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April 2014

MEDICARE PHYSICAL THERAPY

Self-Referring Providers Generally Referred More Beneficiaries but Fewer Services per Beneficiary

GAO-14-270

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GAO Highlights

Highlights of GAO-14-270, a report to congressional requesters

Why GAO Did This Study

Rising Medicare expenditures for PT services have long been of concern, and questions have been raised about the role of self-referral in this growth. Self-referral occurs when a provider refers patients to entities in which the provider or the provider's family members have a financial interest.

GAO was asked to examine self-referral for PT services and Medicare spending for these services. This report examines (1) trends in the number of and expenditures for self-referred and non-self-referred Medicare PT services and (2) how provision of these services differs among providers on the basis of whether they self-refer. GAO analyzed Medicare Part B claims data from 2004 through 2010 and examined three measures of PT referral for each referring provider: number of PT services referred, number of beneficiaries referred, and number of PT services provided per beneficiary. GAO compared PT referrals for self-referring and non-self-referring providers after accounting for referring provider specialty, Medicare beneficiary practice size, and geographic (urban or rural) location. GAO also compared selected characteristics of the beneficiaries referred by self-referring and non-self-referring providers.

The Department of Health and Human Services stated that it had no comments on a draft of this report.

View GAO-14-270. For more information, contact James Cosgrove at (202) 512-7114 or cosgrovej@gao.gov.

What GAO Found

From 2004 to 2010, non-self-referred physical therapy (PT) services increased at a faster rate than self-referred PT services. During this period, the number of self-referred PT services per 1,000 Medicare fee-for-service beneficiaries was generally flat, while non-self-referred PT services grew by about 41 percent. Similarly, the growth rate in expenditures associated with non-self-referred PT services was also higher than for self-referred services.

The relationship between provider self-referral status and PT referral patterns was mixed and varied on the basis of referring provider specialty, Medicare beneficiary practice size, and geography. GAO examined three measures of PT referral for each referring provider for the three provider specialties that referred nearly 75 percent of PT services in 2010—family practice, internal medicine, and orthopedic surgery.

- The overall relationship between provider referral status and the first measure of PT referrals—the average number of PT services referred per provider—was mixed. GAO found that self-referring family practice and internal medicine providers in urban areas, on average, generally referred more PT services than their non-self-referring counterparts. In contrast, self-referring orthopedic surgeons, on average, generally referred fewer PT services than non-self-referring orthopedic surgeons.
- Self-referring providers in all three specialties that GAO examined generally referred more beneficiaries for PT services, on average, but for fewer PT services per beneficiary compared with non-self-referring providers. For these two measures of PT referrals, differences between self-referring and non-self-referring providers generally persisted after accounting for referring providers' specialty, Medicare beneficiary practice size, and geographic location, although the magnitude of these differences varied on the basis of these factors. For example, the average number of beneficiaries referred by self-referring family practice providers in urban areas was approximately 43 to 87 percent higher than for their non-self-referring counterparts, depending on Medicare practice size. In contrast, beneficiaries referred by self-referring family practice providers in urban areas received 12 to 28 percent fewer PT services, on average, depending on practice size, compared with their non-self-referring counterparts.
- GAO also found that in the year a provider began to self-refer, PT service referrals increased at a higher rate relative to non-self-referring providers of the same specialty. For example, family practice providers that began self-referring in 2009 increased PT referrals 33 percent between 2008 and 2010. In contrast, non-self-referring family practice providers increased their PT service referrals 14 percent during this same period.

Contents

Letter 1

Background 6
Self-Referred PT Services and Expenditures from 2004 through 2010 Were Generally Flat, While Non-Self-Referred PT Services and Expenditures Increased 8
PT Referral Patterns Differed on the Basis of Whether the Providers Self-Referred 11
Concluding Observations 26
Agency and Third-Party Comments and Our Evaluation 27

Appendix I Scope and Methodology 32

Appendix II Distribution of Medicare Physical Therapy Services for Self-Referring and Non-Self-Referring Providers, 2010 38

Appendix III Providers Who Referred Medicare Physical Therapy Services, by Selected Characteristics, 2010 41

