Unnecessary MRI exams may be symptoms of a larger healthcare problem

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A new study by Gary Young, a Northeastern professor, shows that doctors are often pressured to prescribe unnecessary MRIs procedures in order to funnel money to hospitals—thereby escalating the costs of healthcare. Credit: Matthew Modoono/Northeastern University

Close to 40 million Magnetic Resonance Imaging procedures are

performed annually. These MRIs enable doctors to peer deep inside the body, helping them to diagnose ailments or diseases in a non-invasive way.

But the technology may also be exploited, according to new research by Gary Young, a professor of strategic management and healthcare systems. His study shows that doctors are often pressured to prescribe unnecessary MRIs procedures in order to funnel money to hospitals—thereby escalating the costs of healthcare.

"This isn't a gray area," says Young, who directs Northeastern's Center for Health Policy and Healthcare Research. "This is an area where these patients shouldn't be referred for an MRI."

Though MRIs are relatively harmless to the patient, Young notes that the willingness to authorize unnecessary imagings heightens concerns that other types of inappropriate procedures—including surgeries—may be referred to patients inappropriately.

At the core of the problem, says Young, is an increasing trend of physicians accepting employment with hospitals.

"The changing organization of hospitals and physicians in this country is pretty dramatic," Young says. "Over the last decade, a very substantial percentage of physicians have moved from independent practice to hospital employment. That represents a very substantial change in the way healthcare services are organized in this country."

Such a shift is likely to further curtail physician autonomy, says Young.

"Physicians were organizationally independent of hospitals, they were not employed by hospitals, they didn't receive financial compensation from hospitals," Young says. "And that's changing."

The new dynamic potentially has positives, says Young, including an integration of healthcare that enables one-stop shopping for patients. But Young notes that the good is offset if hospitals encourage employee physicians to schedule unnecessary money-making procedures.

Based on access to all commercial health insurance claims in Massachusetts for 2009-16, including 30 million imaging procedures, Young's research team developed an algorithm to determine whether MRIs were prescribed appropriately. For example, patients suffering from lower back pain should not be sent for an MRI as a first resort.

"You don't refer them for an MRI because the likelihood that the MRI is going to reveal anything that's going to be clinically informative is very, very low," Young says. "What you should do for lower back pain is have them do physical therapy, home-based exercise, and rest. If the pain persists beyond physical therapy, beyond bed rest, then an MRI may become warranted. But the first step should not be an expensive MRI."

Young's study focuses on decisions made by 538 doctors who had moved from primary-care independent practice to hospital employment.

"We find that when they go from independent practice to hospital-employed practice, they actually begin to refer more MRIs overall—and, most importantly, more inappropriate MRIs," Young says.

Unnecessary MRI referrals increased by more than 20 percent among those doctors that moved to hospital employment, the study finds.

Young says hospitals can subtly encourage or even pressure doctors to authorize MRIs, including guidelines that call for an MRI before the patient can be referred to a specialist.

"We know that many hospitals send their primary-care physicians

statements on a quarterly basis about how much revenue they're helping the hospital to generate," Young says. "If you're a physician, the message is clear that they are benchmarking how well you are doing against your peers in generating revenue for the hospital."

Young's research appears in the current edition of *Health Affairs* alongside a complementary study of Medicare data that uncovered hikes in diagnostic imagings and laboratory services that were tied to what the healthcare industry refers to as "vertical integration"—the takeover of physician practices by hospitals and health systems.

"We found that during the 2013–16 period, vertical integration between physician group practices and hospitals or health systems was associated with increases both in hospital sites of care for common diagnostic imaging and laboratory tests and in Medicare reimbursement rates," the authors wrote. "This study highlights how the growing trend of vertical integration, combined with differences in Medicare payment between hospitals and non-hospital providers, leads to higher Medicare spending."

Young's study takes the additional step of showing that physicians were more likely to prescribe inappropriate MRIs once they worked for hospitals compared to when they were members of an independent practice.

"I'd like to see studies that look at surgical procedures and the wider number of services that hospitals provide to see if they see the same pattern that we have observed," Young says. "If we find that pattern to be extended into other areas of hospital services, I think that's going to have to raise some very serious considerations on the part of policymakers and healthcare leaders to think about whether we need better oversight of hospital-physician integration."

More information: Gary J. Young et al. Hospital Employment Of Physicians In Massachusetts Is Associated With Inappropriate Diagnostic Imaging, *Health Affairs* (2021). DOI: 10.1377/hlthaff.2020.01183

Christopher M. Whaley et al. Higher Medicare Spending On Imaging And Lab Services After Primary Care Physician Group Vertical Integration, *Health Affairs* (2021). DOI: 10.1377/hlthaff.2020.01006

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