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GAO

Testimony

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Committee on Ways and Means
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MEDICARE

Physicians Who Invest in
Imaging Centers Refer More
Patients for More Costly
Services

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SUMMARY

Freestanding diagnostic imaging centers have proliferated in many parts of the country and are also among the most popular types of physician-owned joint ventures. These have been especially prevalent in states like Florida that did not restrict the growth of health care facilities in freestanding (nonhospital) settings and had relatively high Medicare payment rates for services such as magnetic resonance imaging (MRI). In 1990, there were at least 39 freestanding MRI centers in Florida, and physicians had invested in all but one of those facilities. In fact, about 3,000 Florida physicians had a financial interest in a Florida freestanding imaging center, and 18 percent of those physicians had a financial interest in more than one imaging facility. At the request of this Subcommittee, GAO is following up on a Florida study of physician joint ventures to determine whether physician owners of imaging facilities refer more of their Medicare patients for imaging services than do nonowners. GAO analyzed 1.3 million imaging services, representing over 55 percent of all Florida Medicare referrals for imaging services in 1990.

GAO found that physician owners of Florida diagnostic imaging facilities had higher referral rates for all types of imaging services than nonowners. The differences in referral rates were greatest for costly, high technology imaging services: physician owners had 54 percent higher referral rates for MRI scans, 28 percent higher referral rates for computed tomography (CT) scans, and 25 percent higher referral rates for ultrasound and echocardiography.

Referral practices for diagnostic imaging varied among the medical specialties; while the degree of difference varied, physician owners in most specialties had higher referral rates than nonowners in the same specialty. Referral patterns also varied by the type of imaging facility in which the physician invests: for example, owners of MRI facilities referred their patients for MRI scans twice as often as other physicians.

GAO's study of diagnostic imaging referral practices provides further evidence that physician investment in medical facilities is associated with more frequent patient referral to those facilities and higher health care costs. Because its findings are based on a large-scale analysis of physician referral practices, GAO believes they provide important, new information for the Congress as it considers legislation to extend current restrictions on physician self-referral.

Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the effect on health care utilization and costs when physicians invest in medical facilities and then refer their patients to those facilities--a practice known as self-referral. Our testimony will focus on diagnostic imaging services, including high-technology, high-cost radiology services such as magnetic resonance imaging (MRI).

Preliminary results from our ongoing analysis of Florida's 1990 Medicare claims show that physicians with a financial interest in freestanding (nonhospital) imaging facilities refer their patients more frequently, for more expensive imaging services, than do other physicians. The differences were greatest for MRI referrals by MRI owners and nonowners: overall, MRI owners referred their patients for MRI scans twice as often. Furthermore, in each of the top 18 specialties, accounting for 93 percent of all the Medicare MRI referrals, MRI owners referred their patients for MRI scans more frequently than other physicians in the same specialty. For example, MRI owners in general practice referred their patients for MRI scans almost three times as often as all other physicians in general practice.

Our study results to date provide evidence that physician ownership arrangements are associated with higher utilization of health care facilities and higher costs. Because our findings are based on a large-scale analysis of physician referral practices, we believe they provide important, new information for the Congress as it considers legislation to extend current restrictions on physician self-referral.

BACKGROUND

In June 1989, we found that physician owners of clinical laboratories tended to order more laboratory tests, and more costly types of tests, than nonowners.¹ Later in 1989, the Congress enacted legislation restricting physician owners of clinical laboratories from referring their Medicare patients to those laboratories. Since 1989, several studies have indicated that self-referral for services other than clinical laboratory tests is also associated with higher utilization and increased costs. These studies have generated debate about financial and professional ethics considerations, within the medical profession as well as in the Congress and state legislatures.

