CT, MRI Use in Emergency Departments Soaring

***Roxanna Guilford-Blake for HealthLeaders Media* , October 8, 2010**

A study on the increased use of imaging in the emergency department raises questions about how to best provide quality, cost-effective care to patients, and at least one expert sees implications for **comparative-effectiveness** research and value-based insurance design (VBID).

The use of CT and MRI scans for injury-related ED visits in the United States tripled between 1998 to 2007, but there was no commensurate increase in the prevalence of the diagnosis of certain life-threatening, trauma-related conditions. The research, which used data from the National Hospital Ambulatory Medical Care Survey, appeared in the October 6 issue of ***JAMA***.

The widespread availability of CTs and MRIs and their ability to identify significant injuries "have made these tools important in the evaluation of patients presenting to emergency departments," the authors write. Nevertheless, the increased use of these tools is associated with higher costs, **greater exposure** to ionizing radiation, and more time spent in the ED.

What drives this increased use? The researchers cite a variety of possible factors, including the superiority of CT scans over x-rays for diagnosing conditions such as cervical spine fractures, availability of CT scanners, and concerns about malpractice lawsuits over a missed diagnosis.

More work is needed to understand these factors: "The role of evidence-adoption strategies such as computerized **decision support** and audit and feedback in promoting adherence to decision rules for imaging needs to be further understood," the authors conclude.

"We need to continually examine our practices to determine how best we can continue to provide high-quality patient care in a cost-effective manner," lead author Frederick Kofi Korley, MD, of the department of emergency medicine at Johns Hopkins University in Baltimore, said in an interview with HealthLeaders.

A. Mark Fendrick, co-director of the University of Michigan's Center for Value-Based Insurance Design in Ann Arbor, agreed, saying that such an examination will require coming to terms with an acceptable miss rate.

"What seems to be absent is a transparent discussion examining the tradeoffs between the clinical and cost implications of increased use and an unwillingness to miss a potentially treatable condition," he said. "We do not have the resources to be sure in every instance that the patient does not have a treatable condition."

The *JAMA* findings align with findings of research Fendrick and his colleagues published last year in which they concluded that CT scans in dizziness presentations should "be a target for efforts to optimize the effectiveness and efficiency of care."

The message is the same for the *JAMA* study: "What we try to do in VBID is to be as clinically nuanced as possible," Fendrick explains. A severe concussion is different from an ankle injury. "The value of a clinical service depends on the indication and the patient receiving it."

That approach appears to be gaining traction. "I am very optimistic that the multi-billion dollar investment in comparative-effectiveness research and, more importantly, health information technology, will allow for the development of real-time clinical decision support tools that will allow increased use of these services when they are truly beneficial, and a decreased use when they are less so."

See also:

The Technology to Order the Right Imaging Test the First Time

Doctors Need Decision Support in Ordering Imaging Diagnostics

Back