Just Ask: A Proposal to Hone the Indications for Sophisticated Radiology Examinations

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Although MRI and CT have revolutionized healthcare, the growth in their utilization comes with a commensurate and unsustainable growth in spending. The cost of sophisticated radiology tests goes beyond the cost of the technology itself: because the tests can be so sensitive, they can lead to excessive treatments when incidental findings are not labeled as such. Thus to improve utilization for its own sake, but more importantly to limit spending on unnecessary treatments, we propose that requests for MRI and CT studies must be accompanied by a clinical question, and all reports offering interpretations must include a direct answer. This approach should increase the effective specificity of the tests that are performed, and in turn decrease provocation for unnecessary treatments. This question/answer policy can be implemented by new Medicare payment guidelines that echo the Medicare reimbursement rules for standard medical consultations.

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Sophisticated medical imaging tests such as MRI and CT have revolutionized healthcare, yet the rapid growth in their utilization[1] comes with a commensurate and unsustainable growth in spending. The Medicare Payment Advisory Commission (MedPAC) has accordingly recommended that Congress take steps to constrain the growth of imaging services.[2]

We endorse the concern underlying the MedPAC recommendation, but note that apt usage of advanced medical imaging should be encouraged not only to avert the waste associated with unnecessary tests themselves, but to save the costs of unnecessary treatments otherwise prompted by such tests. Indeed, judicious use of sophisticated medical imaging thus may find its greatest justification in the "downstream" savings on derivative medical care.

As a step toward improving the utilization of advanced imaging studies—and thereby limiting wasteful spending for unnecessary treatments—we propose that, as a condition for getting paid, all requests for advanced diagnostic imaging must be accompanied by a clearly stated clinical question, and all reports offering interpretation of scans must include a direct answer to the question posed. Insisting that a question is asked will ensure that the use of the test has been duly considered; and matching the answer to the question might help patients avoid treatments otherwise triggered by incidental findings.

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As an illustration of how this method might be effective, consider first the geographic disparities in the rate of advanced spinal imaging, disparities that far exceed the variations in disease prevalence.[3] This discrepancy suggests that these tests are invoked with imprecise

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indications. That's bad enough—but what is also seen is that areas with the highest rates of imaging also have the highest rates of surgery.[4] The link is to be found in the studies that have reported a high incidence of spinal disc abnormalities on MRI performed on asymptomatic volunteers.[5,6] It is therefore likely that incidental findings on an MRI are used to inappropriately ratify, or even motivate, the decision to operate.

The question/answer model we propose would be implemented, using the case of lumbar MR imaging as an example, as follows: the physician ordering an MRI of the lumbar spine would (as part of the request for the study) state, "My patient has back pain radiating to his left great toe. Is there anything present to explain that complaint?" In this setting, if the MRI revealed only a bulging disc at the second lumbar level—a finding common in asymptomatic people and one that cannot explain pain radiating to the toe—the apt response would be, "There are no findings on examination that could explain the patient's presentation; only nonspecific changes were seen." With such language, unnecessary treatment may be repelled.

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This question/answer policy for radiology reporting can be implemented by new Medicare payment guidelines for advanced imaging studies that echo the Medicare reimbursement rules for standard medical consultations.[7] The italicized words are those needed to be added to the standard guidelines, as follows:

> "the need for *an advanced imaging* consultation shall be documented *by the articulation of a question that the radiology study is to answer,* and after the consultation is provided, the consultant *radiologist* shall prepare a written report of his/her findings *to include an explicit answer to the question posed* which shall be provided to the referring physician."

We further suggest that the questions should be reviewed prior to the technical performance of the study, and that Medicare rules should allow payment to radiologists when they advise against obtaining an inappropriate study. For instance, if a physician requests an MRI to evaluate a laborer with back pain without radicular features one week after a work injury, the radiologist should be paid for advising against it. At present, the financial incentives are stacked in favor of acquiescence to the (inapt) request for such a scan.

