Imaging Utilization: A Matter of Dollars and Sense

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In January, United Healthcare announced that, beginning July 1, the insurer will offer members in select markets lower out-of-pocket costs for undergoing imaging at hospitals and imaging clinics that meet certain quality and efficiency thresholds as determined by the payer.[1,2]

It is just the latest example of how commercial insurance plans are more closely examining imaging costs and utilization and steering their members toward providers who they deem to deliver the highest-quality care at the lowest cost.

Indeed, United's announcement demonstrates a more aggressive approach to reining in the costs of imaging like those of any other procedure, test, and treatment, says Gregory Nicola, MD, FACR, a radiologist with the Hackensack (NJ) Radiology Group, and chair of American College of Radiology's (ACR) commission on economics.

"In the commercial payer world, it's creeping into contractual language that the health system will not be eligible for or receive shared savings if they don't start controlling imaging costs and utilization," Dr Nicola says.

And while United's plan rightly warrants some concern, it also gives radiologists an opportunity to demonstrate leadership with respect to imaging quality and utilization matters, says Rebecca Smith-Bindman, MD, a radiologist at University of California San Francisco and director of the Radiology Outcomes Research Laboratory.

"It's important to realize that unless we as radiologists demonstrate the value of what we do—how much we can add to the efficient diagnosis and management of patients—there's going to be a lot more scrutiny in terms of the value and what we add. We can add tremendously to patient care but not if we do any test irrespective of its value, or if we just recommend additional testing when clearly it's not needed. Consider the nonsensical follow-up of many incidental findings we know are meaningless," she says.

"It makes sense to talk to administrators about what tools radiologists can implement and that they can support [management] with the knowledge to make efficiency changes," Dr Nicola agrees, noting that insurance companies increasingly are looking at his own radiology practice's metrics with regard to imaging utilization.

A Change in Payer Attitudes Toward Imaging

Historically, imaging has enjoyed a reputation as a go-to specialty for diagnosis among patients and providers. From the patient's perspective, more imaging typically means "better care," while from the provider's side, imaging can provide definitive answers in cases of uncertainty, observes Dr Smith-Bindman. She also notes that, even in the absence of benefit, many providers gravitate toward extra imaging "just in case" to ward off potential malpractice liability, or even simply to reassure patients.

"Imaging really is adored. Patients love it and want it, and ordering physicians share that strong demand," Dr Smith-Bindman says. But increasingly

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it is seen to generate false positive diagnoses that lead to cascades of testing, and over-diagnoses that lead to ongoing escalation of health care costs, she adds.

Commercial payers are enacting efforts to curb costs associated with imaging utilization, shining a light on a lack of hard evidence that the benefits of any given imaging study will both outweigh its risks and improve patient outcomes.

As a result, imaging has some catching up to do. Dr Nicola contends that, with the exception of CT for lung cancer and mammography for breast cancer, a concerted effort largely hasn't been made to quantitatively study or compare various modalities' impacts on patient care and outcomes with each other or with other diagnostic tools.

As an example, he cites the use of CT for follow-up of incidental findings. Recommendations are based on evidence-based guidelines, but rigorous longitudinal outcome studies isolating the benefit of the imaging exam are difficult to achieve.

"There hasn't been much robust data comparing the pre- and post-CT eras," Dr Nicola says. "Radiology's impact on healthcare is often difficult to study because it was so rapidly and widely adopted that comparison studies were an afterthought."

But it is not as simple as saying we know radiology has obvious value, Etta Pisano, MD, adjunct professor of radiology at the University of Pennsylvania, explains.

"We know that tomosynthesis finds more [breast cancers] but is it saving more lives?" says Dr Pisano, a breast imaging specialist who is leading a study to determine if tomosynthesis reduces progression of advanced cancers. "When we find more things, we think we're saving more lives, but this may not always be true."

Greater access to large data sets—and accompanying artificial intelligence (AI) applications to analyze them—can help determine appropriate imaging utilization and help move the specialty's transition to value-based care, she says.

