

Performance Strategies

for Healthcare Leaders



Keep Pace with Advanced Medical Imaging Technology & Services

Vol. 4, Issue 1, 2010

Innovative Technology and Service Transform Medical Imaging, Improve Care



By Brian Loflin, Chief Information Officer
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Time for a Change

[IASIS Healthcare LLC](#), headquartered in Tennessee, is a 16-hospital system serving six regions across the United States. Like many other healthcare organizations, we had achieved a host of short-term cost and care goals by transitioning from film-based imaging to a [picture archiving and communication system \(PACS\)](#).

But as time passed, we wanted to improve performance even more. IASIS was ready to upgrade to a second-generation PACS — one that could keep pace with our advanced medical imaging needs and provide the long-term performance and productivity benefits we were after.

Seeking an Innovative Solution

Because of our size and widespread service area, we needed a product that would:

- Work across multiple care delivery settings
- Improve flexibility
- Increase integration
- Enhance remote Internet access
- Grow with us as our business evolved

Implementation posed the biggest challenge. Ours was a vast and complicated data migration project involving 15 separate hospital databases and 3.5 million studies. Quick transition time was essential to continue operating “business as usual” and holding down costs. We didn’t want to support two systems simultaneously.

A Quick and Painless Transition

We selected McKesson’s advanced PACS technology as our answer. Its enterprisewide capabilities and large data-load format perfectly matched our needs. Because IASIS is a long-time McKesson partner with many products in place, the technology integrated seamlessly with our other clinical systems. Above all, McKesson appreciates the mission-critical nature of our business and could provide us with 24/7 support.

The transition was quick and relatively painless. In just three months, McKesson built and deployed a highly complex system across our 2,800-bed enterprise, moving data seamlessly and offering round-the-clock assistance and training.

Rapid Results

Although our new technology is less than a year old, it’s generated significant improvements in three key areas:

Improved Productivity for Timely Care

Superior integration has virtually eliminated delays, and studies are now available almost instantaneously. The technology not only loads cases much faster than before, but also keeps pace with the vast amounts of information generated by today’s

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Innovative Technology and Service Transform Medical Imaging, Improve Care (Cont.)

advanced diagnostic equipment. Physicians can scroll through hundreds of images almost in real time. These improved workflow efficiencies have dramatically reduced turnaround time between report and diagnosis.

It is now much easier for our referring physicians to look at images via the physician portal. This secure, Web-based access to a complete view of patients' records is available wherever and whenever they need it: office, bedside or home. Because referring physicians and radiologists can view and discuss images at the same time, they can together make faster, more well-informed decisions for their patients.

Better Physician Satisfaction

Our new PACS technology keeps us competitive. We've formed stronger alliances with referring physicians who no longer have to search for reports. Instead, they now simply log in to the portal and quickly find everything at their fingertips.

Radiologists are pleased with the new technology because it has the quality and functionality they need. They can view images from various perspectives simultaneously, and easily rotate or flip them for better analysis — moving a hand from a "fingers down" to a "fingers up" position, for example.

Superior Patient Care

Better collaboration and communication among clinicians has improved patient care. With the PACS integrated within the portal, the team now looks at a complete record across the continuum for each patient, rather than a separate radiology report.

The new technology is so intelligent, it can mark the exact same spot on all images – a cancer patient's tumor for example – so physicians can compare, in minute detail, those taken today with those taken several months ago. And special labeling features can pinpoint a precise location in the vertebrae, for example, and lock in on that same spot on all other images.

Lower Costs

Upgrading to a state-of-the-art medical imaging system has eliminated our remaining film costs. Improved productivity and better resource utilization are saving us money as well.

Rapid Results

Thanks to a seamless transition and superior PACS product, IASIS is accelerating its efforts to better serve our patients with advanced technology. We recently integrated a [cardiology imaging system](#) across our enterprise. These new solutions further enhance timely delivery of high quality care.

