As growth of imaging utilization slows, radiologists worry about the effect on reimbursement.

Concern over the steady drop in diagnostic imaging utilization rates has been a conversation topic at nearly every radiology meeting for the past decade. While this trend does cause worry, the trick, experts say, is to remember utilization rates haven’t shrunk to pre-2000 levels – it’s the growth rate that’s slowing down.

So, what’s causing the impact? What factors are reining in utilization, and which ones continue to move the needle forward? And, what does this all mean for reimbursement?

According to a November 2013 study published in *BMC Medical Imaging*, utilization rates grew significantly between 2000 and 2005, but curbed through the next four years. For example, MRI/CT rates expanded by 15 percent during the first five years analyzed. However, these modalities experienced no increase in the latter half of the decade.

A July 2013 *Journal of the American College of Radiology* (JACR) study supports the existence of a slowing trend. Conducted by the ACR’s Harvey L. Neiman Health Policy Institute, the report examined physician decision and patient visit data from the Medical Expenditure Panel Survey and found that imaging used in patients over age 65 fell from 12.8 percent in 2003 to 10.6 percent in 2011.

“This study should prompt a re-thinking of the assumption that diagnostic imaging is a leading contributor to the nation’s health spending challenges,” said Danny Hughes, PhD, study author and research director for the Neiman Policy Institute. “When you look at the available evidence in a truly patient-centered way, understanding what occurs on a patient visit to the doctor, then you see that physicians are calling for less, not more, imaging tests.”

Yet, data from ACR Select, the College’s clinical decision support tool, showed that diagnostic imaging accounts for 10 percent – $100 billion – of total annual healthcare costs. So, what are the factors in play that keep the diagnostic imaging wheels turning?

**What's Driving Utilization?**

Even though the ACR continues to report that up to 10 percent of all imaging services are unnecessary or duplicative, there’s little evidence that providers are turning away from these tools en masse. In fact, imaging utilization is feeling a push from several different directions, according to
David Levin, MD, radiology professor at Jefferson Medical College and Thomas Jefferson University Hospital.

- **Aging population**: Based on National Institutes of Health data, patients age 65 and older undergo diagnostic imaging at two or more times the rate of younger people. Women also tend to use slightly higher rates of imaging than men.
- **Affordable Care Act (ACA)**: With the U.S. Supreme Court’s 2012 decision to uphold the ACA, the healthcare system has been bracing to accept and serve a much larger pool of insured patients. This greater population base, Levin said, will play a significant role in imaging utilization in the near future.
- **Defensive medicine**: While providers order diagnostic studies to improve patient health, many also order the scans to protect themselves from potential litigation, Levin said. Ordering an exam leaves an electronic trail that the radiologist practiced due diligence in giving the patient the best possible care. Defensive medicine will continue to be a steady contributor to imaging utilization, he said, until the industry sees some type of tort reform.
- **Patient sophistication**: Coupled with the need for defensive medicine, providers also face a far more savvy patient population than they did just a decade ago. A myriad of Internet sites offer information about imaging modalities and when they might be useful in healthcare. Consequently, Levin said, many patients come to providers, proactively requesting imaging studies that might be unnecessary.
- **Added clinical pressure**: As the patient population increases, so does the pressure placed on primary care and emergency room providers. To handle the growing patient load, many doctors might find it easier to order an imaging study in place of a face-to-face, physical exam. For example, conducting a physical exam might be of little value with a patient who has either a lung or abdominal problem, he said. Instead, a CT scan or chest X-ray would give faster, more definitive results.
- **ACR Appropriateness Criteria**: Although the American College of Radiology’s (ACR) Appropriateness Criteria have been around for nearly two decades, there are some providers who are still unfamiliar with the guidelines for imaging utilization. In some cases, Levin said, their lack of knowledge leads them to order unnecessary or duplicative exams.
- **Self-referral**: A 2011 *Journal of the American College of Radiology* study reported that self-referrals – referrals by non-radiologist physicians of patients to imaging facilities in which the provider has a financial interest – accounted for 59.7 percent of imaging. The study’s lead author, Ramsey K. Kilani, MD, an Arizona-based diagnostic radiologist, said non-radiologist self-referrers were nearly 2.5 times more likely to order imaging than clinicians with no financial interest in doing so.

**What’s Paring Back Utilization?**

But, while diagnostic imaging services clearly remain an integral part of healthcare, there are several factors that have begun to slowly dial back the yearly utilization rate.