No doubt, the question/answer approach will face resistance. To start, patients may balk at any program that restricts access to advanced imaging—for patients want to be tested.[8,9] Patients must be taught that more imaging does not lead to better outcomes.[10] Indeed, if one considers the potential for unneeded treatments and the complications that ensue, more imaging can produce worse outcomes. And in the case of CT diagnostics at least, there are potential risks from radiation.[11] Excessive imaging imposes psychic costs as well. In one study, patient knowledge of imaging findings was associated with no better outcomes but a worse sense of well-being.[12] It is further worth noting, philosophically speaking, that if patients desire imaging studies to be reassured, highly sensitive scanners should be the *last* place they seek reassurance: there is, after all, no test for wellness. As noted, correctly, by Meador, "a public in dogged pursuit of [reassurance], combined with clinicians whose tools are powerful enough to find very small lesions, is a setup for diagnostic excess."[13]

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Another important group of resisters to consider is the physicians who order the tests. Even with the aid of a computer entry, forcing the requesting physician to document a clinical question is burdensome. But it's more than clerical work. No longer can a physician implicitly say to the radiologist, "My patient has vague pain. It's probably nothing, but before I send him away, please make sure there is nothing really wrong."

The resistance among ordering physicians has practical significance, as unless it is addressed, the system might be disrupted. There are two reasons for this. The first is that although the question/answer schema places initial responsibility on the ordering physician, the penalty for noncompliance is imposed solely on the radiologist (who would not get paid unless the criteria were met). This compels the radiologist to serve as enforcer, at the minimum price of goodwill and collegiality. The second reason is that if the ordering physicians derogate the process, they might offer thoughtless (and vacant) questions. In that instance, the radiologist will have to guess why the study was requested, and in a move toward caution, might be tempted to offer old-school, verbose reports.

As such, the avid cooperation—and not mere acquiescence—of requesting physicians must be secured. To that end, we suggest that the quality and appropriateness of the questions asked by ordering physicians should be audited periodically by peer reviewers as a "pay for performance" metric. That is, requesting physicians can be graded to the extent they use sophisticated radiology studies aptly, by examining their questions in context of the clinical scenario. When physicians come to

believe that their test-ordering performance might lead to a poor grade, they may be less inclined to requests tests without rigorous thought: poor grades are the bane of all competitive students, and nearly all physicians were once competitive students.

Radiologists may also resist. Although they will appreciate focused questions, radiologists might still respond with diffusely detailed answers lacking specificity. Verbose reports no doubt flow, in part, from a traditional emphasis on sensitivity, but also may represent an effort to avert medical-legal liability over a "missed diagnosis." This concern can be assuaged, we suggest, if radiologists were allowed to offer, "I answered the question as asked" as an affirmative defense to suit. Yet because malpractice rules are unique to each state, changes must be introduced incrementally, not by national fiat.

The real resistance from radiologists will be based on perceived threats to their income. To be sure, any program that employs pretest screening is redolent of so-called prior authorization schemes; programs that are routinely used to cut down utilization across the board. And it would be fair to suggest that any program that increases hassle is itself a form of rationing.[14]

Increasing the specificity of radiology services can decrease unnecessary treatments.

Radiologists' concerns can be addressed by legislation to the effect that the question/answer system is set to be revenue-neutral with regard to radiology services themselves. That is, the new regulations can guarantee that current levels of spending on sophisticated radiology tests will be maintained: if utilization goes down, the per-case reimbursement will go up. As noted, the main savings of this system are anticipated not from saving the costs of the tests themselves, but on downstream savings from avoiding unnecessary treatments. Thus, such a guarantee still falls within the aims of the program.

Beyond the question of surmounting all resistance, it is fair to ask if this program will be effective. After all, Bree et al. have shown that an inpatient program in which all radiology examinations required prior approval failed to demonstrate a reduction in resource use.[15] In response, we note that the intervention described by Bree et al. applied to inpatients only, a population with an especially high disease prevalence. Accordingly, it would not be surprising to find that a program directed at reducing inappropriate studies per se would be ineffective in that setting: in the setting of high prevalence, there are simply fewer inappropriate studies to weed out.

This question/answer approach we propose probably has greatest utility in settings where the clinical problem under investigation presents as a somatic complaint, the tests available are apt to overcall clinically irrelevant pathology, and common experience is that the tests are overused.[16] It is therefore no accident that the example we chose was the application of MRI to the complaint of back pain: this is the sweet spot for our approach. That said, the question/answer approach can be justified for all other complaints and conditions, as it only asks that physicians demonstrate explicitly the medical diagnostic reasoning processes that are implicitly required in all settings.

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In sum, advanced medical imaging is among the most effective tools of modern medicine. Yet advanced medical imaging can be overused, leading not only to wasted spending on testing itself, but wasted spending on inappropriate treatments triggered by inappropriate tests. This overuse of advanced medical imaging, we suggest, might stem in part from inadequate consideration of what exactly is asked of the radiologist. The question/answer approach we propose can help ensure clinical correlation is performed prior to imaging, as it should. This step can both save money and improve the quality of care. ■

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