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# Document Imaging Streamlines Hospital Billing

## A document imaging system helped Cooley Dickinson Hospital eliminate its insurance billing backlog and improve its cash flow.

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Hospitals have a reputation for being stingy when it comes to making IT purchases. According to Forrester Research, hospitals historically spend an average of only 2% to 3% of their annual revenue on IT purchases each year, while other sectors, such as financial services, spend an average of 5% to 7%. However, recent guidelines imposed by the Health Insurance Portability and Accountability Act (HIPAA) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), combined with a federal initiative to create electronic health records (EHRs) for every American by 2012, are changing this trend. These government initiatives are forcing hospitals to look more closely at technology as a way to comply with regulations, streamline processes, improve customer service, and gain competitive advantage. Technology demands among hospitals are resulting in a spike in IT spending in this sector. Over the past two years, hospitals have spent 5.5% of their revenues on IT, and this percentage is expected to continually increase through 2007.

Document imaging and management systems are among the IT purchases currently being made by hospitals. With a significant portion of hospital revenue being dedicated to these systems, it is imperative that a hospital implements the solution in such a way that allows it to achieve the quickest possible return on investment. Cooley Dickinson Hospital provides a solid example of how to successfully deploy a document imaging system in a hospital environment.

## Installation Profile

**Technology User:** Cooley Dickinson Hospital is a 125-bed, nonprofit hospital serving the residents of Massachusetts' Upper Pioneer Valley region. The hospital is a member of the Dartmouth-Hitchcock Alliance, a group of New England-based hospitals, mental health facilities, and home-health agencies. It offers healthcare services ranging from minimally invasive surgery and high-tech cancer care to medical imaging services and 24/7 emergency care.

**Problem:** The coding of lab reports for insurance billing purposes was a time-consuming process for Cooley Dickinson Hospital that involved a great deal of paper handling and manual data entry. The time it took to properly code these reports created a backlog of nearly 2,000 uncoded reports. This held up the insurance billing process and kept large quantities of cash locked in accounts-receivable status for 60 days or more.

**Solution:** Cooley Dickinson Hospital implemented a document imaging solution consisting of ProMed and ProCapture imaging software applications, developed by systems integrator BizTech Solutions, Inc., and Fujitsu *fi*-4750C and *fi*-4120C2 document scanners. The initial imaging system was installed in Cooley Dickinson's HIM (health information management) department to image lab orders and automate the coding process. A complementary system was installed a year later in the patient registration area of the hospital's emergency room. Using these systems, Cooley Dickinson was able to eliminate its coding backlog and improve its cash flow by reducing the number of days claims were held in accounts-receivable status.

**USE DOCUMENT IMAGING TO TACKLE BILLING ISSUES FIRST**

Obviously, document imaging and electronic document management systems are being considered by hospitals as ways to eliminate paper files, improve access and availability of medical records, and ensure compliance with industry regulations. However, these benefits are probably only a secondary motivation for most hospitals to implement document imaging solutions. For example, Cooley Dickinson Hospital's most pressing document management need was to streamline the coding process of lab orders for insurance billing purposes.

Employees in Cooley Dickinson's HIM (health information management) department spent hours filing source documents (e.g. lab orders, physician referrals, patient insurance cards) needed to properly code medical claims to send to insurance companies. Coders needed to leave their workstations to acquire the documents they needed, and documents in transit were unavailable and difficult to locate. Priority work was also buried in the cumbersome filing system that organized documents by date. Coders also had to manually enter an 8-digit patient account number into the hospital's Quadramed Affinity HIS (health information system) in order to access the account being coded. This process was time-consuming and subject to data input errors.

"The time it took to properly code reports soon resulted in a backlog of approximately 2,000 claims," says Lea Bruch, RHIA (registered health information administrator) and director of health information management for Cooley Dickinson Hospital. "If you can't code these claims quickly enough and bill the insurance companies, then you're not getting cash in the door. This backlog of 2,000 claims was basically money that was stuck in accounts-receivable status for a period of 60 days or more."

