Ownership or Leasing of MRI Facilities by Nonradiologist Physicians Is a Rapidly Growing Trend

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Purpose: To study growth trends in the ownership of magnetic resonance imaging (MRI) examinations by nonradiologist physicians who either own the equipment outright or are involved in scan leasing arrangements.

Methods and Materials: Medicare Part B data sets from 2000 through 2005 were reviewed, and procedure codes for MRI examinations were selected. The focus was on only those procedures performed at nonhospital, private-office facilities. Using Medicare's physician specialty codes, all such studies were categorized according to the specialties of the physicians who performed them. Ownership was determined by including only those claims for global or technical-component-only reimbursement. Physicians owning or leasing MRI facilities would use one or the other of these two types of claims. Professional-component-only claims were not included. Procedure volumes and growth trends were compared among radiologists and other specialists.

Results: From 2000 to 2005, private-office MRI examinations performed by radiologists increased by 83%. During the same period, private-office MRI examinations performed by nonradiologist physicians, either through owning or leasing the equipment, increased by 254%. Excluding studies performed by independent diagnostic testing facilities (for which physician ownership cannot be determined), nonradiologists' share of the private-office MRI market rose from 11% in 2000 to 20% in 2005. The nonradiologic specialties most actively involved in performing MRI were orthopedic surgery (161,296 Medicare studies in 2005), neurology (63,363 studies), primary care (58,092 studies), internal medicine subspecialties (34,317 studies), and neurosurgery (20,712 studies).

Conclusions: In the private-office setting in 2005, radiologists performed most MRI examinations. However, the growth rate from 2000 to 2005 among nonradiologist physicians was far higher, 254% compared with 83% among radiologists. Because scans performed by nonradiologists through ownership or leasing are subject to self-referral, the much more rapid growth among those physicians should be of concern to policymakers and payers.

Key Words: Magnetic resonance imaging, utilization of imaging, self-referral, medical economics, radiology and radiologists, socioeconomic issues

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Among all physician services to patients, imaging is growing the most rapidly [1-3]. At a time when cost control is an imperative, this has obviously produced concern among payers and policymakers and has led them to focus their attention on why such rapid growth is occurring. There are certainly valid reasons for imaging growth, such as the development of new technologies or procedures and expanding applications of existing technologies. However, there are other more questionable reasons, and one of these is the acquisition of imaging equipment by physicians who are then in a position to self-refer. It has been clearly shown that self-referral in imaging leads to higher utilization and costs [4-7]. The federal Stark laws were passed in the 1990s in an effort to limit this practice, but they contained a loophole, the so-called in-office ancillary services exception. As a result

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of this loophole, nonradiologist physicians or physician groups have been able to acquire advanced imaging equipment and place it in their own offices. Anecdotal reports indicate that such acquisitions are occurring on a fairly broad scale. For example, at the 2006 Economics of Diagnostic Imaging National Symposium (a well-attended course directed each fall by Lawrence Muroff, MD), a poll of the audience (consisting mostly of radiologists or radiology business managers) was taken to find out how prevalent this was. Attendees were asked how much ownership of advanced imaging equipment by nonradiologist physicians they were seeing in their areas of the country. Sixty-three percent responded that a moderate or substantial amount was occurring. There has been very little quantification of how widespread this practice is. One recent study by Mitchell [8], to be discussed in further detail later, showed that in 2004, a substantial proportion of private office magnetic resonance imaging (MRI) units in California were owned by nonradiologist physician groups.

The purpose of our investigation was to study recent nationwide trends in the ownership of MRI units by nonradiologist physicians and to compare them with ownership trends among radiologists.

MATERIALS AND METHODS

Our data sources were the Centers for Medicare and Medicaid Services Physician/Supplier Procedure Summary Master Files for 2000 through 2005. These files are the nationwide Medicare Part B summary data sets for all Medicare fee-for-service beneficiaries (approximately 88% of the total Medicare population in 2005). They provide data on all *Current Procedural Terminology*® (4th ed.) codes, including such information as procedure volumes, provider specialties, locations at which examinations are performed, and payments made. Provider specialties are determined from the 108 physician specialty codes used by Medicare. Locations at which examinations were performed are determined using Medicare's location (or place-of-service) codes. In imaging, the vast majority of studies (98.5% in 2005) are performed at 4 locations: hospital inpatient, hospital outpatient, private offices, and to a lesser extent emergency departments. For this investigation, we focused on MRI examinations performed in the private-office setting.

Owners of MRI units or other imaging equipment in nonhospital offices are entitled to recover technical component (TC) fees, which they do in one of two ways. They can bill a global fee, which includes both the TC and a professional component for interpretation. They then either interpret the studies themselves or pay other physicians (usually radiologists) to do it. Alternatively, they can bill only the TC and allow the interpreting physicians to separately bill Medicare for the professional component. We made the assumption that Medicare reimbursements under global and TC-only billing were paid to owners of the equipment or to physicians who leased the equipment. We therefore included all the global and TC-only claims in our analysis but did not include PC-only claims. In this way, we captured the specialty of every physician who owned or leased the equipment on which an MRI scan was performed. Leasing arrangements allow ordering physician lessees to "own" scans and will be further explained in the "Discussion" section. To simplify data analysis and presentation, some specialties were grouped together. In one of the peculiarities of the Medicare physician specialty codes, independent diagnostic testing facilities (IDTFs) are considered a "specialty," even though the exact specialty of any physician owner cannot be determined. Independent diagnostic testing facilities account for a substantial portion of nonhospital, office MRI examinations, as shown below.

Examination volume trends were tracked from 2000 through 2005 according to who owned or leased the MRI equipment. For further analysis within some specialties, we grouped MRI studies into 5 categories: head, spine, musculoskeletal, body, and cardiovascular. We did not include any studies done for radiation therapy planning.

RESULTS

Table 1 shows, for 2000 and 2005, the number of Medicare fee-for-service scans performed on MRI units owned or leased in the private offices of (1) radiologists, (2) all nonradiologist physicians as a group, and (3) IDTFs.

Table 1. Volume of Medicare magnetic resonance imaging examinations performed or leased in private offices or imaging centers, by specialty owning or leasing the facility, 2000 to 2005

	2000 Volume	2005 Volume	Percentage Change
Radiologists	843,357	1,541,922	+83%
IDTFs	209,695	715,704	+241%
Nonradiologists	108,509	384,186	+254%
Total	1,161,561	2,641,812	+127%

Note: IDTF = independent diagnostic testing facility.