“Imaging is consistently shown to be one of the most efficacious and quick tests to figure out what’s wrong with someone,” said Jonathan Berlin, MD, associate radiology professor at NorthShore University Health System. “There’s tremendous value in terms of what a diagnosis could be – even in negative exams. But along with value, there has to come cost.”

And, overall, these hindrances to utilization hinge on controlling or limiting access in some way.

- **Increased cost sharing**: In effect, increased cost sharing in healthcare means patients are now paying a higher proportion of their health insurance. Larger deductibles paired with a smaller amount of covered services have pushed many patients to forego diagnostic imaging to reduce their own out-of-pocket expenses, Berlin said.
- **Pre-authorization**: Many health insurance companies now rely heavily on radiology benefit management companies (RBMs) to determine whether an imaging service is appropriate and necessary. Without approval – or pre-authorization – from an RBM, it is unlikely that a patient will undergo the study. However, the growing push toward using clinical decision support systems, such as the ACR Appropriateness Criteria, is designed to retain decision-making control over imaging studies within the radiology department.
- **Narrow health insurance exchanges**: As the ACA continues to roll out, companies could opt to provide a subsidy, giving employees an option to purchase their own health insurance, Berlin said. But no one knows, to date, what the rates will be. To keep them low, companies could contract with narrow health insurance exchange networks, choosing to work with providers who offer imaging services at the lowest costs. The impetus, he said, would be to funnel patients to the less-expensive providers.
Non-Radiologist Provided Imaging
But it isn’t just insurance changes and cost-shifting ratcheting down the utilization numbers, Levin said. There’s also a significant population of non-radiologist providers, known as self-referrers, who now offer imaging services linked to their own practices.

“I think it’s a pretty substantial group. If you look at the number of MRI and CT scans being done in the offices of non-radiologists, it’s pretty high,” he said. “In 2012 – the last year that we have Medicare data for – there were 461,000 MRI scans done by non-radiologists. It’s probably close to a million if you factor in commercially-insured patients.”
And, if you talk to radiologists nationwide, he said, they’re feeling the pinch. Across the country, practices and departments are seeing their utilization rates drop.
But, while self-referrers frequently order imaging studies that flout the ACR Appropriateness Criteria, there are many who offer effective, necessary imaging services that usually fall outside of a radiologist’s purview, Berlin said. For example, radiologists do not often provide cardiac or obstetric imaging.

Impact on Reimbursement
At the peak in 2006, according to a 2008 Government Accounting Office report, Medicare spent $14.1 billion on diagnostic imaging. Since then, annual spending has steadily dropped, falling by 21 percent by 2010, based on a Neiman Policy Institute report. To date, this trend has not reversed, Levin said.

“There’s no question that reimbursement is going down when you look at the Medicare dollars paid for non-invasive diagnostic imaging,” he said. “It’s been a big hit.”

The advent of code bundling, the continuation of the multiple procedure payment reduction (MPPR), and providers’ re-evaluations of their practice expenses have also altered imaging utilization and its associated reimbursement, he said.

Berlin agrees, but he also pointed to the influence insurance companies hold over imaging services. Ultimately, he said, payers control cost and utilization in two ways: they pay less for each service or they decrease the number of covered services overall.

“This makes patients more discerning about where they get their studies. If one practice charges $10 per imaging test, but another asks you to spend $5, then you can double your imaging by spending the same amount,” he said. “These aren’t mutually exclusive – it either decreases the amount spent on imaging, or it will slow the rate of growth.”

What Could The Future Hold?
Predicting how the market, federal legislation or patient influx could affect the industry and imaging utilization isn’t possible because the healthcare system is complex. However, Berlin said, there are several potential changes.
If the healthcare system shifts from fee-for-service to a bundled or capitated payment model, providers and facilities will be compelled to work together to both optimize care and control costs.
The thought, he said, is that such cooperation could eliminate duplicative imaging.
Such a paradigm shift could impact technological innovation, as well. Rather than only aiming to produce the most advanced equipment, vendors could be asked to produce machines for which there is a distinct use or unmet need that would also cut costs downstream, he said. It’s unknown whether that type of change would slow imaging equipment use or cause facilities and practices to postpone new purchases.

“In general, the theory is that imaging that is unnecessary or duplicative will go down,” Berlin said. “It comes from the idea that when people share information and cooperate, that healthcare expenditures overall will decrease.”

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