

# Clinical decision support systems help control inappropriate medical imaging, study suggests

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Researchers from Virginia Mason Medical Center in Seattle, WA, have found that clinical decision support systems can help reduce inappropriate medical imaging, including unnecessary computed tomography (CT) and magnetic resonance imaging (MRI) scans, according to a study in the January issue of the *Journal of the American College of Radiology*.

"Clinical decision support systems are point-of-order decision aids, usually through computer order entry systems, that provide real-time feedback to providers ordering imaging tests, including information on test appropriateness for specific indications," said C. Craig Blackmore, MD, MPH, lead author of the study. "Such systems may be purely educational, or they may be restrictive in not allowing imaging test ordering to proceed when accepted indications are absent," said Blackmore.

A retrospective cohort study was performed of the staged implementation of evidence-based clinical decision support built into ordering systems for selected high-volume imaging procedures: lumbar [magnetic resonance imaging \(MRI\)](#), brain MRI, and sinus computed tomography (CT). Imaging utilization rates and overall imaging utilization before and after the intervention were determined.

Results showed that the rates of imaging after intervention were 23.4

percent lower for [low back pain](#) lumbar MRI, 23.2 percent lower for headache head MRI, and 26.8 percent lower for sinusitis sinus CT.

"Clinical decision support is potentially an ideal method for improving the evidence-based use of imaging. Clinical decision support systems have the desired properties of being educational, transparent, efficient, practical, and consistent," said Blackmore.

"As our study suggests, the use of such systems can aid the elimination of unnecessary imaging, increasing both patient safety and quality and decreasing [health care costs](#)," he said.

**More information:** [www.jacr.org](http://www.jacr.org)

Provided by American College of Radiology

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