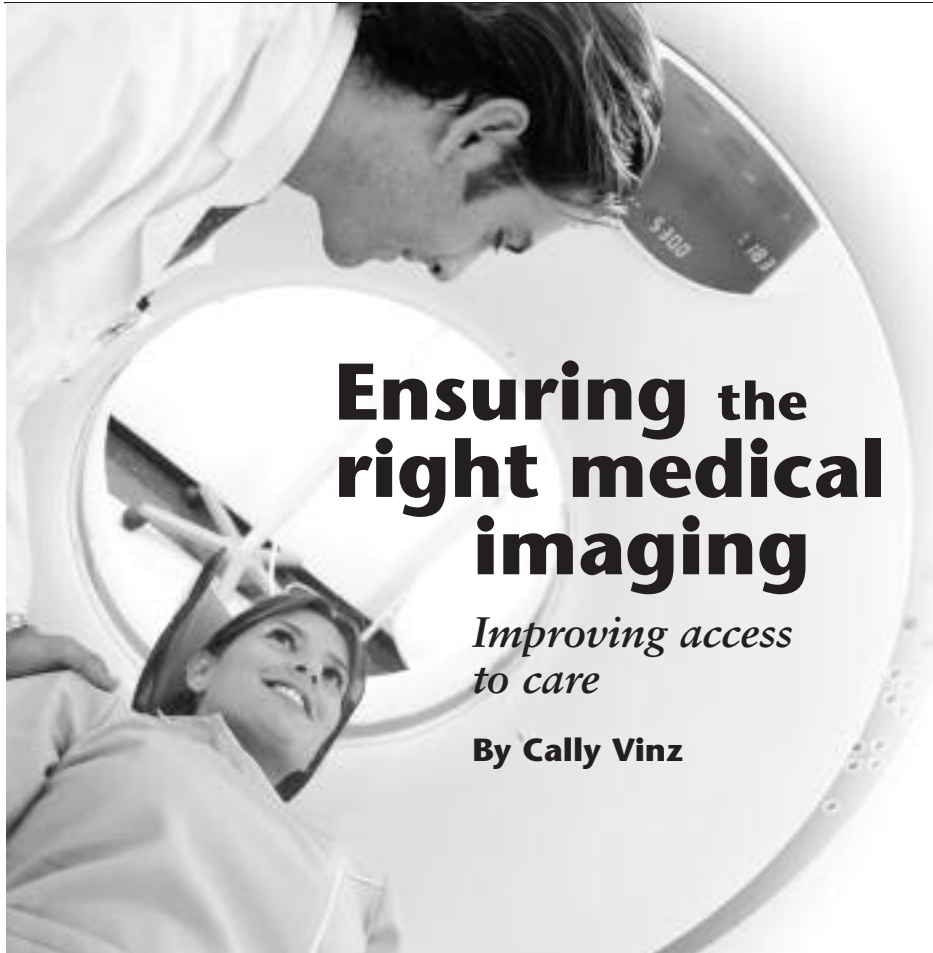


# MINNESOTA Health Care News

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## Ensuring the right medical imaging

*Improving access to care*

**By Cally Vinz**

Patients with medical questions rely on physicians to suggest the best course of action. In some cases, it is appropriate to use high-technology diagnostic imaging (HTDI) procedures such as magnetic resonance imaging (MRI), computer tomography (CT), positron emission tomography (PET), and nuclear cardiology tests. However, while incredible technological advances in HTDI are helping to ensure more accurate diagnoses, the steep increase in the number of tests ordered has not corresponded proportionately to improved patient outcomes. Potential overuse of such tests

can expose patients to unnecessary radiation, delay diagnosis, and contribute to rising health care costs.

Through a collaboration of medical groups, health plans, and the Minnesota Department of Human Services, the Institute for Clinical Systems Improvement (ICSI)—a non-profit, independent organization in Minnesota—developed a patient-oriented, cost-effective approach to ordering HTDI scans that enables patients and physicians to discuss medical imaging options based on evidence and consistent standards of practice.

Before developing this “decision-support” model, ICSI coordinated a three-year study in which 4,500 providers in five Minnesota medical groups ordered more than one million HTDI scans. Providers included Allina Medical Clinic, Essentia Health, Fairview Health Services, HealthPartners Medical Group, and Park Nicollet Health Services. The study showed that using an evidence-based, decision-support option increased the likelihood of appropriate imaging, improved the diagnostic quality of scans ordered, and ensured that patients got the right test in a timely manner. In November 2010, ICSI made this tool available to all medical groups and hospital-based clinics in Minnesota—the first time a common set of criteria has been adopted by many medical groups on a statewide level.

### **Strengthening the provider/patient relationship**

Prior to implementation of this new option, if a patient complained of a nagging headache, the physician might have thought an MRI was warranted. Before the test could be ordered, however, the physician would need to contact a radiology benefits management (RBM) firm to determine if the scan would be covered by the patient’s insurance plan. The call might take only a few minutes, but approval could sometimes take a day, and if coverage was denied, the physician would need to determine if there was an alternate diagnostic test.

