

Imaging System Propels HIM Department to EHR

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by Londa Bechert, RHIA

St. Vincent Hospital and Health Services in Indianapolis, IN, is a member of the Ascension Health network, a nationwide Catholic health ministry. The HIM department has centralized responsibility for the main campus (650 beds) in Indianapolis, the St. Vincent Carmel Hospital (65 beds), and multiple outpatient sites around the metropolitan area. The HIM department processes approximately 35,000 inpatient discharges and half a million outpatient visits annually.

St. Vincent chose document imaging as an interim solution on the road from paper to electronic health records. The document imaging solution not only provides electronic storage and retrieval of records, but also provides rule-based workflow that automates the record processing flow within HIM.

Who Feeds the Record?

One of the first steps in the conversion to document imaging was examining the systems that feed the medical record. Our feeder systems included both electronic systems and paper documents. The paper documents (chart forms) were revised to match the format we defined for all documents that were to be scanned into the imaging system. For example, bar codes were added to each form to identify it (for auto-indexing), standards for margins were implemented, and unnecessary shading, boxing, and outlining were eliminated.

The electronic feeder systems (transcription, lab, radiology, and the electronic nursing notes) were tested to ensure that the resulting image was spaced appropriately for easy reading. This can be a problem when only the content (narrative) is interfaced, because it may not look like the hard copy version. Further, the interface for the electronic feeder systems must have a quality assurance/reconciliation feature to ensure that the volume of documents sent matches the documents received. Finally, the electronic feeder systems require a check to ensure that documents are matched to the correct episode of care in the event that a patient changes status (i.e., from outpatient to inpatient). When a match cannot be made, it should go to a queue for manual intervention.

It is important to evaluate each feeder system's ability to interface before purchasing component systems. While there is almost always a way to accomplish the interface, building work-arounds and designing new solutions can be much more expensive than budgeted.

The HIM Department, Transformed

One of the most significant changes during the implementation of the document imaging system was in job title: medical record clerks became health information technicians. The position qualifications were revised to include PC experience, Windows knowledge, and a keyboarding speed of 25 words/minute. Health information technicians and our coder abstractors needed to know how to take advantage of viewing and accessing multiple systems for ultimate efficiency. They need to display the encoder, abstract, and medical record documents simultaneously.

In the meantime, serial processing became simultaneous processing. For example, rather than performing coding following chart analysis, the automated workflow routes charts to functions simultaneously when established "trigger" documents are present. This, along with the elimination of physically moving records from one desk to another, improved our efficiency.

Work management is addressed by system status reports (or work queues) rather than by visually assessing volume of discharges by day stacked on a desk. Likewise, manual productivity reports were replaced with automated reports. Productivity standards were revised to take into consideration the efficiencies offered through automation.

Document capture through the imaging system replaced assembly and filing functions. Capture incorporates the preparation, scanning, and indexing functions necessary to store and retrieve documents in the imaging system.

As we gained expertise and developed efficiencies with the imaging systems, staffing schedules and ratios for the various functions were revised multiple times. To ensure system stability and a smooth workflow with a document imaging solution, it is critical that scanning, indexing, and all other functions that form work queues maintain a balance.

Through the imaging process, economies of scale and centralization were achieved. By managing and processing records from one imaging system at our main facility, we were able to reduce the staff from five FTEs to one in the HIM department at St. Vincent Carmel Hospital. The records are meshed in the workflow for the main facility. The same HIM staff performs the record processing functions, including coding, for both facilities.

Release of information (ROI) turnaround time has greatly improved with use of a fax server. All records after June 1994 are available at the touch of a button. Prior records are on microfilm. With only two storage media to access, the ROI staff stays very current with requests and never has to deal with "missing" records from the imaging system.

Physically, the department has changed. Space was allocated for scanners and printers. Mobile shelving was eliminated except for what was needed to hold the microfilm cabinets, and there are no file folders or outguides. Instead, we stock more toner and paper to accommodate printing. Printing of a record is restricted to only HIM staff in our central location for confidentiality purposes.

Staff Concerns Addressed

The conversion to document imaging raised a few concerns among some HIM staff. Department members expressed concerns about:

- being replaced by technology
- causing a "system" problem/crash
- whether they would enjoy a work environment with closely monitored productivity standards
- whether they would enjoy the sedentary, less social nature of computer work

In reality, no staff was terminated as a result of the technology. We needed all the staff to make the conversion and reach an efficient operating level. As efficiencies were gained, we chose not to fill vacancies as they occurred. Employees who did not fit the health information technician profile transferred to different positions. Further, no one caused a computer breakdown or network crash. Today, the HIM staff are very confident with the system and trust their skills. And all who weathered the conversion agree that the electronic storage, retrieval, and workflow are superior to chasing paper.

Medical Staff Enjoys Instant Access

The instant access to historical medical records has exceeded the expectations of clinicians, particularly in the two emergency departments. This has greatly reduced stress on the HIM staff, who, prior to the imaging system, spent hours searching for past visit episodes for immediate patient care.

The simultaneous and remote access is welcomed by the 1,500 members of the medical staff when they are performing record completion. The physician record completion area within HIM was reduced by two thirds, because now most physicians complete records from networked PCs, which are located in physician lounges, nursing units, suites, and several labs.

Organization Reaps Benefits

The transition to an imaging solution has yielded several benefits. They include:

- **an improved relationship with the IS department:** the HIM department and IS department now share training responsibilities, system administration functions, testing functions, and make joint decisions on deployment strategies
- **a greater focus on information security:** as the imaging solution was installed, access levels were defined and auditing processes were initiated

- **a faster and easier record review process:** record review for performance improvement monitoring or for customer service issues can be accomplished on the unit or from the involved department on any networked computer without submission of requests to HIM staff to pull records
- **compatibility across information systems:** with the imaging system designated as the legal medical record, all clinical documentation systems selected for installation (such as the nursing documentation and order entry system) must be compatible and able to interface

Our conversion to document imaging has been a great success. The benefits enjoyed by HIM staff, clinicians, and the organization as a whole have far outweighed any implementation challenges. It has certainly opened our eyes to the greater benefits that are to come with a total EHR.

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Article citation:

Bechert, Londa. "Imaging System Propels HIM Department to EHR." *Journal of AHIMA* 73, no.8 (2002): 45-47.

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