

Rasu Shrestha, M.D. on Value-Based Imaging:

“Radiologists Need to Become Part of the Care Team”

Rasu Shrestha, M.D., shares his perspectives on what's at stake for the imaging industry in the ongoing evolution of healthcare and the path forward toward value-based imaging.

BY HEATHER LANDI



With the healthcare industry, the ongoing transition from volume-based to value-based care and reimbursement it is having a profound impact on every area of the healthcare ecosystem. And while imaging and imaging informatics has traditionally been siloed from other areas of healthcare, among radiologists and imaging professionals, it is well understood that the movement from volume-based to value-based imaging is already underway.

During a webinar sponsored by the Society for Imaging Informatics in Medicine (SIIM), Rasu Shrestha, M.D., then-chief innovation officer at UPMC, the 39-hospital integrated health system based in Pittsburgh, and now chief strategy officer at Atrium Health, laid out what was at stake for the imaging industry within the context of the move to value-based care and provided

some context on where the imaging industry currently stands, and where it needs to go. The full webinar can be accessed [here](#).

“How do we get to value-based imaging? It’s important as an industry to figure out what value really is, and how we use the power of data to measure that value and incentivize these value-based paradigms to be rewarded for the value that we are providing, and use it as our North Star,” Shrestha, who was also the executive vice president of UPMC Enterprises, its technology development arm, said during the presentation.

Radiologists face a number of challenges in moving to value-based imaging, such as the need to understand machine learning, aligning payers, providers and vendor partners, capturing the appropriate data to measure value as well as culture change. “Having radiologists become a part of the care team—this is what needs to be done to march towards value-based care,” he said. “We need to do this so imaging doesn’t become commoditized or marginalized and, instead, is a core component and a value-contributor in the rest of the health ecosystem.”

While there have been groundbreaking innovations in imaging since the first X-ray was discovered in 1895—the development of PACS (picture archiving and communication systems) workstations and the move from film to digital—there has not been as much of a cultural paradigm shift, according to Shrestha. “We’re still viewing images as opposed to looking at the patient as a whole. We’re doing it more efficiently and we’re reading more studies, but does an improvement in

productivity quantify value? And, is that the whole story? My argument is that it is not," he said.

Moving forward, provider organizations and imaging centers need to work more cohesively with payer organizations to look at the shift to value as risk moves from payers to provider organizations and then consumers.

He also asserted that radiologists and imaging leaders need to examine their role in the value-based care world. "Radiologists and imagers, we get relegated to being diagnosticians, and that's where we are today. We're not so much image consultants, which is what we need to be in this new world of value-based imaging. As we look at the specifics of how we need to accelerate and provide value across the board, what we've realized is that health care reform is here to stay. Despite some of the uncertainty that is part of the climate today around policy, healthcare reform is here to stay," he said.

What's more, health system reform also presents opportunities, he said, as it pushes the industry forward into value-based imaging, where there needs to be "a core focus on quality, outcomes and satisfaction, and we need to be accountable for the care we're providing to patients."

This shift to value-based imaging requires new metrics, Shrestha said, noting that radiologists today are measured by volume-based metrics, such as report turnaround time and number of studies read. Value-based imaging metrics should be based on superior outcomes, providing the level of increased transparency to understand where value is being generated, care coordination as well as utilization management and appropriateness.

Value-based imaging supported by IT

Radiologists need to transition to a patient-centric view of imaging, he noted, and then adopt newer care models and embrace new technologies and capabilities that are available to help support this patient-centric view of imaging. "Today, we are data rich and information poor. We as imagers are more detectives than diagnosticians. We have a lot of data on hand. Besides big data, there are other types of data elements, including data coming from electronic health records (EHRs), and soon other data elements coming in from outside the hospital system," he said referring to patient-generated data.

Delving into the buzz around machine learning and

artificial intelligence (AI), Shrestha noted that the "future ahead could look nothing like the past we left behind." "With machine learning, we can leverage the power of all this data and it can give us insight we've never had before. So, the idea here is how do we leverage the power of those insights to quantify the value that we're providing across the care continuum, and use that as an incentive for us in the radiology department, for us as an ecosystem of care providers, as we look at shared savings and shared risk, and use that to drive forward this mandate around value-based imaging."

