Medical Imaging: The Good, The Bad and The Ugly

Pat Basu, Physician and Course Director of Health Policy, Finance and Economics
Stanford University

Aug 13, 2009

In the political minefield of healthcare reform, medical imaging has emerged as a microcosm of this contentious debate. Congress has been charged with a high stakes, high wire balancing act: to create a bill preserving quality and access while trimming unethical and unnecessary spending. Medical imaging represents such a challenge, with its undeniable benefits tainted by inappropriate use.

As a radiologist, I know first-hand how medical imaging—e.g. MRIs and CT scans-- has both revolutionized medicine and increased costs. In its current state, diagnostic imaging can be seen as "The Good, The Bad and The Ugly". Congress must separate healthy and unhealthy growth – promoting the benefits while curing malignant growth in imaging through a bill that protects patient access, realigns physician incentives and reduces excessive use.

Imaging has been a crucial tool for better diagnosis and effective cures. A nationwide survey of physicians in Health Affairs revealed CT and MRI to be the most important modern medical innovation, outranking both famous drugs (statins, HIV and chemotherapy) and interventions (angioplasty, laparoscopic surgery and joint replacement). Imaging has enabled physicians to catch diseases earlier, decrease hospitalization and replace invasive surgeries. Yet, because total imaging growth has outpaced growth in other areas of medicine, some have called for simple, unilateral cuts in imaging. That would be tantamount to banning sales in personal computers because their sales growth outpaced that of typewriters. It is important to note that advancements in imaging are just that – advancements. They have rendered more primitive forms of medicine obsolete.

However, despite all of its benefits, we haven't optimized the use of imaging. Too many unnecessary or repeat exams are performed; inappropriate utilization that forms the "bad" in the trio. The reasons for this inappropriate imaging include patient demands, fear of medical malpractice, lack of knowledge about when to use imaging, and incomplete clinical examinations prior to requesting an imaging study.

Unfortunately, when imaging is ordered without appropriate clinical work-up, it can lead to more questions than answers. Even though medical imaging is generally an extremely safe technology, inappropriate imaging creates significant direct and indirect economic costs. For example, a single unwarranted MRI can occupy an hour of scanner time and an hour of a radiologist's time, preventing or delaying access for patients who truly need it.
Since it seems unlikely that any new bill will carry tort reform, Congress can curb inappropriate use of medical imaging by adopting legislation that supports studies which help determine when new or follow-up imaging is warranted. For example, if a study demonstrated that the 3rd MRI on a single patient in a week rarely changes patient management, some of these unnecessary repeat examinations could be eliminated.

But medical imaging is not simply hampered by well-intentioned over-prescription. The ugly truth is the rapidly increasing problem of intentionally referring patients to doctors' self-owned imaging scanners for personal profit – a practice known as self-referral. Most patients are unaware of this and shocked that this is even legal.

Self-referral laws have long attempted to prevent such blatant abuses by prohibiting physicians from sending patients to facilities in which they have a financial stake. However, Congress exempted physicians offering "ancillary services" performed in their offices from the self-referral ban. Imaging was included as an ancillary service, thus creating an “in-office” loophole that has allowed advanced imaging modalities to be self-referred in the physician’s office. Providers use creative methods to exploit this loophole, for example leasing scanners at offsite locations that make it seem that they are "in their office." Even if the practice does not originate in a pre-mediated, profiteering motive, evidence confirms that utilization rapidly increases with self-referral turning these technical fees turn into annuities.

Congress can foster quality imaging by bringing professional fees for interpreting studies closer to the technical fees for simply ordering them. For example, the technical reimbursement for an MRI of the brain is ten times greater than professional reimbursement for making the diagnosis. While this technical component amortizes the immense fixed costs of the scanner, for self-referrers, the marginal cost of ordering the test is a mouse click whereas the time spent for physicians reading the study can be a matter of life and death to the patient. This decoupling of professional and technical components is a problem that pervades all aspects of the health care system.

The recent financial meltdown originated in the misaligned incentives of the finance industry; misaligned incentives in health care threaten to do the same. I am firmly on the side of proper incentives for innovation, quality and entrepreneurship. However, even physicians are not immune to human nature, and the self-referral of imaging serves as a cautionary tale. Studies demonstrate that physicians who owned scanners were between two to eight times as likely to refer patients, with an estimated cost of self-referral at a staggering $16 billion annually.

Congress must act swiftly to halt this expensive, inappropriate imaging. This can be achieved by mandating that imaging meets nationally standardized appropriateness criteria. Such guidelines are readily available. In fact, a bill passed in 2008 took a first step in this direction. An amendment to one of the health care overhaul bills being considered by Congress, The Integrity in Medicare Advanced Diagnostic Imaging Act, attempts to halt ugly self-referral practices by closing the aforementioned loophole.

The few who have used self-referral as a golden goose have jeopardized the benefits of imaging by bringing them under the notoriously blunt scalpel of Congress. As in the wider healthcare
debate, imaging requires better research, realignment of incentives and reduction of unnecessary spending. Instead of across-the-board cuts or maintaining the status quo, a thorough, explicit bill can curb these inappropriate, unethical and costly sides of medical imaging.

Pat A. Basu, M.D., M.B.A. is a Physician and Course Director of Health Policy, Finance and Economics at Stanford University.