When Regions Hospital got serious about automating its patient record, administrators there decided that PACS would have to be part of it. As a first step, they replaced the legacy radiology information system with a module from Epic Medical, which had provided the IT system chosen as the backbone of the hospital's electronic medical record. Next they called in their PACS vendor, Merge Healthcare, along with Epic to figure out how to bring these two disparate information technologies together, not just for the 1300 healthcare providers working at the Level 1 trauma center in the hospital's home base of St. Paul, MN, but for staff across its 18 HealthPartners outpatient clinics and medical offices.

“We saw the value of having a tight integration between our PACS and electronic health records,” said Kim LaReau, Regions Hospital chief information officer (CIO). “So we asked our vendors to come together and help us create this integration.”

As the Obama administration gears up a multibillion dollar reimbursement program to encourage the adoption of electronic medical records (EMRs), which was part of the American Recovery and Reinvestment Act passed earlier this year by Congress, CIOs and IT administrators are facing both an opportunity and a challenge. For more than a decade, hospitals have been combining radiology information systems and PACS, creating the infrastructure to connect patient files to images and send them instantly across hospitals or around the globe. From one perspective, PACS vendors and the radiology community have already done much of the heavy lifting needed to bring U.S. institutions into the 21st century of computer-driven healthcare efficiencies. But from another, these efforts now must be brought into line with a broader effort that reconciles the many different elements of medical practice.
“We knew that Epic would never provide all the pieces, like the PACS piece.”
But that's not to say that the process can't go the other way. In the coming months, Louisiana State University Health System will upgrade and expand its RIS/PACS to stretch across 10 hospitals and hundreds of outpatient clinics as the first step toward instituting a comprehensive EMR. GE Healthcare will run this $12.5 million RIS/PACS effort, which LSU administrator Lee Bairnsfather, Ph.D., expects will serve as a model for the other components of a comprehensive EMR system. “RIS/PACS will be the governing model for implementation that we will replicate for all the other subsystems of our EMR,” said Bairnsfather, LSU assistant vice president of information technology.

GETTING A GRIP

Reining in Medicare costs hinges on the success of these kinds of integrations. Only through improved efficiency can the federal government escape multitrillion dollar budgets in the future, according to President Obama, whose HITECH (Health Information Technology for Economic and Clinical Health) Act stimulus provisions call for reimbursement incentives that will take effect October 2010 for hospitals and January 2011 for physicians.
For their part, vendors are hopping onboard, some with advice, others with guarantees, all with products that address some aspect of healthcare IT. Soon after the president's stimulus bill passed Congress, McKesson launched its “Achieve IT” program, an online information resource complemented by a telephone hotline for physicians and facility administrators to discuss their EMR requirements. Since then, GE has unveiled its “Stimulus Simplicity” program to promote the sale of its own products, offering zero-interest funding “with deferred payments [for] qualified buyers.” But while it makes sense to include medical imaging in any plan designed to reduce costs, where exactly radiology fits in this political initiative is hard to tell. As of now, guidance from the federal government has focused on pharmaceuticals and the practice of medicine outside radiology.
“That is why we are trying to put together a grassroots movement to take our message to Washington,” said Nancy Koenig, president of Merge Fusion, the PACS/IT business unit within Merge Healthcare.
Several vendors and provider groups have banded together to form the Imaging e-Ordering Coalition. This political advocacy group, founded to lobby Capitol Hill on radiology's behalf, includes the American College of Radiology and the Center for Diagnostic Imaging, which owns or operates 51 diagnostic imaging centers, as well as GE Healthcare, Medicalis, Merge Healthcare, and Nuance Communications.
The coalition advocates computerized order entry for medical imaging procedures, essentially an IT-based alternative to radiology business managers, which the Obama administration is leveraging to slow the growth of medical imaging. RBMs are based on preauthorization models used in the private sector. The objective, according to the White House, is to ensure that Medicare makes appropriate payments for imaging services, with the underlying goal of saving Medicare money. The coalition contends that decision-support tools for ordering imaging exams can do a better job of both. But for that option to be taken up, radiology has to be part of the healthcare IT initiative. This is why the coalition is trying to elbow its way into the political discussion that will define “meaningful use.”
This definition and the criteria for certifying healthcare IT systems are set to be completed by year's end. Together they will set the framework for the projected $19 billion in IT reimbursements to healthcare providers made available under the Obama stimulus package. There's a lot at stake. The stimulus-based reimbursements for using healthcare IT are designed to encourage the purchase of expensive products, from hardware servers to hold and process data to software and networks to transmit them. This could provide a shot in the arm to a limp economy and a boost to medical efficiency. Or it could send the medical community down a blind alley.
“If RIS/PACS is not considered a certified EMR, providers may be motivated to acquire systems that are not optimized for the practice of radiology,” Koenig said. “So this initiative could move us backward rather than forward.”
Koenig says the imaging community has a limited opportunity to keep this from happening. The first priority is to get medical imaging recognized in the definition of meaningful use. The second is to make sure that certification criteria designed to apply to ordering medication through a drugstore, for example, do not keep radiology IT products from being certified.

