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SPEAKING OUT

Imaging Center Chain Upgrades to Web-Based RIS/PACS to Improve Productivity, Service

Speaking Out with Steve Canino, President,
Island Radiology Management Inc., New York

ABSTRACT

Island Radiology searched hard for a single-vendor RIS/PACS solution for their three imaging centers. Seamless integration with existing technology was a key factor in their search. After looking at several options to fit their needs, they selected Carestream Health.

Some healthcare facilities favor a best-of-breed approach where they assemble equipment from different manufacturers to suit their clinical needs rather than going with a single vendor offering a complete package. You chose to install a new PACS that interfaces via HL7 with your existing radiology information system (RIS). What do you see as the advantages and disadvantages of either strategy?

CANINO: We actually favor going with a single-vendor solution for RIS/PACS because of the need for a tight interface between the two platforms. We did install a new KODAK CARESTREAM PACS and interfaced it to our existing RIS via HL7, but we did this as an interim step to implementing a new RIS from Carestream Health in 2008 that is designed for outpatient imaging centers. We could continue using our existing RIS but the new RIS offers us added features and functionality that will improve the productivity of our radiologists and enhance the overall efficiency of our operation. Island Radiology owns and operates three imaging centers in the greater New York City area, and we see 250 patients a day.

What's the biggest challenge you faced in interfacing your new PACS with your existing RIS? What would you tell other outpatient imaging centers contemplating a similar decision?

The biggest problem was that the RIS vendor would not cooperate with Carestream Health on the HL7 interface so that made the process more difficult than it needed to be. HL7 is a complex interface and requires significant cooperation between the two vendors involved. If an imaging center manager plans to interface RIS and PACS from different vendors, I would recommend talking to a site that has interfaced platforms from these selected vendors to find out how difficult it was and if the results are satisfactory.

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What are some of the hard lessons you learned – good and bad — during the PACS/RIS evaluation process?

As we interviewed RIS and PACS vendors, we realized that many of the sales teams don't understand how the hardware and software works, and they are not equipped to design a system that matches an individual user's needs. One of our test questions for vendors was what storage system they recommended. Many of them recommended DVD jukeboxes because that is a low cost option. We already have a DVD jukebox that we need to replace so we know firsthand that this storage technology is not scalable and cannot provide us with adequate response times. When we met with the Carestream Health team, they understood RIS/PACS and knew exactly what type of hardware to recommend for our requirements. They recommended a very scalable RAID system, which is the preferred technology for anyone doing reasonable volumes.

If you had to do it all over again, what would you change and why?

We wouldn't make any changes. We installed a new PACS in 2007 and interfaced it with our current RIS as an interim step to

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implementing a new RIS in 2008. Many imaging centers may find that they need to replace one system at a time to make it manageable from a staff or budget perspective. Our experience indicates that a staged implementation can be done efficiently.

What was the financial and operational ROI for installing a new PACS now, as opposed to delaying it?

Our previous PACS was so overloaded that it crashed frequently. Not only was the downtime expensive, but there was obviously the potential for us to lose data during a crash. So it was a very clear cut decision. We also wanted to replace our RIS because we needed a modern Web-based platform that could allow our radiologists to dictate studies from any of our locations or home offices very efficiently.

What do you see as some of the more recent noteworthy improvements in PACS technology in recent years and why?

We are very impressed by the new dynamic streaming technology that allows physicians to rapidly receive 100-megabyte imaging studies at home over DSL or high-speed cable connections. Also there have been significant improvements in Web interfaces for referring physicians. Our referring docs can now sign into our PACS and gain access to their patients' imaging studies and reports. Being able to offer electronic access to both reports and imaging studies is a huge competitive advantage.

When we launched the Web interface capability at our Staten Island location, we notified all physicians in the area about this

new feature. More than 160 physicians requested log in authorization, and many of these physicians were not current referral sources. So obviously this is a very attractive capability and can help imaging centers boost referral volumes and earn new physician clients.

If you could improve your interfaced PACS/RIS to make it even more user friendly and functionally rich, what would you do and why (if money were no object)?

We have no complaints. Our new PACS delivers even better performance than we expected and we anticipate an equally high level of satisfaction when we install our new RIS.

What are some of the noteworthy clinical, financial and operational benefits you've derived from interfacing your PACS with your RIS?

Without our current RIS/PACS interface, it would take radiologists seven mouse clicks to read and report each imaging study. At a volume of 250 studies a day, that's 1,750 clicks each day, which represents several hours and several thousand dollars spent on inefficient tasks. Thanks to our RIS/PACS interface, radiologists can launch RIS from the PACS platform with just one click and they can also access our PACS from the RIS application with just one click.

If a doctor – or another outpatient imaging center representative – came to you for advice on how to evaluate and select the right PACS (e.g., business or clinical) what are five actionable tips would you give them to help them make the optimal choice?

My top five requirements for PACS are:

1. The PACS platform must be Web-based so our radiologists can easily read imaging studies from any of our locations.

2. Fully featured Web distribution capabilities are essential. Referring physicians should be able to log into the system and access both imaging studies and reports easily.

3. Any new PACS should contain a scalable online storage platform that incorporates spinning disk technology to expedite data retrieval and facilitate data migration in the future.

4. Watch out for proprietary systems that do not directly support the DICOM standard but instead use a DICOM emulator. Whatever system you select needs to offer true DICOM support and connectivity.

5. Check a vendor's customer references and make site visits. Seeing is believing when it comes to evaluating the features and performance of RIS and PACS platforms.

> "Achieving the title of state-of-the-art imaging center requires leading-edge image archiving and distribution methods in addition to the latest generation of imaging modalities."

How do you define what it means to be a state-of-the-art outpatient imaging center?

Achieving the title of state-of-the-art imaging center requires leading-edge image archiving and distribution methods in addition to the latest generation of imaging modalities. We need to be able to promptly retrieve and output previous imaging studies onto DVD or film at the patient's request and we also need to be able to provide rapid, convenient electronic access to both imaging studies and radiology reports for referring physicians. The ultimate goal is exceptional service — which is achieved by providing patients, clinicians and referring physicians with efficient access to information that can help improve patient care.

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