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AI Spots Lung Nodules On CT, With Low False-Positive Rate

A group from Alabama has developed a deep-learning artificial intelligence (AI) algorithm capable of detecting lung nodules on CT scans while maintaining a low false-positive rate, according to an article published recently in the *Journal of the American Medical Informatics Association*.
The researchers, led by Ashish Gupta, PhD, from Auburn University, trained a 3D deep-learning convolutional neural network (CNN) to perform two consecutive tasks: identifying potential pulmonary nodules and then reducing the number of false positives among the nodules detected.
Many AI algorithms continue to have trouble recognizing low-density nodules, as well as those attached to blood vessels or the pleural wall.
To address these issues and other deficiencies, Gupta and colleagues adapted a deep-learning CNN known as U-Net to perform nodule detection. U-Net was capable of learning representations of internal nodule features -- such as varying shape and size -- directly from imaging data and then using this information to recognize increasingly complex features.
“We present a novel, fully automated system for the detection of pulmonary nodules that was extensively validated using each scan in the dataset for both training and test. ... As a whole, the system outperforms all previous deep-learning systems evaluated on test data and is among the best existing pulmonary nodule CAD systems," they wrote. Moving forward, Gupta and colleagues hope to validate the 3D deep neural network on an external dataset such as the CT exams from the National Lung Screening Trial. They also plan to use the deep-learning technology to quantify the malignancy of lung nodules and possibly even provide diagnostic predictions.

CMS Proposes Changes To E/M Documentation Requirements

Coding and Compliance Tips by Lori Shore, CPC, RCC

As part of their *Patients Over Paperwork* initiative, CMS has proposed changes to the documentation requirements for Evaluation and Management Services, commonly referred to as E/M. Currently, providers have the option to use either 1995 or 1997 guidelines that require that varying levels of patient history, exam and medical decision making are documented to report E/M services. The proposed changes would continue to allow providers to document based on the 1995 and/or 1997 guidelines but would also allow providers to document just the medical decision making or the time spent with the patient in order to bill level of service 2-5.
Payment for services would be differentiated by new vs. established patients and offer 2 levels of payment. Level 1 payments are proposed to pay $44 for new patients and $24 for established patients.
Levels 2-5 will all be paid at a “blended” amount of $135.00 for new patients and $93.00 for established patients. All levels would still be coded with the existing E/M codes.

CMS is also proposing add-on codes that can be billed by any specialty.

Proposed are add on codes for the following:

- $5 for primary care services
- $14 for certain non-procedural based services
- $67 for any prolonged service 30 minutes beyond the typical time for that level

They are also proposing a multiple procedure payment adjustment that would reduce the E/M service performed on the same day as a procedure.

The comment period is open on this proposal until September 10th. Please go to: https://www.federalregister.gov/documents/2018/07/27/2018-14985/medicare-program-revisions-to-payment-policies-under-the-physician-fee-schedule-and-other-revisions to see the full proposal or to submit a formal comment.

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CMS proposes to expand site-neutral payments. Here's how that affects imaging.

10:15 AM on August 6, 2018 by Erin Lane, Catherine Kosse and Ty Aderhold. *The Advisory Board Company* (ABC) is the owner and publisher of this article.

In 2017, CMS implemented a site-neutral payment provision to reduce payment discrepancies between services performed at hospital outpatient departments (HOPDs) and provider-based sites, e.g. physician offices and freestanding clinics. The policy mandates that newer off-campus HOPDs receive reimbursement at a site-specific Medicare Physician Fee Schedule (MPFS) rate. Currently, this rate equals 40% of the hospital rate.

Last month, CMS proposed significant updates to the program for calendar year 2019. If finalized, these proposals are estimated to save the agency more than $600 million next year. Read on to learn more about key site-neutral payment updates and the impact on imaging

Key site-neutral payment proposed updates

1. Site-neutral payment adjustment still 40% of hospital outpatient rate

CMS proposed to maintain the current MPFS relativity adjuster for non-exempted items and services at 40% of the outpatient prospective payment system (HOPPS) amount. The agency made this decision based on claims data specific to non-exempted facilities, which validated continuing the 40% rate. The rate will likely remain constant in future years unless new data or considerations warrant a change in approach.

Implications for imaging: This consistency allows imaging leaders to plan for future reimbursement. Organizations should continue using the PN modifier on claims to signify non-exempted HOPDs.

2. The number of facilities impacted by site-neutral payments will increase

Although CMS maintained the payment rate adjustment, the agency made significant changes impacting exempt facilities. Currently, only sites meeting the following criteria are impacted:

Hospital Sites Meeting Three Criteria:

- Hospital-owned, designated as "off-campus, provider-based sites."
- Located more than 250 yards from the hospital's campus.
- Acquired, opened, or built after November 1, 2015.

Hospital sites meeting these three criteria receive 40% of HOPPS payment.

The proposed rule contains two key policies that would significantly expand services paid at the site-neutral rate.

Policy #1: New services no longer exempt

CMS proposed to pay the site-neutral rate for any new groups of services not offered between November 1, 2014, and November 1, 2015. Groups of services, or clinical families, are segmented by Ambulatory Payment Classification (APC) groups, many of which impact imaging. Review the table for select clinical families and example imaging services. For a full list of codes that fall under the APCs, download Addendum C at CMS.gov.

For example, let's say a facility offering MRI, CT, and x-ray is currently not subject to site-neutral payments, but began offering interventional radiology services in 2016 that fall under the "vascular/endovascular/cardiovascular" clinical family. Two scenarios could play out:

Scenario 1: During the 2014-2015 timeframe, the facility did not offer any other services within that clinical family.

Outcome: Since the HOPD began offering IR services that falls into a new clinical family, all services **within the new family will now be subject to the 40% of HOPPS payments.** However, services in different clinical families that were offered during the 2014-2015 timeframe (in this example, MRI, CT, and x-ray) continue to be paid at the hospital rate. **Read more: https://www.advisory.com/**