Brian Loflin is Chief Information Officer, IASIS Healthcare, where he oversees IT operations for the company's 16 hospitals and 10,000+ employees, and develops IT strategy for the \$2.4 billion healthcare system. Loflin holds a Masters Degree in Healthcare Administration from Seton Hall University and a Bachelor of Science in Business Administration from West Carolina University.

IASIS Health System Keys to Improvements in Physician Satisfaction

- ▶ **Enhanced collaboration**
 - Simultaneous review of online images by clinicians and referring physicians
- ▶ **Improved patient care**
 - Marking of precise location on multiple images for accurate comparison across time frames
 - Quick and easy manipulation of images
 - Viewing of images in 3-D for more comprehensive analysis
- ▶ **Faster results**
 - Loading of hundreds of diagnostic images virtually instantaneously for immediate viewing

IASIS Healthcare saw improvements in physician satisfaction due to enhanced workflow and collaboration, improved efficiency and innovative functionality in diagnostic reading for improved patient care.

Learn More

[ADVANCE for Imaging: Bigger and Better](#)

[Health Imaging & IT —2009 Top Trends](#)

[Cardiovascular Business — Intelligent Data Mining Sets High Bar for Cardiovascular Systems](#)

[Health Imaging & IT — Improving CVIS Departments from Within](#)

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Cutting-Edge Imaging Solutions Create a Robust Information Enterprise



By Gerard Barrilleaux
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Building an Information Powerhouse

[Baton Rouge General Medical Center](#) – the city's first-established hospital – has provided high-quality healthcare to our community for more than 100 years. Our legacy is one of compassion and caring, leadership, and innovation — all with an eye to the future. We take pride in being at the forefront of cutting-edge technology, especially in our radiology department where we've pioneered advancements such as endoscopic ultrasound and portable digital radiology systems.

To improve our speed and ability to share images, we were an early adopter of McKesson's [picture archiving and communication system \(PACS\)](#) technology. We recently added its [physician portal](#) to the mix, creating a powerful one-stop information resource for our staff and referring physicians. With the click of a mouse, from any location, they now can access the full range of patient data needed to make fast, informed decisions.

Flawless Implementation

The smooth implementation meant we were up and running right from day one. We “turned the key” on the PACS and immediately began acquiring, distributing and storing images. Likewise, the physician portal provided truly plug and play technology. Its user-friendly format makes it easy to upload images from modality to modality, including CT, MRI and ultrasound.

Dramatic, Long-Term Benefits

Our proactive approach has yielded many clinical, financial and operational benefits that will serve us well into the future.

Costs are Down Dramatically

Since deploying PACS five years ago, we've completely eliminated our contracted film costs, saving approximately \$500,000 annually. With no film to manage, we no longer need a file room staff. Nor do we need radiologists at both campuses around the clock, since images are readily available from any location. Now subspecialists, such as pediatric radiologists and neuro-radiologists, can read images directly from their departments. Perhaps best of all, no time is wasted, nor is treatment delayed, while looking for lost films!

Patient Care is Better

Imaging reports are now available in just under three hours, compared to the 12 to 18 hours it used to take in a film-based environment. Faster turnaround time enhances clinical decision-making. Physicians and patient care teams receive the results in a timely fashion on their units.

Workflow is Streamlined

Because images are available on any computer anywhere, physicians no longer have to call the radiology department to send up film. The portal provides physicians with instant access to all the information that's been uploaded and scanned into the electronic medical record – images, radiology reports, lab data, physicals, medical history – no matter when it was taken, from a year ago, six months ago or yesterday. With a complete medical picture of the patient, physicians can make better medical decisions.

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Cutting-Edge Imaging Solutions Create a Robust Information Enterprise (Cont.)

Physicians are Pleased

PACS and the physician portal have made everyone's life easier and improved physician satisfaction. Staff physicians love the ease of use, and referring physicians are pleased to have all the clinical information they need at their fingertips.