In particular, a 1991 report on Joint Ventures Among Health Care Providers in Florida by the State of Florida Health Care Cost Containment Board and Florida State University raised serious

¹Medicare: Referring Physicians' Ownership of Laboratories and Imaging Centers (GAO/T-HRD-89-26, June 8, 1989).

concerns about self-referral to various types of medical facilities, including freestanding diagnostic imaging centers. That study compared the utilization and charges of physician-owned imaging centers with other imaging centers, but it did not examine physician referral behavior to determine if there were differences between the referral rates of owners and nonowners. Therefore, this Subcommittee asked us to use the information gathered for the Florida study--the only statewide information then available on physician financial interests in medical facilities--to determine if physician owners refer their Medicare patients for more imaging services than other physicians.

Using survey information gathered in 1989 and 1990 from Florida imaging facilities by Florida State University and physician information from Florida Blue Cross and Blue Shield Medicare files, we identified the Medicare provider numbers of almost 3,000 Florida physicians with a financial interest in Florida freestanding imaging centers. I will refer to these physicians as "owners" of freestanding imaging centers.²

While we did not independently verify the accuracy of the Florida State survey, we reviewed selected survey responses, met with the principal researchers, and matched selected information from the surveys with physician data from Florida Blue Cross and Blue Shield. The number of physician owners we used in our analysis is a conservative estimate of the total number of Florida physicians with a financial interest in imaging facilities in 1990. Some of the imaging facilities that responded to the Florida State survey acknowledged that they were owned by physicians, but they refused to identify those physicians. For other physician owners, we did not have sufficient information to determine their Medicare provider numbers. Thus, our "nonowner" physician groupings include some owners, which tends to understate the differences in referral rates between owners and nonowners.

To calculate physician referral rates, we used a database of all the 1990 Medicare Part B claims processed by Florida Blue Cross and Blue Shield.³ We used all imaging services that identified the referring physician and for which we could confirm, from Medicare claims, that the patient had a recent office visit with that physician. We also used imaging services where the referring

²In some cases, a physician's financial interest may have been through a member of his or her immediate family or through investment in a partnership or corporation with a parent or subsidiary relationship to the facility that actually provided the imaging services.

³The analysis presented in this testimony does not include inpatient imaging services or those imaging services performed in doctors' offices.

physician was not identified but where Medicare claims showed the patient had a recent office visit with only one potential referring physician. We visited several Florida imaging centers to review original billing and medical records to test the accuracy of our data and methodology and found that we had correctly matched imaging services to their referring physicians in over 96 percent of our test cases. Our analysis included almost 1.3 million imaging services, representing over 55 percent of all referred Medicare Part B imaging services for Florida in 1990.

To compare the referral practices of physicians who invested in freestanding imaging centers with those who did not, we calculated physician referral rates on the basis of the number of imaging referrals per 100 office visits. We did not review the medical necessity of the imaging services ordered by physicians. We did, however, analyze the referral rates of owners and nonowners by physician specialty, by type of imaging service, and by type of facility owned, to identify variations in the referral rates that might be associated with those factors.

FLORIDA HAS MANY FREESTANDING IMAGING
CENTERS AND PHYSICIANS OWN ALL BUT ONE
OF THE CENTERS PROVIDING MRI SERVICES

Freestanding diagnostic imaging centers have proliferated in many parts of the country and are also among the most popular types of physician-owned joint ventures. As discussed in a May 1992 GAO report to this Subcommittee,⁴ freestanding imaging centers have been especially prevalent in states like Florida that did not restrict the growth of health care facilities in freestanding (nonhospital) settings and had relatively high Medicare payment rates for services such as MRI scans. In 1990, there were at least 39 freestanding centers providing MRI services in Florida--some within blocks of each other--and physicians had invested in all but 1 of those facilities.

Almost 3,000 Florida physicians had a financial interest in at least 1 freestanding imaging center. Furthermore, about 18 percent of these physician owners had a financial interest in more than one imaging center, and one physician had an interest in seven imaging centers.

⁴Medicare: Excessive Payments Support the Proliferation of Costly Technology (GAO/HRD-92-59, May 27, 1992).

