

CASE STUDY: Seattle Children's Hospital

From the *Healthcare IT News* report, "Driving Value Across Your Enterprise. Document Management: A Core IT System"



ECM as brick and mortar

Seattle Children's Hospital is the primary teaching, clinical and research site for the Department of Pediatrics at the University of Washington School of Medicine and has consistently ranked among the nation's top children's hospitals by *U.S. News & World Report* magazine. It comprises the hospital, Seattle Children's Research Institute and Seattle Children's Hospital Foundation. Besides the main campus, a 356-bed hospital upon completion of its new wing, the hospital includes eight clinics in the Puget Sound area and a clinic in Yakima and Tri-Cities. The Bellevue Clinic and Surgery Center will open in July 2010.

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Getting more clinical documentation online

Seattle Children's Hospital has been an early adopter of health IT, first implementing CPOE nearly seven years ago and then adding other clinical systems. After the deployment of its core clinical IT systems — Cerner inpatient and outpatient clinical information, Epic patient management, GE picture archiving and communications, and Siemens cardiology — the challenge became how to get the disparate systems to talk to one another, said Wes Wright, vice president and chief technology officer.

The hospital has embarked on a number of major health IT initiatives over the next two years, with a big focus on getting more clinical documentation online. Its first significant project is the amalgamation of systems under the umbrella of its clinical information system (CIS). The implementation of Hyland Software's OnBase enterprise content management (ECM) system will support getting data into the digital clinical record, he said. As a tertiary specialty hospital, Seattle Children's Hospital receives referrals from many physicians who don't have electronic medical records (EMRs). The hospital may be moving toward a paperless world, but Wright said, "We recognized that there would be some peripheral paper around." An ECM solution would enable paperwork generated by referring physicians to be input into the digital clinical record.

Seattle Children's Hospital is building a new wing that is expected to open in 2013. Plans for a second wing when completed will make the main campus a half-mile long. Having an ECM system digitizing legacy paper will eliminate having to physically locate and transport documents from one part of the campus to another, he said. For now, the ECM system will scan documents into the digital clinical record. At some point the documents will be input directly into the digital records. The transition, however, is long term, making the scanning functionality critical at this time. "With the campus expansion, we can't afford to live in that two-record — quasi-digital, quasi-paper — world," he said.

"ECM will eventually be one of our big applications that is just as relevant to patient care as our other clinical systems," Wright said. With ECM as part of the core CIS, patients and providers will interact with the ECM system as if it was one of the hospital's clinical systems.

Implementing ECM through CPI

As a Toyota Motor Company lean methodology shop, Seattle Children's Hospital employs a Continuous Performance Improvement (CPI) program. For its CIS project, the hospital is conducting a current-state and future-state mapping on processes and



workflow upfront and then fitting the technology to the process to support the transformation, Wright said. The CPI program also informs how the hospital rolls out its ECM system. "There's a tremendous demand for digitization of documents," he said. A committee was created to prioritize the high volume of requests from the clinical side, and a small document imaging workgroup is tasked with inputting documentation under the direction of the information systems project management office. Applying CPI resources to the workflow issue ahead of the IT implementation is "bringing chaos of the mad rush to an ECM solution to a more organized and methodical approach," Wright said.

The ECM solution has been rolled out to seven of the hospital's specialty clinics. One of the hospital's priorities is the elimination of faxes from outside labs and the subsequent lab data entry into the CIS' text fields. Now physicians get scanned versions of the full lab results. The next ECM project is digitizing surgical packages, which include patient history, physical and signature. Getting the documents, especially patient consent, into the CIS will make the surgery checklist process much more efficient.

ECM as mortar and big bricks

The ECM system complements the hospital's CIS in many ways, Wright said. The ECM implementation is analogous to adding the mortar to the bricks, which represent all of the rest of the hospital's clinical systems; ECM supports all the hospital's clinical systems. "We have the big bricks of the data that we will be able to serve up," he said. "The ECM solution from a clinical perspective is adding the other, not insignificant, small pieces of information into the system."

The hospital chose an ECM system to be an enterprise-wide solution. While it supports the clinical systems, ECM is one of the two "big bricks" on the business side of the house, Wright said. "It will become a major business system," he said. Given the volume of paper generated by business processes and physical



storage requirements, the hospital plans to digitize documents from across departments, including financial, administrative, supply chain and human resources. The Research Institute, which also deals with a lot of paper, will benefit from digitizing research documents. In addition, some of the hospital's smaller outside vendors don't have electronic data interchange capabilities for business documents, Wright said. "We don't want to continue that paper chase. We know we can gain a lot of efficiencies by automating that," he said.

The ECM system has been up and running from an IT perspective for the last four months but is undergoing a methodical workflow process assessment. Seattle Children's Hospital expects to see efficiencies on the business side, first in supply chain and accounts payable. For example, with invoices scanned alongside purchase orders, the hospital will be able to easily identify under and over charges. "We think we'll see fairly significant ROI on that," Wright said.

From a clinical perspective, the ECM system will improve patient safety. Scanning outside lab results eliminates the potential error in manual data entry, and completed scanned surgery packages will mitigate potential surgery delays. The overarching qualitative benefit, according to Wright, is aggregating and making available all the clinical data in real time at the bedside for the clinician to deliver high quality care.