The goal, he said, is to advance from data to information to knowledge, and then marry knowledge with evidence-based guidelines and clinical best practices to enable shared decision-making that involves the patient. "We do little of that in terms of direct patient interaction in imaging. That's the value we need to bring out; to be omnipresent, either directly in contact with patients, such as what we're doing right now with women's imaging and even interventional imaging, but also through the power of technology, where we would be present as patients are making decisions or we would be present as clinicians up front are ordering these studies."

The key, Shrestha said, was for imaging to move to a more patient-centric, collaborative, intelligent, value-based care paradigm. And, this requires moving to the next wave of innovation, he said, "where we look at predictive protocols and algorithms driving the decisions that we make or do not make in imaging across the value chain, look at leveraging capabilities around cloud-enabled computing and AI to drive some of the insights that need to be defined, the specifics for how and where we provide care."

Value-based imaging needs to be defined by a set of clinical quality metrics, business metrics and service metrics, he said. "And then you need a set of IT capabilities that bring out these data elements and get to a value score that we can hold as our true North Star in measuring the specifics of how productive we are because we'd be measuring all these different elements of what value-based care is really about."

And these data elements would include content from EHRs and PACS systems, as well as non-DICOM content. "As we contemplate our march toward value-based healthcare and enterprise imaging, we need to have a more coherent strategy to managing data," he said.

AT UPMC, health system leaders used design thinking to evaluate radiology and imaging and asked radiologists

what questions they have, Shrestha said: "Initial research has revealed radiologists are seeking answers to these two questions: What clinical questions is the ordering physician looking to answer? What are the patient's underlying conditions, including condition severity and body region?"

Walking through the workflow, it starts with intelligent ordering, Shrestha said. "Making sure the patient enters the system in the correct manner and proceeds along the proper care pathway. How do we leverage intelligence way up front in the ordering process itself? Also, think about patient population monitoring. How do we provide radiologists and care teams with tools to tailor treatment for high risk and other populations? Think about that. The impact we can have upfront if we're able to have that level of insight."

One way technology can aid enterprise imaging and value-based imaging is through what he referred to as image-related clinical context. "The notion is how do we bring relevant context from other sources of data beyond the DICOM data to aid in the diagnostics in what is going on with the patient. The idea here is, it's not just about that film or that image, it's about looking at prior reports, pertinent information out of the EMRs, the lab values, prior pathology reports and studies, post-op notes, discharge summaries that might be relevant. We can collect context from the patient at the relevant point of care then use that content to improve treatment."

The future that healthcare providers are driving toward is an outcomes-driven future, Shrestha noted. "We're pushing forward with a collaborative care model, looking at care pathways where imaging becomes integral to the entirety of that care pathway, whether it's way up front, diagnosing a specific condition, or downstream, where perhaps we're doing follow ups down the line when a patient is coming back because there has been a recurrence of a certain type of a lesion."

At UPMC, health system leaders are seeing success with this kind of collaborative care using a patient-centered medical home model. "The patient is right in the middle and looking at the care collaborative across the board, you've got the radiologist working with the GI specialist with the PCP (primary care physician), and the nursing skilled facilities, and we're seeing more of a shared risk, shared revenue model," Shrestha said.

He continued, "What we've seen is results that dramatically have an impact on avoiding duplicate

therapy, eliminating unnecessary utilization and cost-effective management of disease processes across the board. That's what we've seeing as a payer/provider system. Those are the mandates that we have as an industry to push value-based imaging to the forefront; to not be seen just as diagnosticians, but also seen as physician consultants, where we truly have patient-centered care be ingrained in the specifics of the algorithms that we're using in our patient-driven workflows. We're actually incentivized to get to those metrics that really are the reality of how we need to be moving forward in the realm of value-based healthcare."

For radiologists and imaging leaders, the stakes are high as the healthcare industry continues to evolve and transition to value-based care. "As imagers, it's important for us to stake our claim at the table. A lot of the purchase decisions, the decisions around how value-based healthcare comes to fruition, the shared risk and shared savings, all of these decisions are happening at the C-suite and board level, and it's important for us to have an influence on those discussions. We need to actively contribute to those discussions and attributes," he said, adding, "If we don't stake our claim at the table, we may end up on the menu."

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