Cooley Dickinson's HIM department determined that document imaging technologies could help streamline its coding process, and the hospital began working with systems integrator BizTech Solutions, Inc. (www.forbiztech.com) in 2004 to implement a solution. The solution developed for Cooley Dickinson's HIM department consists of ProMed, a document imaging software application developed by BizTech, and a Fujitsu fi-4750C scanner. Using this new system, coders in the HIM department now scan lab orders as they are received. Each order contains a bar code that includes the patient name, account number, and medical records number. The ProMed application displays lab order images in a processing queue that coders can access. ProMed is integrated with Cooley Dickinson's Quadramed Affinity HIS and displays both the lab order image and the actual record within the HIS to be coded. A data capture feature embedded in ProMed, called ProCapture, then extracts the account number from the image of the lab order and automatically pulls up the corresponding record in the HIS system for coding. This process eliminates repetitive manual data entry and drastically reduces paper handling.

"The document imaging system has reduced the paper handling requirements for coders by nearly 90%, contributing to a 50% to 60% reduction in the time it takes to complete the entire coding process," says Bruch. "This increase in productivity allowed us to eliminate our coding backlog without hiring additional personnel. Document imaging has helped improve our cash flow by enabling us to expedite billing, get money in the door faster, and reduce the number of days claims sit in accounts receivable."

Cooley Dickinson's departmental deployment of a document imaging system is a good strategy for hospitals to follow. Most hospitals have strict budgetary limitations and cannot afford to implement a document imaging system as an enterprise-wide infrastructure. Furthermore, most hospitals don't have sufficient internal IT resources to effectively manage and support an enterprise-wide implementation. A hospital should identify a single paper-intensive process that has the biggest impact on the financial dealings of the institution and install a small document imaging system to streamline that process first. This departmental approach will allow the hospital to achieve a rapid return on its investment in technology and provide cost justification to expand the solution into other areas of the hospital.

**BRING IMAGING TO PATIENT REGISTRATION TO IMPROVE EFFICIENCIES**

After the success it experienced with document imaging in its HIM department, Cooley Dickinson identified additional workflow and billing efficiencies that could be gained by installing document imaging technologies in patient registration areas. “Employees in the patient access department constantly had to walk back and forth to a copy machine to make copies of patients’ ID cards, insurance cards, and physician referral forms,” says Janet Korytoski, patient access manager for Cooley Dickinson Hospital. “These paper copies were then sent to the patient billing department to be filed and saved in case they needed to be referenced. Once these documents were filed, there was no way for hospital staff to know if a copy existed or how to locate it if needed.”

In 2005, Cooley Dickinson’s patient access staff worked with BizTech to install an imaging solution in the ER that consisted of BizTech’s ProCapture imaging software and several Fujitsu fi-4120C2 desktop scanners. The solution enables hospital employees to immediately scan insurance cards, ID cards, and other documents at the time a patient is registered in the ER. This eliminated the time and cost of copying, filing, and retrieval of these documents and improved the accessibility of this data so that billing staff can respond to patient requests in a more timely fashion.

The patient registration system links these document images to the patient’s health record stored in the hospital’s Quadramed Affinity HIS. The system also identifies each scanned document type (e.g. ID card, insurance card, referral) and labels the image accordingly. This feature ensures hospital employees can quickly identify and locate the precise document image they require.

**FINE-TUNING EXISTING IMAGING PROCESSES BEFORE EXPANDING THE SOLUTION**

Cooley Dickinson Hospital has been pleased with the added efficiencies imaging has brought to the patient registration area in its ER and hopes to expand this solution into its radiology and outpatient registration areas in the near future. However, the hospital feels its ER processes need to be perfected before moving on.

“If we had it to do over again, we wouldn’t have initiated our patient registration solution in the ER,” says Korytoski. “There are a lot of part-time employees in the ER and the department is operational 24 hours a day. There are constantly patients coming in, and this made it difficult for us to spend the time necessary with the users to ensure they had mastered the system before putting it in use. Everybody that currently registers patients is trained on the system and comfortable using it, but they don’t know how to handle certain error messages that sometimes arise, which leads them to temporarily discontinue using the system.”