With the ICSI solution, the physician enters a patient's symptoms into the decision-support software, along with the scan selected. The decision-support tool then rates the diagnostic value of the imaging scan selected. Scores of 7, 8, and 9 are shown in green, indicating scan types that are highly warranted for the condition. Moderate ratings of 4, 5, and 6 are shown in yellow, while low scores of 1, 2, and 3 are shown in red, signifying that a test may not be indicated for the symptoms. When this happens, the software suggests better options based on criteria from the American College of Radiology.

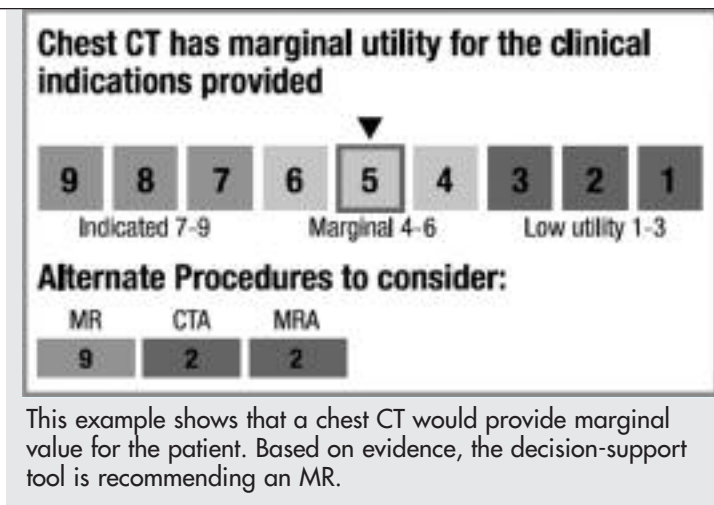
Now when a patient complains of a persistent headache, patient and physician can see together what is most appropriate and share in the decision-making. Because many Minnesota health plans accept the decision support tool's criteria for selecting appropriate scans, most physicians do not need prior approval from an RBM firm.

### Helping physicians help the patient

Physicians already using decision support say it's reassuring to know that other health care providers developed the criteria used in the software.

Allina Medical Clinic District Director Phil Hoversten, MD, said, "Quality is defined by a whole group of constituents, not by individual doctors or clinics. The amount of information in the computer makes using the decision-support tool far superior to calling an RBM. Plus, the tool's simple drop-down menu and immediate response are very convenient."

"Physicians are committed to using the latest scientific knowledge to make good decisions," said Kevin Larsen, MD, chief medical informatics officer and associate medical director at Hennepin County Medical Center



(HCMC). "This tool supports physicians in that effort. Physicians cannot always keep up with all of the changes in today's medical environment," said Larsen. "If we see a medical situation we don't encounter often, this is a way to bring us up-to-date, patient-specific information with the latest evidence telling us what the right test might be."

"The average length of time for a new technique or business practice to become established is about seven years," said Ross Chambers, MD, of Fairview Medical Group in Milaca, Minn. "For years, a doctor may have ordered an MRI for headache, but if something were to change in the field of neurology, it might take seven years for that doctor to change. We now can educate providers at the time they order a test. This can impact practices very quickly."

"We have integrated the RadPort software (part of the decision-making tool) in our electronic health record," said Chip Truwit, MD, chief of radiology at HCMC. "This is not a trivial matter. It lessens both patient frustration and physician time to have everything coordinated." Health care organizations can also access the decision-support criteria via the Web, making this option available to all types of clinics.

### Avoiding unnecessary radiation

Physicians are also concerned about exposing a patient to unnecessary radiation if a CT scan is inappropriately

ordered. In a majority of cases, the diagnostic potential of a CT scan outweighs the risk, but a 2007 New England Journal of Medicine article reported that exposure to too much radiation, especially in children, is estimated to contribute to 1.5 percent to 2 percent of cancer deaths in the United States each year.

"Radiation exposure concerns us greatly as radiologists," said Truwit. "We want to make sure patients are not exposed needlessly. With this tool, we are more likely to get the right test done the first time."

### Providing value

"We don't want to perform the wrong test," Truwit said. "Some physicians might order a CT without contrast solution to evaluate for metastatic disease. Unless a patient has large metastatic lesions, we are not going to see them on the regular CT scan or characterize them well. The decision-support tool has algorithms that have looked at positive and negative exams given the history of the patient. We try not to do a study that isn't going to have a high likelihood of a yield."

Since November 2010, this has become a statewide initiative, the objective being to standardize HTDI ordering and base it on evidence. This is the first time a common set of criteria have been adopted by many medical groups statewide.

"Patients are very sophisticated now," said Truwit. "In this electronic era, they know an awful lot about their conditions. This tool enables us to engage them in their care in a new way. It's better for them, better for physicians, and better for the health system. It has no downside." ■

*Cally Vinz is vice president of clinical products and strategic initiatives at ICSI, headquartered in Bloomington, Minn.*