

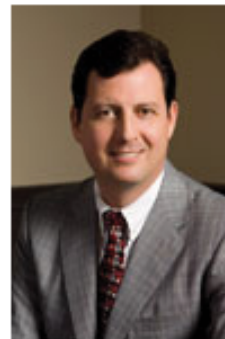
Riverside Radiology Doubles Down on Distributed Reading

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by **Cat Vasko**

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To improve patient care and further build its business, [Riverside Radiology](#) of Columbus, Ohio, wanted to provide 24/7, subspecialized service to all 10 of its hospital clients. The busy radiology practice, with 70 physicians, was already providing 24/7 coverage to its hospitals, but according to Mark Alfonso, MD, president of Riverside Radiology, "We wanted to be able to offer the same level and quality of service across our entire enterprise. We didn't want any areas not to be getting the same attention as others."



Mark Alfonso, MD



Ron Hosenfeld



Marcia Flaherty

The answer was implementing a distributed reading solution that would enable Riverside Radiology's physicians to read from a single worklist, irrespective of where the studies originated. The practice was using the Synapse® PACS from [FUJIFILM Medical Systems USA, Inc](#), Stamford, Connecticut, and its radiologists decided that they wanted to continue to read through the Synapse CommonView interface.

Therefore, Ron Hosenfeld, Riverside Radiology's CIO, and his team set to work building a platform that would enable the practice's physicians to send reports seamlessly while still using their PACS of choice for interpretation. "We worked on the platform for 14 months, but had been building it for some time before then," Hosenfeld says. "It's one of those overnight successes that actually takes 20 years."

Innovative Solution

Hosenfeld sought a commercially available platform that would fulfill Riverside Radiology's needs, but found existing solutions lacking. "Many of the worklist vendors provide the list, but fall short on functionality," he notes. "Our current solution has integrated six different PACS across 13 databases, and two unrelated voice-recognition systems, into a single, efficient workflow for the radiologists."

In the end, Riverside Radiology's IT team developed the solution in-house using the C# and Microsoft® ASP.NET programming languages, which presented challenges as well. "Many of our bumps were caused by the engineers not fully understanding what the radiologists desired. Only by sitting with the radiologists for hours and hours were we able to break through and establish a shared vocabulary," Hosenfeld says.

Hosenfeld's solution involves a single database, hosted by Riverside Radiology, through which the group's radiologists can access all of a patient's prior exams from any of the practice's client hospitals. "It does a lot of querying in the background, matching patients' medical-record numbers and identifications so we can access their data across multiple hospitals," Alfonso says. "It's a great advantage—it provides excellent quality to the patients because we have the ability to be more conclusive in our diagnoses."

The database is encrypted to ensure security, Hosenfeld says, and programmed to deliver a hospital client's reports in compliance with its own PACS and voice-recognition systems (rather than those of Riverside Radiology). The Synapse CommonView feature links to the database, enabling Riverside Radiology's radiologists to read studies on their familiar PACS.

"It's a complex project, making sure that you're not messing up the hospital's data flow in any way, so all it sees is a better product from you," Hosenfeld says. "It really helps if you have a success with a hospital that can point back at you and say, 'These guys won't make your life miserable.' We try not to force our hospitals to change their workflow or rewrite their interfaces."

Exams are routed to shared worklists that are accessed by all radiologists qualified to read them. "We have subspecialized and general lists that are sorted by priority, so that every patient, from the smallest facility to the largest, gets treated equally," Hosenfeld says. "In many cases, we have written monitoring agents into the software that prevent exams from sitting too long; the alerts constantly watch the available exams and alert either our operations personnel or our radiologists, as appropriate."

Better Service and Care

The new distributed reading platform has been a home run from every perspective, the team at Riverside Radiology reports. Since launching the platform about a year ago, the practice has added three new hospital clients, for a total of 13, without needing to add a similar proportion of radiologists to help cover the increase in workload.

"It's really allowed us to be more efficient, so we haven't needed to add as many physicians as we might have," Marcia Flaherty, CEO of Riverside Radiology, reports. According to Flaherty and Alfonso, productivity per radiologist is up by as much as 20%; Hosenfeld adds, "This has really destressed the physicians. Their workflow is more even and consistent, so they can work steadily and get more done."

Riverside Radiology's model places an on-site radiologist at each client hospital to handle on-site work and consultations with medical staff; an operations team further bolsters customer service, adding the personal touch that teleradiology services can lack. "This model provides a lot of good interaction with the referring physicians," Flaherty says. "Our 24/7 operations process backs up our radiologists and helps them stay in touch with referring physicians as well."

Hospital service has improved greatly, Alfonso says; not only is Riverside Radiology now able to pay equal attention to all of its client sites, regardless of size, but the practice has also improved its turnaround times, thanks to the new system. "The vast majority of the time, the practices are getting a final report for the emergency department within 30 minutes," Alfonso says. "With patients in the emergency department, the hospital needs to know whether it needs to admit them or can discharge them safely; it also makes the experience better for patients, because they don't have to wait as long. The hospitals have been very pleased."

Hosenfeld shares a story of a client hospital's triage of a 17-year-old boy with stroke symptoms. "Who would think a kid was having a stroke?" he says. "Because our physicians were able to interact with the emergency department so quickly and seamlessly, he received care as if he were at the foremost stroke center in the state. The speed makes a huge difference—it's a great use of the technology, and it changed the course of this kid's life."

Hosenfeld's anecdote illustrates the primary benefit of the new system: improved patient care. "We're even able to identify patients who may be having unnecessary repeat exams, so there's an inherent cost savings, as well as a way to track radiation exposure," Alfonso says. "In the future, we'll be able to identify patients who have had a lot of high-dose studies in a short period of time."

Flaherty adds, "We have so much other information now that we can use from a comparative standpoint. We're able to provide better clinical information." Hosenfeld concludes, "This provides the same level of treatment to your grandmother, at a small community hospital, as to someone at a trauma center in a big city. It's just plain better care."

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