Knowledge is Power

With advanced medical imaging technology and a sophisticated Web gateway, we are no longer the single-service radiology department of days gone by. We've transformed into a robust information enterprise that can keep pace with the mass of data produced by today's cutting-edge diagnostic equipment — the 64-slice CT scanner, for example, which generates 200+ images per exam. We must be able to store this data and review it quickly, something we couldn't do with film.

As an information enterprise, we are truly able to provide more data quicker, review it faster, disseminate it rapidly and share it with everyone who needs it, when they need it.

The old expression "knowledge is power" applies here. PACS and the physician portal keep us competitive and ahead of the technology curve. Most importantly, it helps us provide faster care to our patients.

Gerard Barrilleaux has more than 30 years of experience in the radiology and imaging profession. As Director of Imaging Services and Laboratory for Baton Rouge General Medical Center, he oversees CT, MRI, nuclear medicine, diagnostic radiology, interventional radiology, ultrasound and the School of Radiologic Technology, as well as laboratory services. Barrilleaux has held leadership positions at major hospitals throughout Louisiana and is a graduate of Charity Hospital School of Radiologic Technology in New Orleans. He is a member of the Association for Medical Imaging Management.

Baton Rouge General Medical Center Reduces Costs, Improves Turnaround

- ▶ **Saved \$500,000 annually by eliminating film costs**
- ▶ **Decreased radiology report turnaround time from 12-18 hours to under 3 hours**
- ▶ **Reduced film room staff from 9 to 2 over a 4-year period**

Baton Rouge General Medical Center reduced costs and improved report turnaround time by replacing its film-based system with advanced digital imaging. Members of the film room staff that left or retired were not replaced, enabling the system to reduce FTEs from nine to two.

Learn More

[Overcoming Communication Challenges between the ED and Radiology Departments](#)

[Financing Your PACS Software](#)

[MI Blog: Dr. Kruskal on Radiology Risk Management](#)

[Aunt Minnie Online Symposia: Creating a Collaborative Imaging Environment](#)

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Healthcare Organizations Looking to Reap Even More from New Generation PACS



By Nadim Daher
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The Second Chapter

Healthcare organizations are definitely ready for the second chapter of the [picture archiving and communication systems \(PACS\)](#) story, according to *North American Radiology PACS and RIS-PACS Markets (2009)*, a market research study published by our business research and consulting firm, [Frost & Sullivan](#).

In 2008, revenues for the implementation of replacement PACS hit \$549.5 million, while revenues for new “green-field” PACS totaled \$352.5 million. The market for replacement PACS is expected to grow 6.8% by 2015, while the market for first-time PACS installations is slated to decrease by 2.7%, according to our Frost & Sullivan research.

Initially, healthcare organizations were satisfied with the cost savings that came from the elimination of film-based imaging. Now, however, organizations are ready to turn the page and are looking for PACS to help them work more productively and, at the same time, support a higher standard of care.

Building Better Systems

As a result, vendors are building advanced PACS to act less like supporting characters and more like full-fledged protagonists. Instead of merely serving as an imaging storage system, PACS now are thought of as fully integrated, real-time radiology services that include multiple imaging modalities, radiology information system (RIS) integration, document scanning, voice dictation, enterprisewide distribution capabilities, and wide-area access outside the healthcare enterprise via the Internet.

As such, the story is no longer so much about the elimination of film but about leveraging advanced PACS to radically improve productivity as well as clinical care by:

More cost efficiently managing the distribution of imaging studies across the entire enterprise. PACS now are expanding to multiple sites in ways that were not possible before. So instead of each individual provider location or department managing its own PACS, healthcare enterprises can more cost efficiently manage a PACS from a centralized location. In addition, management of the PACS technology itself can be centralized and operated much more cost efficiently.

Increasing clinical productivity. Helping clinicians, particularly radiologists, work more efficiently is likely to result in some cost savings as well. Consider the following: If a PACS reduces report turnaround time by just a few percent, organizations are apt to save substantial dollars as radiologists can process more imaging studies in a reduced amount of time.

