The Value of Document Imaging in a Digital Era

Hospitals and integrated delivery networks (IDNs) began converting to electronic medical record (EMR) systems years ago. Recent data indicate that across the United States, more than 80% of Medicare-eligible hospitals have demonstrated meaningful use of certified health information technology.[1] However, most hospitals and IDNs are still dealing with significant numbers of paper documents:

- During registration, patients bring in photo identification, including driver's licenses and health insurance cards, which are usually scanned and entered into the EMR.
- Referred patients may bring a paper copy of their complete medical chart containing lists of known allergies, medications, diagnoses, symptoms, treatment history and physician encounter notes.
- Referring providers may FAX admission orders, which are usually scanned and entered into the patient record.
- Clinically relevant paper documentation may be generated at the point of care, particularly in acute situations, such as when a patient has a cardiac or respiratory arrest, which is documented on paper.

• Many components of the revenue cycle are still paper-based, including hard copy Explanation of Benefit (EOB) forms and other payer-related documents.

"Paper-based documentation continues to diminish in volume, but it isn't going away," said John P. Hoyt, executive vice president of HIMSS Analytics. "Everybody's got some paper to scan." Hospitals and IDNs need to have an effective document-imaging system in place. The consequences of an ineffective document-imaging strategy can include negative patient outcomes, organizational inefficiency and decreased revenues.

"Even if only five percent of your transactions are paper-based, you need to have a way of handling that five percent effectively or it is going to become a problem," said Peter Bedell, senior business development manager for the Scanner Division at Panasonic System Communications Company of North America. "In a system optimized for electronic records, paper-based exceptions can really tie up your workflow."

The role of document imaging

"Determining what areas of the organization could benefit from document-imaging capabilities comes down to a few simple questions," said Ed Stevens, senior strategist, Cerner Content360 Solutions. "Do you still manage data or processes on paper? Are there significant amounts of external documents coming into the organization? Are there processes that still require significant manual input of information? Those are all targets for the automation provided by document-imaging platforms."

The following examples illustrate the role an effective document-imaging system, including scanning equipment, can play at different points in a patient's hospital encounter.

Example 1: Initial patient encounter

Josie B. checks into the hospital for an elective surgery. The registration clerk asks for Josie's photo identification and health insurance card. The clerk uses a desktop scanner to scan copies of the patient's driver's license and insurance card into the system. The scanner's small footprint allows the scanner to be located in the crowded front-desk area, which lets the clerks scan the documentation into the system immediately, thereby contributing to a more efficient workflow. The user interface is easy to master, requiring minimal training. The scanner's double-exposure feature enables the front and back of each document to be saved as a single image, making later retrieval and viewing faster and more efficient.

This example illustrates how the thoughtful implementation of document imaging can affect subsequent process efficiencies. "The frontline is where organizations can establish processes that will facilitate paperless workflows further down the line," said Stevens.

Example 2: Point of care

Glen M. is a patient in the cardiovascular unit of the hospital. Glen goes into cardiac arrest. The nurses' station sends out a Code Blue. The Code Team begins cardiopulmonary resuscitation (CPR), including the use of a defibrillator and the administration of epinephrine. A designated nurse documents all CPR efforts on a standard paper form. A patient label, with bar code, is affixed to the top of the CPR documentation. Within 24 hours of document creation, the CPR documentation is entered into the EMR using a scanner located at the nurses' station in the cardiovascular

unit. The scanner/software interface uses the patient label on the document to attach the information to the correct place in the patient's EMR, ensuring all authorized care providers have immediate access to the information.

In this example, distributed scanners – scanners placed at key point-of-care locations – and an effective document-imaging platform allow providers to enter critical clinical data into the electronic record quickly. "It's important to have all of the clinically relevant information in one place to support decision-making," said Hoyt. "Lack of information leads to medical errors."