MOST PHYSICIAN OWNERS OF IMAGING FACILITIES
REFERRED MEDICARE PATIENTS FOR IMAGING SERVICES

Of the almost 3,000 physician owners of freestanding imaging centers, 2,510 physicians, or almost 84 percent, referred Medicare patients for imaging services in 1990. While these physician owners constituted about 14 percent of all the Florida physicians who referred Medicare patients for imaging services, they accounted for 22 percent of all the imaging referrals and 34 percent of all the MRI referrals for Florida Medicare patients in 1990.

Physician owners were represented in most of the specialties that referred Medicare patients for imaging services. The three specialties with the highest MRI referral rates were neurological surgery, neurology, and orthopedic surgery. As shown in chart 1, physicians in these specialties with a financial interest in an MRI facility constituted 24, 21, and 16 percent of all the physicians in that specialty, respectively. Thus, physician investment in an MRI facility is most prevalent among the specialties most likely to refer their patients for MRI scans.

PHYSICIAN OWNERS REFERRED THEIR PATIENTS MORE FREQUENTLY,
FOR MORE EXPENSIVE IMAGING SERVICES, THAN NONOWNERS

In 1990, Florida physicians with a financial interest in freestanding diagnostic imaging centers had higher referral rates for imaging services than other physicians. Moreover, the differences in the referral rates were greatest for costly, high-technology imaging services. As shown in chart 2, the referral rates of owners were 54 percent higher than nonowners for MRI scans, 28 percent higher for CT scans, and 25 percent higher for ultrasound and echocardiography.⁵

We further analyzed the differences in referral rates to determine if they varied by the type of imaging facility. We found, for example, that physicians with a financial interest in an MRI facility referred their patients for MRI scans twice as often.

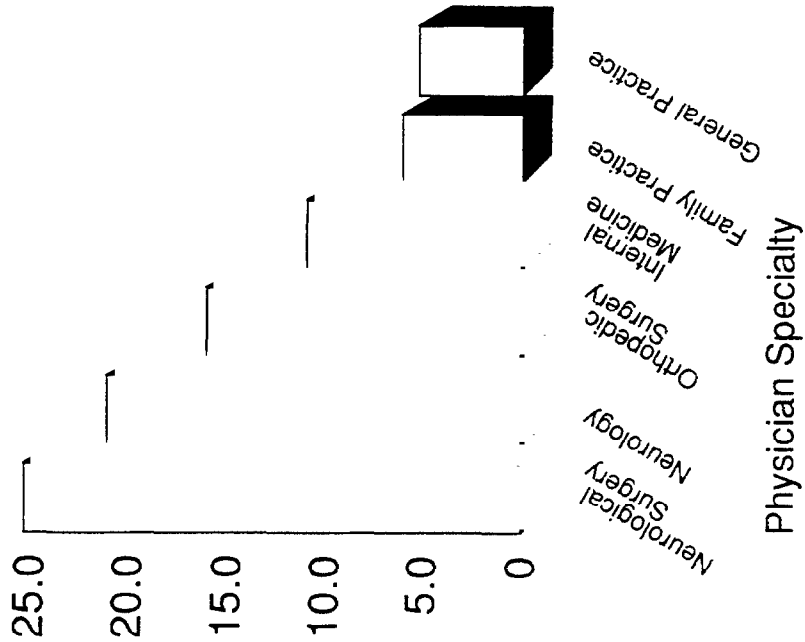
Because some specialties make greater use of imaging services than others, we also compared the referral rates of owners and nonowners within each of 49 practice specialties. For MRI referrals, the differences between owner and nonowner referral rates varied widely among the specialties, but MRI owners referred their patients for MRI scans more frequently than other physicians

⁵Owners' referral rates for simple x-rays were only 3 percent higher than nonowners, but this could be affected by the use of x-rays taken in physicians' offices. Most freestanding facilities make greater use of more complex imaging machines such as CT and MRIs. We are planning additional analyses that will include in-office imaging services.