Appendix IV GAO Contact and Staff Acknowledgments 43

Tables

Table 1: Average Number of Medicare Physical Therapy Services Referred in Urban Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 13
Table 2: Average Number of Medicare Physical Therapy Services Referred in Rural Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 14
Table 3: Average Number of Medicare Beneficiary Referrals for Physical Therapy Services in Urban Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 16

Table 4: Average Number of Medicare Beneficiary Referrals for Physical Therapy Services in Rural Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 18
Table 5: Average Number of Physical Therapy Services Received per Medicare Beneficiary in Urban Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 20
Table 6: Average Number of Physical Therapy Services Received per Medicare Beneficiary in Rural Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 21
Table 7: Selected Characteristics of Medicare Beneficiaries Referred for Physical Therapy Services by Self-Referring and Non-Self-Referring Providers in Selected Specialties, 2010 23
Table 8: Percentage of Medicare Beneficiaries Referred for Physical Therapy Services by Self-Referring and Non-Self-Referring Providers in Selected Specialties by Diagnostic Category, 2010 24
Table 9: Change in Average Number of Medicare Physical Therapy Services Referred for Self-Referring Providers, Non-Self-Referring Providers, and Switchers in Selected Specialties Who Had at Least One Office Referral, 2008 and 2010 25
Table 10: Distribution of Physical Therapy Services for Self-Referring and Non-Self-Referring Family Practice Providers, 2010 38
Table 11: Distribution of Medicare Physical Therapy Services for Self-Referring and Non-Self-Referring Internal Medicine Providers, 2010 39
Table 12: Distribution of Medicare Physical Therapy Services for Self-Referring and Non-Self-Referring Orthopedic Surgery Providers, 2010 40
Table 13: Providers in Urban Areas Who Referred Medicare Physical Therapy Services, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 41
Table 14: Providers in Rural Areas who Referred Medicare Physical Therapy Services, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010 42

Figures

Figure 1: Trends in Number of Self-Referred and Non-Self-Referred Physical Therapy Services per 1,000 Medicare Fee-for-Service Beneficiaries, 2004-2010 9
Figure 2: Trends in Self-Referred and Non-Self-Referred Medicare Physical Therapy Expenditures, 2004-2010 11

Abbreviations

AAFP	American Academy of Family Physicians
AAOS	American Academy of Orthopaedic Surgeons
ACP	American College of Physicians
APTA	American Physical Therapy Association
BBA	Balanced Budget Act of 1997
CCS	Clinical Classification Software
CMS	Centers for Medicare & Medicaid Services
FFS	fee-for-service
HCPCS	Healthcare Common Procedure Coding System
ICD-9-CM	International Classification of Diseases, Ninth Revision, Clinical Modification
NPI	national provider identifier
PT	physical therapy
TIN	Taxpayer Identification Number

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April 30, 2014

The Honorable Charles E. Grassley
Ranking Member
Committee on the Judiciary
United States Senate

The Honorable Henry A. Waxman
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Sander Levin
Ranking Member
Committee on Ways and Means
House of Representatives

Rising Medicare spending for outpatient therapy services, including physical therapy (PT), has long been an issue. Between 2006 and 2009, Medicare expenditures for outpatient PT increased by approximately 28 percent, while the national economy grew about 4 percent. In 2011, Medicare paid about $4.1 billion for outpatient PT services provided to about 4.3 million Medicare beneficiaries. PT services, such as therapeutic exercises, are designed to improve mobility, strength, and physical functioning, and to limit the extent of disability resulting from injury or disease. An aging U.S. population that remains active later than previous generations may have contributed to an increase in demand for such services. However, there is concern that not all PT services may be medically necessary, and selected legislation has focused on reforming how the Centers for Medicare & Medicaid Services (CMS)—the agency that administers the Medicare program—pays for and manages the outpatient therapy benefit. For example, under the Balanced Budget Act of 1997 (BBA), CMS was required to apply per beneficiary financial limits, known as therapy caps, to help control spending growth and discourage

medically unnecessary use of outpatient therapy services, including PT.[1] More recently, the Middle Class Tax Relief and Job Creation Act of 2012 required CMS to gather information on patient function during the course of therapy to better understand patient condition and outcomes for outpatient therapy claims, including PT, beginning January 1, 2013.[2]

