



Hamot Medical Center

Electronic Document Management (EDM) Launches
Hamot to New Heights in Paperless Workflow

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Mary Kinal, Hamot IS Project Coordinator



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Background

Hamot Medical Center, a nationally recognized 340-bed tertiary care facility, offers state-of-the-art, comprehensive, integrated healthcare. Centrally located on the Bayfront in Erie, Pa., Hamot is a vital community resource and a regional referral center serving more than one million residents in northwestern Pennsylvania, western New York, and eastern Ohio. Hamot, accredited by The Joint Commission, is supported by an active staff of approximately 460 physicians; nearly 3,000 nurses, technologists, therapists, and other personnel; as well as hundreds of volunteers. The center admits more than 19,000 patients annually, and its outpatient and cooperative programs serve more than 426,000 patients every year.

Hamot has become a premier provider in a number of medical specialties, including cardiopulmonary, neuroscience, trauma, orthopedic, and woman/child health services. Guided by its mission to serve the community, enhance patient care, and strengthen regional partnerships, Hamot has received numerous national recognitions from prominent organizations like *U.S. News & World Report*, HealthGrades®, Solucient, and National Research Corporation (NRC). For the fourth time, Hamot was named one of the nation's 100 Most Wired Hospitals and Health Systems in *Hospitals & Health Networks* magazine.



Challenge

For more than 25 years, Hamot has partnered with Siemens. Hamot uses many Siemens solutions to serve its patients and community in the Hamot tradition of quality, health, healing, and education. Hamot currently utilizes Siemens INVISION®, Picture Archiving and Communication System (PACS), Soarian® Clinicals, Radiology, Pharmacy, Med Administration Check (MAC)™, and Enterprise Document Management (EDM). To enhance access and performance, another of Hamot's technology initiatives involves dashboard integration using Global Session Manager (GSM) with a seamless sign-on for physicians using one network password. Hamot also utilizes an enterprise storage solution on EMC Centera, an archiving system, shared between PACS and EDM.

EDM has given Hamot an advantage over the competition. EDM is a document imaging solution that allows users to electronically capture, store, and retrieve paperless records and enables multiple users to access historical records simultaneously. In October 2001, Hamot initially used the EDM document imaging application as most hospitals do: to provide paperless registration and patient accounting. Hamot utilized EDM in a standard capacity of cold feeds and scanned documents in both the patient registration and business offices, but the foundation recognized EDM could be employed well beyond its traditional uses. Hamot decided to leverage the document imaging solution across the organization.

Hamot championed the benefits of a paperless office and set out to streamline operational workflow, improve productivity via quick access to data, reduce costs associated with paper and storage, and improve patient and employee satisfaction by reducing manual effort.

Solution and Implementation

In 2002, Hamot began the deployment of EDM in exciting and unconventional ways. As Hamot prepared to expand its EDM capabilities, it planned the implementation process carefully. Staff analyzed whether specific documents would scan properly due to size or color. Hamot also examined the legal ramifications of paperless documentation. The organization started with its chief financial officer's (CFO) office, which was a paper-intensive area including financial statements and general correspondence. The CFO's administrative assistant quickly scanned all correspondence and provided immediate, online access to all documents, which eliminated most file cabinets. This online time-saving feature allowed the CFO and designated users to access data remotely, thus providing a quicker way to locate archived materials from outside the office.

Following the implementation in the CFO's office, Hamot next moved to the CEO's office. The Hamot team quickly cataloged and scanned documents into EDM, including old board meeting minutes and other administrative forms. With each set of documents added to EDM, the team identified other unique

uses, one of which included management of documents in the physician credential office. Staff members scanned obsolete credential files such as physician licenses, reappointments, and correspondence into new document tabs. Hamot utilized the filing and bursting tools within EDM to automate the backload of inactive medical staff data. This document automation helped the staff to sort, compile, locate, and catalogue documents with ease.

Another key area was outpatient physician orders, for both scheduled and walk-in patients. These are scanned at the encounter level. Once scanned, the document image is immediately available for Lab, Radiology, and Cardiology to view and share. For patients who scheduled in advance, the order is safely stored and ready for their arrival. If the encounter was rescheduled or moved to another facility within Hamot, the same order could be retrieved by the new location.





Results

Since the implementation, Hamot has experienced improvements in organization, time savings, and workflow associated with outpatient order processing. The online documentation prevented staff from having to make physical copies of orders. A great time saver for the department, EDM allowed staff to operate with greater speed and efficiency. By early 2006, the EDM user base had increased from 75 to more than 400 users well beyond the business office. The enthusiasm of the staff and the success of the first departmental EDM initiatives prompted Hamot to continue the implementation in the human resources (HR) department. Staff scanned documents containing inactive employee HR information such as benefits, hiring information, and performance appraisals. Back loading of the inactive employee demographic data was automated using the filing and bursting tools within EDM.

Hamot determined that it could also use EDM for storage and retrieval of pre-admission surgical assessments. Hamot's pro-active approach to pre-register patients in INVISION, sometimes months in advance, facilitated the use of the standard ADT interface to create

encounters within EDM. EDM has facilitated improvements in clinical workflow, including a reduction in cancelled surgeries by allowing clinicians to scan, review, and annotate relevant, pre-surgical clinical data as it becomes available.

Prior to Hamot's move to a more paperless environment, Hamot kept multiple hard copies of documents from the registration phase to the discharge phase. These documents were stored in various areas, and Hamot lacked an efficient way to obtain complete data quickly. Mary Kinal, Hamot IS project coordinator, stated, "Siemens EDM provided a way for us to tackle inefficiencies from an enterprise perspective. It is more than just a way to file patient-specific information."

One of Hamot's most innovative uses of EDM presented itself in the MRI arena. Hamot spearheaded MRI safety initiatives with the use of EDM. This new initiative automates importing into EDM from the OR system or outside records allowing clinicians within Radiology to obtain patient-specific implant information. Technologists can retrieve the stored information from EDM and then compare implant information against a national database to ensure the patient is safe to proceed with an MRI.

Conclusion

While Hamot has used EDM in many innovative ways, it is finding value from traditional uses as well, including its Health Information Management (HIM) processes. The facility has seen positive outcomes from its use of EDM in the emergency department (ED). Hamot's new post-discharge paperless workflow in this department improved turnaround time dramatically. Prior to implementation, Hamot's ED coding backlog reached 30 to 45 days. The EDM implementation not only allowed coders to work their way through the backlog, but also helped them to operate at a faster, more efficient rate. Even though Hamot's patient volume in the ED has increased substantially in the past three years, the increased productivity gained by leveraging EDM eliminated the need to hire extra coders and reduced the coding backlog by 40%.

Currently, Hamot uses EDM in HIM as a microfilm replacement solution for medical records prior to 2002. Designated staff members in HIM scan historical records in bulk into EDM, providing complete patient records online. Hamot plans to roll out the HIM workflow and implement the bar-coded auto index scanning solution hospital-wide in 2007.

The Siemens solution has helped to create an efficient, organized, paperless environment for Hamot. It has allowed staff to further streamline operational workflow and improve productivity.

Kinal remarked, "We leveraged Siemens EDM technology throughout the enterprise and eliminated departmental system silos. There was no need to look at alternate options and spend more money because the existing EDM infrastructure supported our needs."



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