GETTING A PIECE OF THE PIE
Considering the political gray area now surrounding RIS/PACS, vendors of broadly based healthcare IT systems would seem to be in the best position. And there are several. Among them is GE, which boasts Centricity products that address not only RIS/PACS but just about every other healthcare IT application. Another is Siemens. The latest version of its enterprise-wide healthcare information system, called Soarian Clinicals, offers tools designed specifically to make healthcare more efficient and more effective. The tools are embedded in Soarian’s “New Plan of Care” functionality. In beta tests at the 271-bed CentraState Health System in Freehold, NJ, staff used this new functionality to develop and maintain compliance with more than 140 care plans, according to Siemens. The German company is also expanding the reach of its RIS/PACS. Its syngo Portal Radiologist provides access to data about laboratory tests and patient allergies, as well as scanned documents, without having to access separate information systems.

Other vendors, recognizing both the importance of medical imaging and the need for cost savings in this area, are hoping to contribute by developing systems that address inefficiencies in imaging. Earlier this year Agfa repackaged its RIS and PACS into “Enterprise Visualization,” a concept designed to cover every imaging-based technology from radiology to pathology, fluoroscopy to endoscopy. Enterprise Visualization may be especially attractive to the owners of legacy PACS who now are looking for a way to update their IT approach to meet evolving needs that stretch across the enterprise.

Agfa is positioning this latest evolution of PACS/IT as meeting the goals of cutting costs by putting all medical visualization data into “one big box”; increasing revenues by making the data easier to access remotely and, therefore, more appealing to referring docs; and boosting efficiency by creating a single global worklist with algorithms that can channel different exams to specific readers for interpretation.

**CLOSING THE GAP**

Sensing a growing need to make RIS/PACS work well with EMRs, Merge Healthcare is using Regions Health as a beta site to shake out the bugs in its Cedara WebAccess. Regions Hospital and its 18 HealthPartners outpatient clinics and medical offices were slated to begin bringing imaging files into their Epic EHR using this browser-based software. The company has already begun marketing this software to other hospitals and IT vendors.

Healthcare IT developer Allscripts has struck an alliance with Merge Healthcare to use Cedara WebAccess to “image enhance” its EMR system. The software is appealing for its ability to make images accessible without duplicating data or requiring proprietary integrations with individual IT systems. Tim Kulbago, Merge's senior vice president of product development, describes Cedara WebAccess as radiology's equivalent to Google Maps, providing medical images through any web browser.

“All the interaction is happening on the web server, so that all we are sending is a JPEG image,” Kulbago said. “When you zoom or pan an image or make a measurement, it looks like it is happening locally on your PC, but actually it is a ‘web experience.’”

Another company, BridgeForward, wants to close the gap between RIS/PACS and other healthcare information systems. It’s betting that the final definition of “meaningful use” will include a requirement that all healthcare information systems work together. Its Viaduct product is a developer's toolkit built to allow vendors, providers, and BridgeForward's own staff to come up with ways to make existing information technologies share data. The company is also leveraging Viaduct so its staff can perform these integrations either entirely on their own or in partnership with providers and vendors. Some of these integrations have already been done and are available to providers and IT vendors.

Other companies, Compressus and MEDxConnect, for example, are focusing on interoperability. Compressus' eEnterprise digital imaging and data management software allows users to create personalized worklist, reporting, and practice tools to streamline exam review, editing, and delivery. With this, radiologists can pull exams over the Internet from different reading centers to help balance workloads. Extended interoperability built into this latest version 2.6 moves beyond integrations with GE's Centricity PACS and Philips' iSite to include connections with information technologies from McKesson, Hologic, Cloverleaf, Kodak Carestream, and Visage Imaging, as well as Sage Intergy RIS, Meditech RIS, and PowerScribe 5.0 dictation software.

The MEDxConnect System acts as a communications hub to create a virtual, unified worklist common to all connected users, enabling various health information systems to communicate across the enterprise. A new return-on-investment package helps facilities determine the kind of impact they
can expect from an interoperability project in terms of increased efficiency or revenue. Other companies hope to get into the IT game with products that make healthcare providers work faster and better with their own or other companies' products. FujiFilm Medical Systems USA has expanded its Synapse Managed Services to include RIS hosting and tele-RIS capabilities through a partnership with Evolved Digital Solutions. FujiFilm founded Managed Services to handle Synapse PACS and related IT functions for customers. Managed services include software, system management, PACS hosting, and disaster recovery, as well as the newly added RIS hosting. Carestream wants to involve patients more in the healthcare process. A portal released this spring allows patients to access the RIS of a clinic or radiology department to check an appointment and, if necessary, reschedule it for another time. The portal can also be used to update personal information such as a new home address or telephone.
If the past is any guide, technologies that make medical practice faster and smarter will be adopted, regardless of whether stimulus funds are available for their use. RIS/PACS have become commonplace because they are needed. And, in a free market system, necessity may be the best stimulus of all.

Disclosures:

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