GAO MRI Ownership Is Most Common in High Use Specialties

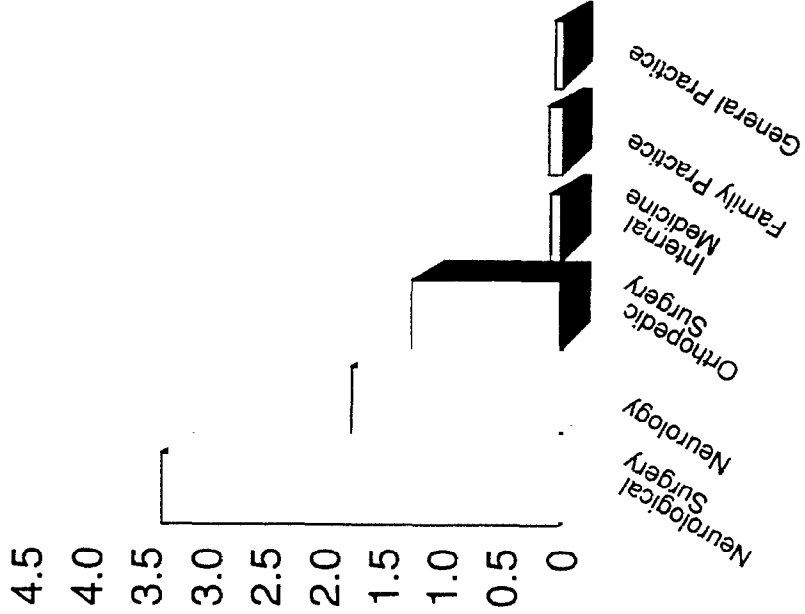
Physician Ownership in MRI Centers

Percent of Physicians in the Specialty that Own MRI Facilities



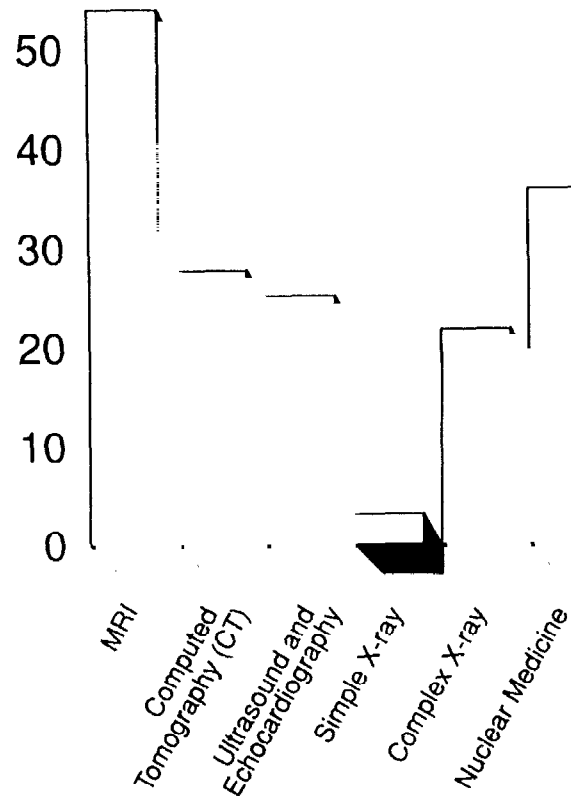
MRI Referral Rates

MRI Referrals Per 100 Office Visits



GAO Referral Rates of Owners Exceed Nonowners for All Imaging Services

60 Percent Higher Referral Rates by Owners



The percentages for each type of imaging service are based on referral rates for each physician specialty, weighted by the proportion of imaging referrals performed by that specialty.

This analysis does not include imaging services performed by physicians in their offices.

in the same specialty in each of the 18 specialties with the most MRI referrals.⁶ Chart 3 summarizes our findings for the six specialties with the most MRI referrals: in specialties with relatively low MRI referral rates--internal medicine, general practice, and family practice--MRI owners had referral rates from 35 to 181 percent higher than nonowners. Among neurologists, neurosurgeons, and orthopedic surgeons--which are the highest-use specialties--the MRI owners had referral rates from 32 to 57 percent higher than those for nonowners.