Integration between PACS and RIS also is poised to help improve clinician productivity. Such integration helps to streamline scheduling and reporting. For example, when integrated, a RIS will not only direct a radiologist to read a certain image at a certain time but will also provide the radiologist with a workflow for the entire reading process with no need to log in and out of multiple systems.

Improving patient care. Talk of electronic health records – and their “meaningful use” – is running rampant in the industry. Although the stimulus requirements do not mandate that EHRs carry images, the inclusion of images in a medical record

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Healthcare Organizations Looking to Reap Even More from New Generation PACS (Cont.)

certainly can help physicians make better clinical decisions. When physicians have access to a complete longitudinal patient record, that includes present and past imaging studies, they will have the information that's needed to make better clinical decisions. And, in the final analysis, more informed decisions are likely to lead to better care and outcomes.

Nadim Daher is a senior industry analyst with the [Frost & Sullivan North American Healthcare Practice](#). He focuses on monitoring and analyzing emerging trends, technologies and market dynamics in the medical imaging and imaging informatics industry in North America. Since joining Frost & Sullivan in February 2006, Daher has specialized in radiology and cardiology imaging informatics, picture archiving and communication systems (PACS), advanced (3D/4D) visualization, imaging equipment markets, computed tomography (CT), ultrasound, and the general medical imaging market landscape. He holds a Master of Science degree in biomedical engineering, medical imaging from the University of Southern California.

Iowa Health System Accomplishes Massive PACS Deployment at 34 Facilities in 90 Days

Iowa Health System, the state's first and largest integrated health system, has experienced an increasing number of procedures per year. And diagnostic imaging is a critical element to delivering high-quality and timely patient care. To help streamline workflow and boost productivity, Iowa Health deployed McKesson's [picture archiving and communication system \(PACS\)](#) at 34 metropolitan hospitals and clinics throughout Iowa in the last quarter of 2009.

"Our goal is to provide the best healthcare possible to the communities we serve," said Bill Leaver, president and chief executive officer of Iowa Health System. "With the new PACS in place, our physicians will be able to make care decisions much faster."

The implementation was accomplished in record time – within 90 days of signing the contract. Iowa Health System is live on the new PACS solution in the seven regions it serves – Des Moines, Quad Cities, Fort Dodge, Sioux City, Waterloo, Cedar Rapids and Dubuque. The project included data migration of all historical Iowa Health System data.

Iowa Health System will take advantage of the broad range of McKesson PACS features and benefits, including advanced communications capabilities that make real-time work list reviews possible. The system also makes physician and radiologist consultations easier, regardless of whether participants are down the hall or across the state.

Events

[See Us at the
SIIM Conference](#)

Minneapolis, Minn.

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Justifying the Need for a Replacement PACS — Advanced Technology with a Powerful ROI



By Joe Biegel
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Most hospitals already have a [picture archiving and communication system \(PACS\)](#). And most hospital leaders are satisfied with the results they've reaped from implementing these systems and transitioning from analog to digital imaging workflow. After all, replacing film imaging with digital imaging leads to considerable cost savings, which are relatively easy to measure.

But effective leaders are always looking for improvements beyond the first "quick wins" of an initial transition from analog to digital. And, as a result, many are asking: Is there more? The answer is a resounding "yes." Although the first round of benefits from PACS deployment are easy to realize and typically result just from the transition from film to digital imaging, healthcare organizations can still reap substantial benefits by upgrading to an advanced PACS.