Some policymakers also have expressed concern that some of the growth in PT may be the result of provider self-referral, which occurs when providers refer their patients for services delivered by entities—such as their own solo or group practice—in which they or a member of their family have a financial relationship.[3] While federal law generally prohibits self-referral under Medicare, there are exceptions for certain services and arrangements, including PT.[4] Opponents of self-referral for PT suggest that financial incentives may lead providers to initiate PT services more frequently than is necessary, leading to overutilization and

[1]Pub. L. No. 105-33, § 4541, 111 Stat. 251, 454. BBA established a combined $1,500 cap for PT and speech-language pathology for calendar year 1999. The amount of the therapy caps is calculated annually to account for increases in the Medicare economic index, and has increased to $1,920 in 2014 for PT and speech-language pathology services combined. Since BBA, therapy caps were in effect only in 1999 and in part of 2003; in other years, Congress imposed temporary moratoria on the caps in response to concerns that patients with an extensive need for outpatient therapy services might be adversely affected by the caps. See, for example, Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999, Pub. L. No. 106-113, App. F, § 221(a), 113 Stat. 1501, 1501A-351; Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, Pub. L. No. 106-554, App. F, § 421(a), 114, Stat. 2763, 2763A-516; Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA), Pub. L. No. 108-173, § 624(a), 117 Stat. 2066, 2317.

[2]Pub. L. No. 112-96, § 3005(g), 126 Stat. 156, 189. The Middle Class Tax Relief and Job Creation Act of 2012 made several changes affecting the processing of claims for outpatient therapy services. For example, the act required CMS to begin conducting manual medical reviews of requests for exceptions for outpatient therapy claims over an annual threshold of $3,700 for services provided on or after October 1, 2012 and required that the national provider identification number of the physician who certifies the plan of care be included on Medicare claims for outpatient therapy services, including PT.

[3]For example, a provider may refer patients to a physical therapist who is employed by the provider or the provider's group practice.

[4]Compliance with the physician self-referral law, commonly known as the Stark Law, is outside the scope of this report. The Stark Law prohibits physicians from making referrals for certain designated health services paid for by Medicare to entities with which the physicians or immediate family members have a financial relationship, unless the arrangement complies with a specific exception, such as in-office ancillary services. 42 U.S.C. § 1395nn(b)(2). The requirements of the in-office ancillary services exception are found at 42 C.F.R § 411.355(b)(2013).

increased Medicare spending. Proponents of PT self-referral suggest that such arrangements allow providers to improve coordination of care and provide patients with convenient access to PT services. Some proponents also have argued that physical therapists practicing independently can have a financial incentive to recommend additional PT visits and perform more PT procedures per visit than may be medically necessary.

We have recently reported on self-referral for advanced imaging, anatomic pathology, and intensity modulated radiation therapy.[5] We generally found that providers who self-refer tended to use more of these health care services, in some cases resulting in additional Medicare spending. You also asked us to examine provider self-referral for PT services and Medicare spending for these services. In this report, we provide information on (1) trends in the number of and expenditures for self-referred and non-self-referred Medicare PT services from 2004 through 2010 and (2) how provision of these services differs among providers on the basis of whether they self-refer.

To identify trends in the utilization of and expenditures for self-referred and non-self-referred PT services, we analyzed 100 percent of Medicare fee-for-service (FFS) claims from the Medicare Part B Carrier File from 2004 through 2010 for PT services provided in professional offices.[6] Because there is no "indicator" or "flag" on Medicare claims to identify whether PT services are self-referred or non-self-referred, we developed a claims-based methodology for identifying self-referred services. We classified services as self-referred if the provider shown in the referring provider field for PT services and the provider that performed the PT

[5]For studies by GAO on physician self-referral, see GAO, *Medicare: Higher Use of Advanced Imaging Services by Providers Who Self-Refer Costing Medicare Millions,* GAO-12-966 (Washington, D.C.: Sept. 28, 2012); GAO, *Medicare: Action Needed to Address Higher Use of Anatomic Pathology Services by Providers Who Self-Refer,* GAO-13-445 (Washington, D.C.: June 24, 2013); and GAO, *Medicare: Higher Use of Costly Prostate Cancer Treatment by Providers Who Self-Refer Warrants Scrutiny*, GAO-13-525 (Washington, D.C.: July 19, 2013).

