What Radiology Practices Need to Know About Decision Support

No decision support, no payment for radiologists.

It may seem like radiologists don't have to do much to prepare for the appropriate use/clinical decision support mandate, but the consequences for noncompliance are huge.

There are subtle ways that radiologists can understand their role and help their colleagues through the process. The mandate stems from the federal bill H.R. 4302, the Protecting Access to Medicare Act. The bill requires ordering physicians to show that they’ve consulted clinical decision support (CDS) software for advanced imaging services like MRI, nuclear medicine, and CT. Imaging providers won’t get reimbursed for these Medicare claims unless they confirm that CDS services were consulted. The imaging exam doesn’t have to adhere to the CDS recommendations to be completed or paid.

While initially supposed to go into effect January 1, 2017, the timeline has been pushed back, with a new implementation date anticipated for January 1, 2018. This summer, the Centers for Medicare and Medicaid Services (CMS) is expected to announce how it will establish the CDS process and what organizations are qualified to deliver appropriate use criteria. They’ll publish a final rule this fall, with final implementation dates to follow.

Even though CDS rules haven’t been finalized, RadWise, developed by Sage HMS, has been available since 1998, and was the first commercially available imaging CDS, according to V. Katherine Gray, PhD, the company’s president and founder. The American College of Radiology (ACR) has been developing their own appropriate use criteria for years, as part of the Imaging 3.0 initiative. In 2012, they contracted with the National Decision Support Company (NDSC) to begin licensing their appropriateness criteria to the market. NDSC rolled out ACR Select, a clinical decision support product soon after, a program that integrates with electronic medical records (EMR) and is used by ambulatory and acute care facilities.

Clearly the law has been a driver for medical facilities to adopt CDS, given that they have to commit funds to do so, said E. Kent Yucel, chair of the ACR Committee on Diagnostic Imaging/Interventional Radiology Appropriateness Criteria, and professor of radiology at Tufts University School of Medicine. While it’s not yet mandatory, some hospitals and ambulatory care systems are incorporating CDS into their information technology systems before the mandate is enforced.

Since radiologists will suffer the most if imaging CDS isn’t implemented and consulted by ordering providers, radiologists should take the lead in determining what’s important for these providers, said Gray. But first, it’s helpful to know how CDS systems work.

Developing Performance Criteria

The ACR criteria “are a set of decision support guidelines that are thoroughly vetted by rigorous, evidence-based process and recommendations,” said Yucel. But there’s a trade-off between rigor and efficiency, Yucel said, so the ACR guidelines only cover selected clinical situations. “They’ve never claimed or could claim to cover the universe of indications,” he said.

Currently, the ACR has 10 diagnostic imaging subspecialty expert panels with 10-12 members each (some subspecialties have two panels). They cover as many topics as they have members on the committee, with each committee member writing up a recommendation and the committee voting on it.

RadWise’s clinical content uses recommendations developed by multi-disciplinary physician reviewers who provide literature references, said Gray. The recommendations are then internally reviewed. RadWise users have access to references and hyperlinks to articles on the Internet, vetted by registered nurses or physicians. Gray said that RadWise’s content was built from the ordering provider’s perspective, rather than just from the radiologist’s perspective.

Product Integration
“People feel that for products to be successful and accepted by most physicians, they have to be incorporated into the hospital ordering system. Going to a different program or computer and getting permission from that program is tedious,” said Yucel. The goal is to streamline the process for ordering physicians.

When designing ACR Select, developers had to make sure that it could recognize synonymous terms, like “headache pain” versus “pain in the head,” or “muscle ache” versus “myalgia.” One of the pitfalls of earlier versions, said Yucel, is that doctors had to learn the system’s words. “As systems have become refined, they’re better able to recognize synonyms and make that matching process easier.” This is one reason it’s important to get CDS systems in the field for a few years, to work out the kinks.

During development, NDSC converted the unstructured, free text areas to searchable, uniform phrases. “A big part of our effort was to take the appropriateness criteria and distill it down into a set of structured clinical indications that represent the valid reasons why a health care provider would order an exam,” said Bob Cooke, vice president of marketing and strategy at NDSC. In the EMR workflow, doctors can access the 3,000 clinical indications tied to ICD-10 codes. “Providers are highly concerned about the types of clicks and interactions inside their EMR, and we’re sensitive to that,” Cooke said.