Simply consider how these systems go beyond first-generation PACS and offer the advanced features that make it possible to:

- Conform to the industry's new standards
- Handle large volume data sets
- Accommodate images from multi-modalities — CT, mammography, PET/CT
- Interact with other information systems such as hospital information systems (HIS), radiology information systems (RIS) and electronic health records (EHRs)
- Integrate with third-party applications, including nuclear medicine and orthopedics
- Increase physician satisfaction by providing radiologists and referring clinicians with quicker access to more comprehensive images
- Visualize data from "thin slice" scanners with interactive control of slice thickness and other parameters
- Streamline the interaction with complex clinical workflows

Although these features are nice to have, healthcare leaders need to make sure that replacement PACS pass the ultimate litmus test: Will the additional benefits justify the investment? The good news is that this powerful technology can provide the return on investment by making it possible to:

- Improve physician and technologist productivity without adding staff or relying on overtime
- Enhance diagnostic capabilities due to better access to more complete information, including information from mammography, 3D, nuclear medicine, PET/CT fusion and orthopedics
- Reduce costs by sharing images and thereby reduce the need to produce duplicate imaging studies to diagnose the same condition

The key to achieving these more elusive benefits, however, is partnering with a vendor that not only provides the right feature-rich technology but also the ability to re-engineer customer processes during the implementation stage.

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Justifying the Need for a Replacement PACS (Cont.)

When going from film to an initial PACS, organizations have the luxury of turning on systems (and removing film) department by department. But organizations that are already using a PACS need to maintain “business as usual” while improving their departmental workflow. Physicians expect continuous access to patient image history so the switch to the new system must be quick and painless. If there is a lag in the transition to the new PACS, the organization will be left supporting two systems — a costly and cumbersome proposition.

As such, healthcare providers should look for vendors that will work with them to:

- Identify where potential improvements can be made
- Conduct a workflow evaluation
- Develop a structured implementation plan
- Train staff members using a “train the trainer” model
- Provide around-the-clock support to ease the transition
- Keep up with rapidly evolving trends, both in the clinical fields of diagnostic imaging and in the yet to fully evolve aspects of government funding and requirements

The right partner can help reduce the “time to value” for a replacement PACS. As a result, organizations can leverage the power of an advanced PACS to more immediately improve communications, streamline workflow and ultimately improve patient care. The key is to make the “transition” once. Organizations can do that by selecting a vendor that is both a viable long-term player in the industry and a partner that will provide continued improvement as diagnostic workflow continues to evolve.

Joseph Biegel is vice president of product management for the Medical Imaging Group of McKesson Provider Technologies. He is responsible for developing product plans and strategies for its growing family of digital diagnostic imaging solutions. His career in digital imaging has spanned more than 25 years, including 15 years in diagnostic imaging. During his career, he has served in numerous key positions with healthcare technology firms. Before entering private industry, Biegel was on the faculty of the Rochester Institute of Technology’s Center for Imaging Science, where he taught courses in imaging and computing and was involved in contract research programs for NASA and other U.S. government organizations.

Justifying the Need for a Replacement PACS (Cont.)

It's All About PACS — Helping You Prepare for a PACS Decision

Are you deciding whether to move to a digital imaging environment or upgrade to a more advanced PACS solution? The Web site, www.allaboutpacs.com can help. The site provides educational information, including interactive workflows to help you compare the advantages of today's latest PACS solutions:

- > Film-based workflow vs. a digital PACS workflow, which reduces turnaround time and eliminates administrative steps
- > A multi-modality-based PACS workflow vs. a healthcare IT-based workflow, which benefits multiple departments in your organization

The site also examines in detail the clinical, operational and financial benefits of an advanced PACS system. You can review [stories](#) and [videos](#) of organizations that have been successful in improving medical imaging performance.

A [medical imaging blog](#) on the site (also available via e-mail or RSS feed) offers perspectives from imaging experts and healthcare organizations on successful approaches they've used in implementing and managing a PACS. For those who use social media, they can follow [McKesson Health IT](#) on Twitter.

If you want more information, there are [podcasts and Webinars](#) available on various topics related to medical imaging. Those who want to learn about specific solutions can [schedule a demo](#).

Related Solutions

[Medical Imaging and PACS Solutions](#)

[McKesson Radiology Manager™](#)

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Performance Strategies won three 2009 Golden Flame awards from IABC/Atlanta for program excellence.