[6]Medicare data from the Carrier file include data from the CMS-1500, which is the standard claim form used by noninstitutional providers, such as physicians' offices and physical therapists' private practices, to bill Medicare. Some of the PT services reported on the CMS-1500 may be provided in patients' homes. We used Healthcare Common Procedure Coding System (HCPCS) codes to identify PT services, and included claims for all office-based PT services that were covered by Medicare.

service had a financial relationship with the same entity.[7] We classified services as non-self-referred if the provider shown in the referring provider field for PT services had no financial relationship with the provider who performed the PT service.[8] After we classified PT services as self-referred or non-self-referred, we used the claims to identify trends in the number of self-referred and non-self-referred PT services and expenditures for PT services performed from 2004 through 2010.[9] (See app. I for more details on our scope and methodology.)

To determine the extent to which the referral of PT services differed for providers who self-referred when compared with other providers, we classified providers into subgroups based on characteristics that may be associated with the amount of PT referrals. We then performed two analyses using 100 percent of Medicare Part B claims for PT services provided in both professional offices and facility settings. For the first analysis, we compared PT referrals during 2010 by providers who self-referred at least one beneficiary for PT services ("self-referring" providers) with providers who referred all beneficiaries for PT services to provider(s) with whom they had no financial relationship ("non-self-referring" providers).[10] Because the amount, frequency, and duration of PT services may vary for each beneficiary, we examined three PT referral measures for each referring provider: total number of PT services referred, total number of beneficiaries referred, and average number of PT services received by each beneficiary referred. Differences in these measures of PT referrals between providers may reflect differences due to self-referral status, provider characteristics, or beneficiary characteristics. To account for provider characteristics that may be associated with the amount of PT referrals, we categorized self-referring and non-self-referring providers

[7]Providers could have a financial relationship with the same entity if, for example, they are part of the same group practice.

[8]CMS uses the provider shown in the referring provider field to identify the provider who certified the beneficiary's plan of care for PT services. In some cases the certifying provider may be different from the referring provider. In this study we refer to the provider shown in the referring provider field as the referring provider.

[9]Expenditure trends are based on allowed charges from the claims. Allowed charges include the payments made by both the beneficiary and the Medicare program.

[10]All self-referring and non-self-referring providers in this study referred at least one PT service to a professional office, and some may have also referred PT services to a facility setting. We assumed that all PT services referred to a facility setting were non-self-referred services.

into subgroups of similar specialties, geographic areas (urban/rural location), and beneficiary practice size (i.e., the number of Medicare FFS beneficiaries treated in a professional office for any medical condition), and examined our three PT referral measures for self-referring and non-self-referring providers of each subgroup.[11] We examined PT referral measures for providers in three specialties that we found referred nearly 75 percent of PT services in 2010—family practice, internal medicine, and orthopedic surgery.[12] To account for differences in beneficiary characteristics, we compared selected characteristics of the beneficiaries referred by self-referring and non-self-referring providers, such as beneficiary age and disability status.

For our second analysis, we analyzed the extent to which the total number of PT services referred changed the year after providers began to self-refer. Specifically, we identified a group of providers that began to self-refer PT services in 2009. We then calculated the difference in the percentage change in the number of PT services referred by two groups of providers—"switchers" and non-self-referring providers. Switchers were non-self-referring during 2008 and self-referring during 2009 and 2010. Switchers may have begun to self-refer in 2009 by hiring PT provider(s) or joining a group practice that self-referred. Non-self-referring providers were providers who were non-self-referring throughout 2008, 2009, and 2010.

