in-house is that we're scanning on a daily basis, so the records are immediately available. We haven't invested a lot of energy in bar-coding forms or indexing forms from that perspective."

Is the EHR the Next Step?

But even in those organizations moving less aggressively toward a comprehensive inpatient EHR, many benefits are accruing. For Judy Ferraro, RHIA, director of medical records at Elmhurst Memorial, the benefits are obvious. "Instant retrieval," she says immediately. "The record is always available for the caregiver. We have a couple of different locations, so [with the imaging system] we don't have to worry about transporting records." In addition, she says, the department simply operates far more efficiently when more than one person can access the patient record at a time.

One expectation has not come to pass, Ferraro concedes. "I had hoped to decrease staff, but wasn't able to," she reports. "We found we had gained productivity in some areas, but coding probably takes a little longer," primarily because of the different nature of working with electronic records. For example, coders can't "flip back and forth through the paper record," Ferraro notes.

Those kinds of experiences, FCG's Tomlins says, only underscore his view shared by many industry experts that ultimately, only moving toward a full EHR will reap the full benefits of electronic documentation. He says it's typical of hospital HIM departments' experiences that staffing needs actually increase in the first year or two of a document imaging system implementation, because of the overlapping tasks taking place, that is, imaging documents while still working in a partly paper-based environment.

Additionally, Tomlins says, it's important to remember that some human resources will need to be used for quality control purposes. "You have to make sure these scans are readable, and you have to continually do an audit in that area especially if you're destroying paper records. You don't want a bunch of black pages," he notes. "Some of the robust imaging systems actually have capabilities to tell you if things are readable."

Further, Tomlins disagrees with many hospital organizations' plans to implement document imaging systems in place of full-fledged EHR systems. "I think it's a bit short-sighted to say that we're going to maintain paper-based, handwritten or typed records, and simply scan them in to create our EMR," he says. "When you scan an image in, it's really just like a photocopy of a record; you really can't do anything with it but index and store it."

The long-term benefits for clinicians and everyone else in hospital organizations will come through the ability to analyze patient records for clinical care improvement and care management uses, and the advantages and efficiencies gained from direct clinician order entry.

At the same time, Tomlins concedes, it's going to be a long time before even a significant percentage of US hospitals are truly paperless. In fact, he predicts that 10 years from now, only 15 percent of hospitals nationwide will be absolutely paperless, though he sees between 60-70 percent of hospitals having made significant strides toward paperlessness by then.

No One Right Answer

When it comes to the details of how all these processes should work and who should do what, there's no general consensus. Indeed, every organization is going its own way on a host of practical issues. For example, when it comes to indexing, there are a variety of possible approaches. At Memorial in Chattanooga, Donohoe says, "We basically decided to index off everything you could think of, since you want to be able to find a record as quickly as possible." As a result, he says, it's possible to pull an indexed patient record by patient name, Social Security, or medical record number. "It works like an MPI [master patient index], basically," he explains.

The process is different at Elmhurst Memorial, Ferraro reports. Non-electronic documents that are scanned are indexed by patient account number and then document type, while those that come in from an outside electronic system are sent automatically through the system without being indexed.

Meanwhile, at Northwestern, the plan is to incorporate bar codes on inpatient forms and to use the bar-coding system as a form of automatic indexing. Until then, Bryant says, the need for indexing is minimal, because at the moment only emergency department records are being scanned.

As for handling the inevitable backlogs, Ferraro says hiring additional weekend staff is crucial. "Otherwise," she says, "you're walking in every Monday with a Friday/Saturday/ Sunday backlog." Also, she says, it's important to cross-train staff on the

prepping, scanning, and indexing roles. Donohoe agrees that overtime staffing will be necessary, especially at the outset of any implementation.

Memorial in Chattanooga has made the indexer position "definitely a designated job," Donohoe reports, in contrast to Elmhurst's cross-training approach. "We have basically three full-time staff members who are designated to scan," he says. The key to filling the indexer position, he adds, is finding a detailed-oriented person who can perform well in a highly repetitious job. At Memorial, he says, the indexers have all come from former file clerk positions from the paper-based days.

Don't Skimp on Planning

What should those HIM managers considering document imaging solutions do as they explore their options? FCG's Tomlins offers what he considers two extremely important pieces of advice: first, get your hospital organization's information systems managers involved very early and intensively in the process; and second, conduct a very thorough vendor selection process. "Look under the covers and get references," he urges. He and the HIM directors interviewed for this article all also agree that it's important to do site visits to hospitals of comparable size and similar type (academic, community, etc.), and to do a very thorough request for proposal (RFP) process. If the organization is interested in storing faxed images, can a prospective vendor store those faxed images directly in its optical imaging system? Can the system store "cold data"--i.e., computer output to laser disk? Such advantages will become very clear if the organization would like to electronically create face sheets, for example, he notes.

All those interviewed also agree that training and education are important, first of the HIM staff, and then, beyond. "The education and buy-in of the physicians is very important; they're the ones who will benefit the most, that's for sure," notes Memorial's Donohoe. Tomlins also notes that some of the formerly paper-based file clerks and other staffers may not be able to make the transition to working in the new system.

In the end, "commitment to this going forward, instead of back-scanning all the data, is crucial," Donohoe affirms. "You set a date, say you're going to scan beginning on that date, and then at some point say, there is no more paper record, and everyone will have to become comfortable with that. That's a very crucial step," he says, "because you don't want people hanging onto the past."

Advice from the Experts

HIM executives and industry experts agree that those considering implementing a document imaging system (also known as ‘optical imaging') should make sure to do the following:

- Involve the hospital organization's information systems managers in the process from the outset, and intensively
- Perform site visits of like hospitals that have implemented document imaging solutions, and find out what the process has been like for them and what has worked and hasn't
- Conduct a very thorough request-for-proposal (RFP) process with vendors, and find out in depth their systems' specific advantages and their support capabilities
- Understand in detail the technical aspects of the technology to be purchased
- Plan thoroughly, strategically, and far enough in advance for the significant human resources and management changes involved
- Get buy-in from the physicians and other clinicians who will use and benefit from the system
- If the document imaging implementation is part of a broader plan to transition to a paperless EHR, make sure to coordinate that overall planning very thoroughly and strategically

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