Example 3: Medication management

A physician has admitted a patient to an IDN facility where the physician has admitting privileges but not EMR-system privileges. The physician's practice has not yet instituted computerized provider order entry (CPOE). The physician writes up the patient's pharmaceutical order and drops it into a network-based scanner with a touchscreen interface that offers a "scan to pharmacy" option, which automatically routes the order to the pharmacy within the medication-management application. The pharmacy tech retrieves the order from within the EMR and fills it.

"It's important that document-imaging strategies minimize disruption to the clinical-care process with scanning technology that is intuitive and easy to use," said Stevens. "Clinicians are healthcare providers. They are not computer wizards. They don't want to spend time at a computer screen; they want to provide care."

Best practices in document imaging

"It's easy to go out and purchase a scanner, but it's more challenging to develop an overall strategy for document imaging," said Bedell. Therefore, it is best to work with experts when assessing an organization's document-imaging strategy.

In some cases, the appropriate expert may be the organization's EMR vendor. Cerner, for example, not only provides a document-imaging platform but also works directly with scanner manufacturers to identify scanning equipment certified to work with Cerner's *Millennium®* EMR.

Best practices in document imaging are not a one-size-fits-all proposition. "Best practices are jointly defined by the hospital or IDN working with the EHR solution provider," said Stevens. "The hospital or IDN's resources, goals, existing business processes, funding and solution capabilities all come into play. The end goal is to provide easy-to-use solutions with minimal disruption to the care process."

In cases where the EMR vendor does not work directly with scanner manufacturers, organizations are best served by reaching out to a systems integrator, consultant or value-added reseller (VAR) with a healthcare solutions practice. "A trained integrator can help an organization get set up, establish best practices and make recommendations on hardware and on the additional software connecters you may need," said Bedell. "They can also provide continuing technical support."

Hardware matters

Choosing the right scanner is critical. Many manufacturers have scanners designed for the healthcare environment, but not all scanners are created equally. Besides compatibility with an organization's EMR system and interfacing applications, scanners should also offer:

- *A robust "daily duty cycle."* Many people compare scanners by speed (i.e., pages per minute). However, in a heavy-use environment, the scanner's capacity for pages *per day* (also called *throughput* or *daily duty cycle*) is equally important. A scanner that scans quickly, but has a capacity of only 200 pages per day, is not going to be of much use at a hospital's busy front desk or nursing station.
- *Features that support the organization's document-imaging strategy.* For example, double exposure, the ability to scan the front and back of a document and save it as a single image, creates process efficiencies.
- *An intuitive, easy-to-use interface.* Scanning equipment is no longer relegated to a backroom and managed by specialized technicians. Best practices dictate that scanning equipment be distributed throughout key point-of-care locations to facilitate quick entry of scanned documents into the patient's EMR. Therefore, equipment has to be easy for non-technicians to learn and use.
- *A solid warranty.* Scanners used in hospitals and IDNs tend to take a beating. They are distributed throughout the organization and handle a variety of different documents, which are fed in by multiple users. Warranties can range anywhere from 90 days to three years. A longer warranty provides better protection for the institution.

The future of document imaging

Clinical-documentation workflows within healthcare organizations continue to move closer to the paperless ideal. Non-clinical departments of healthcare organizations — human resources, patient billing and so on — have not yet realized the benefits of implementing a comprehensive document-imaging strategy. However, that is changing.

"The efficiencies and savings an organization sees in the clinical side of their business is infectious," said Stevens. "When HR or billing sees the clinical side processing three times the paperwork with the same number of staff, they begin to see the benefit of automating and managing processes differently." Indeed, Stevens added, "The spread of effective document-imaging practices into the non-clinical side of healthcare organizations is absolutely something that is going to continue to grow in this industry."

[1] Office of the National Coordinator for Health Information Technology. "Hospitals that have Demonstrated Meaningful Use through the Medicare EHR Incentive Program," Health IT Dashboard. http://dashboard.healthit.gov/dashboards/hospitals-medicare-meaningful-use.php. July 2015.

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