"The more detailed, real-world data we have, the more likely we are to develop models that will allow us to individualize care. We'd be doing something better for patients in the screening domain, the diagnostic domain, and the treatment domain," Dr Pisano says.

"There's a need for clear understanding of what imaging is appropriate and what is not appropriate."

Dr Smith-Bindman adds that, just as most treatment decisions around medications are based on randomized controlled trials that provide evidence for the efficacy of a given medication, imaging use must be evaluated the same way.

"If you're going to publish a study advocating use of a new imaging test, you need meaningful evidence that should undergo the same exact scrutiny we require for other medical interventions," she says. Dr Smith-Bindman pointed to her own randomized trial comparing ultrasonography with CT imaging on the outcomes of patients with suspected kidney stones.[3] "We can and should generate the same level of evidence for what we do, and this would go a long way toward both defining appropriate imaging pathways and demonstrating our meaningful impact on patient outcomes," she adds.

The same is true with respect to balancing the potential harm of a given imaging test against its potential benefits. Acknowledging the potential benefits of imaging to find disease early on, Dr Smith-Bindman cautions that benefits must also be balanced against false-positive and false-negative findings, as well as radiation dose.

Appropriate Use Criteria

As of Jan. 1, 2023, appropriate use criteria built into qualified clinical decision support mechanisms will be federally mandated as part of the federal Protecting Access to Medicare Act. Dr Nicola expects that the benchmarking of clinicians' decision support via registries will become more

common, as will ongoing retrospective analyses of clinicians' ordering of imaging studies.

"There are certain system changes we can make to better control utilization," Dr Nicola says. "We have definitive use cases in the literature, especially through R-SCAN initiatives, showing how systems can reduce unnecessary imaging.

"In my own personal use, they have been beneficial," he adds. He notes, however,; that an imaging appropriateness score is one variable among many that factor into whether an imaging study is ultimately ordered for a patient. Collaborating on imaging utilization initiatives is an excellent opportunity for radiologists to engage with referring colleagues as part of the healthcare team.

A lack of formal training in imaging utilization across all phases of medical education could be at fault for low incorporation of ACR appropriateness criteria in radiology practices, according to a recent study[4] in *Current Problems in Diagnostic Radiology*. Researchers found that nearly 20% of medical students weren't familiar with the ACR imaging guidelines.

Other experts, including Dr Smith-Bindman, cite a lack of evidence supporting the appropriateness criteria for their lack of widespread adoption.[5]

It's also worth noting, Dr Nicola says, that issues related to imaging utilization extend beyond efficacy and patient outcomes. While radiologists can play the role of "arbiter of appropriateness," he says, "the fact is, imaging brings in income. The incentives [of our current system] are not aligned to control imaging utilization."

Underutilization Is Also Important

Beyond high-visibility issues like overutilization, Dr Nicola says, providers must also be careful not to overlook the significance of imaging underutilization, particularly as it relates to screening among low-income, at-risk populations.

"The two most robust screening programs we have in radiology are for breast and lung cancer," he says. "For socioeconomic reasons, we see many patients not being exposed to these studies, which means we're missing opportunities to detect cancers at an earlier, more treatable stage."

"Health equity is a real concern … as are the financial implications of late-detected cancers for the entire healthcare system," he says.

A Promising Future for Imaging Providers and Patients

Issues of imaging utilization likely will prompt debate among providers, payers, and government officials for some time to come. Indeed, areas for improvements in utilization, cost, and appropriateness remain. But most experts anticipate a future of data-supported radiologic decision-making to yield optimal outcomes at lower cost.

"Clinical radiology research always seems to focus on accuracy: can we find the disease rather than what happens to the patient because of it. It's my hope that studies, moving forward, will address how patients are improved in terms of their outcomes using imaging tests," Dr Smith-Bindman says.

That promises benefits for patients and providers alike. "At the core of value-based care, financial incentives are tied directly to patient outcomes and improvements in population health," Dr Nicola says. "As we evolve in that direction, the need for more outcomes data will no longer be aspirational, but intrinsic to how healthcare is provided in the future."

References

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