We believe this analysis of referral for imaging services, together with our earlier analysis of referral patterns for clinical laboratory services, illustrates a broad potential for higher use and higher costs through self-referral.

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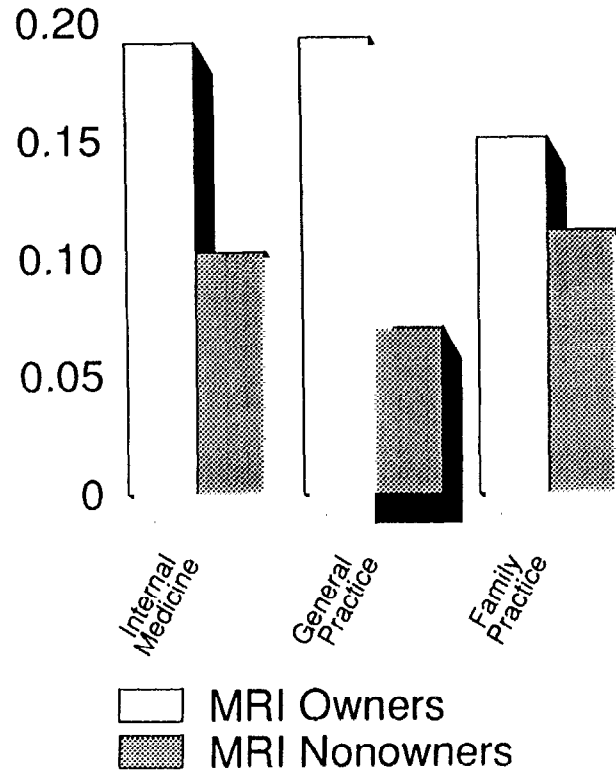
Mr. Chairman, this concludes my prepared statement. I will be happy to answer any questions you may have at this time.

⁶Taken together, these 18 specialties accounted for 93 percent of all Medicare MRI referrals.

GAO MRI Referrals for MRI Owners and Nonowners

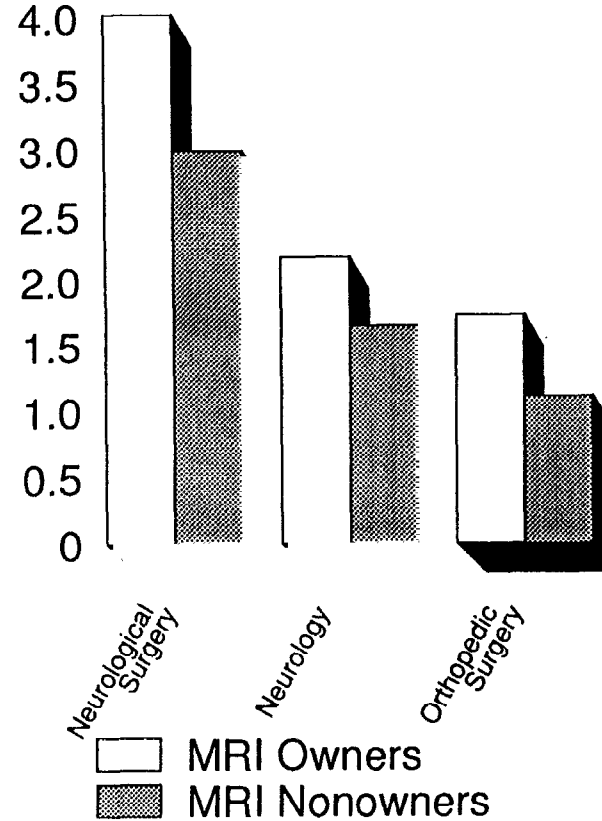
Low Use Specialties

MRI Referrals Per 100 Office Visits



High Use Specialties

MRI Referrals Per 100 Office Visits





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