Examples of the errors Korytoski is referring to include instances when the system is unable to contact the scanner or when the scanner can’t read an ID card. Oftentimes, the solutions to these problems are as simple as ensuring the USB cord is still connected to the scanner and the computer terminal or ensuring the ID card is pushed into the scanner far enough. Cooley Dickinson is currently developing a troubleshooting guide that will assist a user in navigating these errors when they arise. The hospital is also perfecting an auditing tool that will allow IT personnel to monitor system activity to identify problems or determine when a user is not in compliance with the hospital’s document scanning policies.

**COMPLIANCE, STORAGE REDUCTION ARE ADDED BENEFITS OF IMAGING**

Cooley Dickinson also plans to expand the imaging solution in its HIM department to electronically capture all medical record document types (e.g. patient charts, histories). This will enable the hospital to reduce the footprint it currently uses to store paper records.

Paper record storage costs hospitals thousands of dollars per month and provides the hospital with no revenue in return. A hospital can improve its bottom line by using imaging to eliminate paper records and make better use of its storage space by adding more patient beds, labs, or other revenue-generating facilities.

In addition to consuming physical storage space, paper medical records have limited disaster recovery, security, and privacy provisions — all of which are crucial to complying with HIPAA and other government regulations. Imaging and electronic document management systems allow a hospital to control who has access to a specific record. These systems also provide staff and patients with the peace of mind that comes from knowing that a patient's file is saved securely on a network and not in a storage facility that is susceptible to a fire or other disaster.

**Hard-Card Scanning Is Key For Hospital Imaging**

When Cooley Dickinson Hospital sought to implement a document imaging system in the patient registration area of its ER, it required a desktop scanner that could effectively image hard plastic patient ID and insurance cards. The Fujitsu fi-4120C2 met these requirements. "Other document scanners had similar speeds and image enhancement capabilities, but they couldn't directly scan the insurance and ID cards we were most interested in capturing," says Janet Korytoski, patient access manager for Cooley Dickinson Hospital. "With these scanners, we would still have had to make a photocopy of the card before we scanned it into the system. With the Fujitsu fi-4120C2, employees can scan documents and plastic cards simultaneously, without ever leaving their workstations."

The Fujitsu fi-4120C2 is a duplex workgroup scanner that scans 25 ppm (pages per minute) and 50 ipm (images per minute) in monochrome, grayscale, or full color. The scanner also features 600 dpi (dots per inch) optical resolution and a built-in automatic document feeder that allows users to scan up to 50 pages at once. The fi-4120C2 provides double-feed detection capabilities and scans documents up to 34 inches in length. Moreover, with a small footprint of 6.3 inches by 11.9 inches by 6.7 inches, the scanner is designed for use in crowded office environments. The fi-4120C2 comes equipped with a software bundle that includes Kofax VRS (VirtualReScan) image enhancement software, Adobe Acrobat 6.0, QuickScan, and ScandAll. The fi-4120C2 also offers a 40-character imprinter option that is well-suited for distributed environments where information needs to be printed on a document after scanning.

**Wireless Networks Bring The Registration Desk To The Patient**

Cooley Dickinson Hospital is one of a new breed of hospitals currently using wireless technologies to better serve their patients. The hospital has implemented a wireless LAN (WLAN) and utilizes wireless PCs in the patient registration area of its ER. "We have a wireless laptop on a cart with wheels that allows us to take ER patients directly to a bed for treatment by a nurse and perform the registration process at the bedside," says Janet Korytoski, patient access manager for Cooley Dickinson Hospital. "This is a much more patient-focused way to conduct registration. For example, a lot of times a patient will be accompanied by a spouse who would rather be at the bedside with the patient than at the registration desk providing a hospital employee with insurance information. With the wireless computer cart, we can keep this couple together and ease their minds." The wireless computer cart also allows hospital employees to collect vital information (e.g. name, date of birth) up front and then return to the bedside later to collect additional registration information during downtime, such as when a patient is waiting for lab results.

Unfortunately, the wireless computer cart currently doesn't have a document scanner attached to it, so insurance cards and ID cards can't be captured at the bedside. However, Cooley Dickinson has begun an initiative to add a portable document scanner to this wireless process.



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