

Unifying the view: Breaking down imaging silos to advance clinical care

December 01, 2025

By Rob Mayer

Healthcare's digital transformation has accelerated over the past decade, with health systems investing heavily in Electronic Health Records (EHRs), telehealth, analytics, and patient engagement tools. Yet imaging, the backbone of diagnosis and care planning, remains one of the most siloed elements of healthcare IT.

Despite these decade-long investments, imaging data continues to lag behind, often underutilized and locked in fragmented systems. Many organizations have adopted advanced digital health solutions, but imaging too often sits apart from the EHR, limiting its accessibility and impact on clinical decision-making. Unlocking the full potential of imaging is essential to realize the promise of connected, intelligent, and patient-centered care.

Diagnosing the disconnect

Why has imaging lagged while other areas of healthcare IT have advanced? One major factor is legacy infrastructure. Many systems were originally designed decades ago for local efficiency rather than enterprise-wide integration, and their rigid architectures resist adaptation to modern standards or cloud environments.

Although advancements have occurred, proprietary formats and uneven standards adoption further complicate matters. While DICOM has long served as the backbone of imaging, variations in its implementation often prevent true interoperability. Emerging frameworks like FHIR offer promise, but uptake has been inconsistent across the industry.

Organizational silos also play a role. Imaging departments have historically operated apart from enterprise IT, with their own governance, budgets, and workflows. This separation has limited alignment with broader interoperability strategies, leaving clinicians contending with fragmented systems that delay access to priors, disrupt decision-making, and sometimes deliver incomplete information at the point-of-care. Organizations with strong enterprise imaging visions have driven vendors to deliver interoperable solutions.



Rob Mayer

Another shift reshaping the landscape is the move from generalist to specialist radiologists. In the past, many radiologists read a wide range of studies. Today, practices increasingly rely on subspecialists – neuro, musculoskeletal, cardiac, and others – for their expertise. While this may improve diagnostic value, it also raises the bar for interoperability. Subspecialists need timely, seamless access to comprehensive imaging and report histories across sites and systems, or their expertise risks being underutilized.

The vendor and workflow challenge

Even when organizations pursue integration, vendor practices can hinder progress. Some imaging systems rely on private tags or proprietary plug-ins that lock in customers and limit sharing. For example, in cardiology, specific structured measurements may be encoded in private fields, making them inaccessible when images are viewed outside the original system. Without vendor cooperation, that data is essentially stranded.

These limitations don't just frustrate IT teams; they directly affect patient care. If radiologists, surgeons, or emergency physicians lack immediate access to current studies and priors, they may order unnecessary scans, delay treatment, or work from incomplete information. For clinicians, fragmented access often means “swivel-chair” workflows – jumping between systems, re-entering data, and losing focus during critical decisions. The impact ripples across operations, slowing diagnoses and eroding efficiency.

Healthcare's interoperability journey also tends to cycle between extremes. At times, the industry embraces best-of-breed solutions, leading to fragmented environments and the expectation that disparate vendor solutions interoperate, effectively offering users a seamless experience. However, this may be challenging if the vendors do not follow published standards. In other eras, systems consolidate around a single vendor, which risks innovation lock-in and possible limited flexibility to integrate with other solutions.

The standards that could change everything

The good news is that new technical standards are creating momentum for change. DICOMweb and FHIR bring imaging into modern, web-based frameworks, enabling modular, standards-based exchange of studies and metadata without relying on proprietary integrations.

IHE (Integrating the Healthcare Enterprise) profiles take these standards further by defining how they should be implemented in real-world workflows. By aligning vendors and providers, these profiles enable the sharing of images across facilities, synchronization of AI tools with imaging viewers, and streamlined, direct integration of reporting into the EHR. Recently, IHE has begun to define profiles for AI, so that applications can interoperate with both EHRs and imaging systems

without custom coding to deliver improved clinical workflows.

Together, these standards form the foundation of a truly interoperable imaging ecosystem, one capable of scaling across health systems and evolving alongside enterprise IT strategies.

Lessons from real-world collaboration

The potential of interoperability is no longer theoretical. In 2024, a collaboration between AGFA HealthCare and an AI-enabled reporting solution demonstrated how standards-based integration can streamline radiologist workflows while improving the accuracy and utility of imaging data in the clinical report. This integration has the promise to save Radiologists' time, reduce burnout, and improve the delivery of patient care.

The project leveraged FHIRcast, a specification that enables secure, real-time sharing of health information across different systems, improving interoperability. As radiologists opened studies, AI-driven reporting tools launched automatically, analyzing dictation and generating structured reports in real time. Updates were shared seamlessly across systems, reducing the need for manual data entry and eliminating workflow interruptions. In addition, clinical measurements taken during the review of the exam were automatically transferred into the radiological report.

The results of this interoperability in action will be striking. Radiologists can expect to gain efficiency, referring clinicians will receive more timely and structured results, and care teams will collaborate more effectively. The broader lesson is equally important. Interoperability isn't just about moving images, but about embedding intelligence and efficiency directly into clinical workflows.

Strategies for building a unified imaging ecosystem

For healthcare leaders, progress requires both technical and organizational strategies. Cloud-native platforms are a critical step, offering scalability, agility, and simplified integration while reducing infrastructure costs and improving data accessibility.

Universal viewers extend these benefits by allowing clinicians across disciplines to access imaging studies without switching between systems. This not only reduces time-to-image but also improves clinician satisfaction by streamlining daily workflows.

Equally important are vendor-neutral approaches. By adopting standards-based integration and modular architectures, health systems can avoid lock-in and remain flexible as new technologies and partnerships emerge. Together, these strategies create the foundation for a unified ecosystem where imaging data is consistently available, accessible, and actionable across the enterprise.

Beyond radiology: System-wide benefits

Although radiologists remain central to imaging workflows, the value of interoperability extends across the care continuum. Frontline clinicians in emergency medicine, oncology, and surgery gain faster access to images that directly inform time-sensitive decisions. Care teams benefit from fewer repeat scans and reduced administrative workarounds, which lower costs and enhance patient safety.

Patients themselves experience smoother care journeys. With accessible, unified imaging records, they may avoid unnecessary radiation exposure, receive faster diagnoses, and enjoy more coordinated treatment across multiple providers.

In the end, interoperable enterprise imaging is not just a radiology initiative, it is a system-wide priority that drives clinical, operational, and financial improvements.

Making imaging data actionable at the point-of-care

The future of digital health depends on bringing imaging fully into the enterprise. Technical progress has provided the tools: standards like DICOMweb, FHIR , and IHE profiles; strategies such as cloud-native platforms and universal viewers; and real-world evidence from collaborations that show the benefits in practice.

But true transformation requires more than technology. It demands leadership. Executives need to make imaging interoperability a strategic priority within digital initiatives. The first step is recognizing imaging as a cornerstone of care delivery. From there, health systems can invest in the infrastructure, standards, and partnerships that make imaging data actionable, when and where clinicians and patients need it most.

When every member of the care team can access the full imaging story, wherever they are providing care to the patient, healthcare moves closer to its ultimate goal: faster and more connected care.

About the author: Rob Mayer is the chief product officer at AGFA HealthCare.