While ideally CDS is integrated into an EMR system, ACR Select offers a web portal option as well, where providers can quickly generate evidence of appropriate use criteria for advanced imaging services. They select the test and indication, and then the system generates a decision support number, a unique identifier for that transaction. They share that identifier with the radiologist by paper, email, or electronically. The radiologist can verify the number on the portal.

When an exam and indication are selected, ACR Select determines if there’s appropriate use criteria that applies. If so, the system gives approval and feedback to the provider. It can also tell the physician whether there’s a better alternative to consider, offering additional information, education and a source guideline.

RadWise also offers both an integrated version or a web portal version. When a provider orders an imaging exam through RadWise, the program provides “just-in-time” education on the evidence-based medicine, said Gray. It also gives a preview of the criteria the clinician can access when documenting the patient’s symptoms before the system makes its recommendation. It offers abstracts on key topics to share with patients, with reference citations and hyperlinks.

Radiologists’ Role in CDS

Radiologists have a role in clinical decision support on the local level, said Yucel. Some CDS models use a stop light model, with red, yellow, and green alerts. Clinicians who get a red light need to go to the radiologist for an explanation and approval, as CDS systems can’t cover every possible scenario for individual cases. Even when clinicians get a yellow light for imaging tests, it may be appropriate for the radiologist to get involved and help decide between two studies with similar ratings.

“Hopefully it will be a process that engages radiologists as face-to-face advisors with clinicians. As things get more computerized, it reduces those interactions,” Yucel said.

The CDS systems have to be comprehensive and responsive to 90%-95% of the queries for guidance, or it’s not an effective tool, said Yucel.

Cooke said the CDS systems help filter the types of questions and guidance that clinicians have, to make them more focused. “You can think of the appropriate use criteria as a surrogate for that day-to-day educational process, like an automated radiologist consultation,” said Cooke. When the electronic guidance isn’t completely clear, or the provider has questions, they can ask the radiologist more directed questions. CDS systems “ensure that the provider has the necessary guidance on a routine basis, but focuses their questions and guides them to the radiologist when appropriate, for complex questions.”

A CDS system offers more concrete information about the study’s indications to the radiologist, versus traditional ordering requests, where they may have to ask the doctor or patient for additional information up front. The radiologist has better quality information at the start of the exam.

The Market
CMS hasn’t yet determined CDS system criteria, nor designated the physician-led organizations that can provide and publish appropriate use criteria. Because of this, no current CDS system on the market has been given the seal of approval for use under the Protecting Access to Medicare Act bill. Gray said that providers currently have two imaging CDS options: RadWise or a vendor using ACR’s clinical content. NDSC is the exclusive licensing agent for that criteria, and some other CDS vendors have integrated the criteria into their systems. “We expect other entrants into the market in the future,” said Gray.

ACR Select is currently being used at 150 health systems, representing 1,500 physical facilities, said Cooke.

**R-SCAN**
Radiologists play a role in answering referring physician questions while they use CDS systems. But radiologists can also propose using R-SCAN with clinicians. R-SCAN is a program which helps clinicians and radiologists work together on a case-by-case basis, when a group recognizes there’s an area in which they’re using imaging inappropriately, said Yucel.

He describes ACR Select as a macro program, and R-SCAN as a micro program. R-SCAN is a free ACR tool, funded by a federal grant, to help develop programs for quality improvement. ACR Select and R-SCAN come at imaging utilization from different sides, Yucel said. The CDS system is a blanket implementation, while R-SCAN engages clinicians on individual issues. “It makes sense to do both,” he said. R-SCAN helps clinicians perform quality projects required for board recertification in several specialties.

Clinicians would probably rather not be required to use CDS, said Yucel, but that’s the advantage to having CMS mandate it. “It’s not radiologists who have imposed this on the world,” he said. “Everyone recognizes that in CDS versus radiology benefit managers, this is much better.”

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