Our study has some limitations. First, we may not have identified all self-referred PT services because CMS uses the referring provider identifier on PT claims to identify the provider who certified the beneficiary's plan of care, and in some cases the referring provider may be different from the certifying provider. In addition, Medicare claims data do not capture all financial relationships between performing and referring providers. Second, we may have understated the occurrence of certain self-referral

[11]For example, the number of PT services providers refer may increase as their Medicare beneficiary practice size increases. Examining PT referral measures for providers within each subgroup helps to account for provider characteristics that may be associated with the amount of PT referrals and provides a better estimate of how providers' PT referral patterns vary on the basis of whether they self-refer.

[12]During 2010, family practice providers referred approximately 20 percent of PT services with a unique referring provider identifier, internal medicine providers referred 26 percent, and orthopedic surgeons referred 28 percent. We also examined other provider specialties that self-referred PT services, including neurology, podiatry, and physical medicine.

arrangements, such as referring physician ownership of hospitals, by assuming that all PT services referred to facilities were non-self-referred. Third, our analysis that compares PT diagnostic categories for beneficiaries referred by self-referring and non-self-referring providers is based on data that CMS does not use to determine payment for PT services. Consequently, providers do not have a financial incentive to accurately report diagnostic data for PT services on Medicare claims. Finally, it is outside the scope of this report to examine the medical necessity, clinical appropriateness, or effectiveness of PT services beneficiaries received.

We assessed the reliability of the CMS data we used by interviewing officials responsible for overseeing these data sources, reviewing relevant documentation, comparing means and frequencies of selected variables with published data, and examining the data for obvious errors. We determined that the data were sufficiently reliable for the purposes of this report.

We conducted this performance audit from February 2012 through April 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

PT treatment consists of a planned program to relieve symptoms, improve function, and prevent further disability for individuals disabled by chronic or acute disease or injury. Health conditions that require physical rehabilitation, such as low back pain, bursitis, stroke, Parkinson's disease, or arthritis, may benefit from PT services. Beneficiaries are eligible to receive outpatient PT under Medicare Part B, which covers diagnosis and treatment of impairments, functional limitations, disabilities, or changes in physical function and health status. Medicare-covered outpatient PT services are provided in institutional settings such as hospital outpatient departments and skilled nursing facilities, as well as noninstitutional settings such as physicians' offices and PT clinics.

To be covered by Medicare, outpatient PT services must be medically necessary, furnished while the beneficiary is or was under the care of a physician, and provided under a written plan of care established by an appropriate medical professional, such as a physician or physical

therapist. The plan of care is required to contain, among other information, the amount, duration, and frequency of PT services.[13] The plan of care must be certified by a physician or nonphysician practitioner within 30 days of the initial therapy treatment, and must be recertified at least every 90 days after the initial treatment.[14] Medicare does not require that a beneficiary obtain a physician referral to initiate PT services.[15] However, if a physician referral for PT services is documented in the medical record, it provides evidence that the patient was under the care of a physician.

PT services are billed using Healthcare Common Procedure Coding System (HCPCS) codes; examples of HCPCS codes for PT services include therapeutic exercises and massage therapy. Each Medicare claim for PT can include one or more HCPCS codes, as well as one or more 15-minute "units" for each timed code.[16]

[13]42 CFR §§ 424.24(c)(1)(iii), 410.61(c). For example, the plan of care for PT services may be documented as "once daily, three times per week, over 6 weeks." CMS, *Medicare Benefit Policy Manual*, Chapter 15, § 220.1.2 (2012).

[14]42 CFR § 424.24(c)(4)(i).

[15]According to the American Physical Therapy Association, 48 states and the District of Columbia have state laws that allow "direct access" to certain PT services without a physician referral. Michigan and Oklahoma allow PT evaluation without referral, but not treatment. The association estimates that less than 10 percent of patients obtain PT services without a physician referral, and this percentage may vary by state depending on the specific provisions in state direct access laws.

[16]For example, a Medicare claim line with a timed PT HCPCS code and a unit count of "2" means that a beneficiary received two 15-minute increments of that service. Not all PT services are timed. For example, the HCPCS code for PT evaluation is untimed.

Self-Referred PT Services and Expenditures from 2004 through 2010 Were Generally Flat, While Non-Self-Referred PT Services and Expenditures Increased

The total number of PT services provided to Medicare beneficiaries increased nearly 30 percent from 2004 through 2010. Over this period, the number of self-referred PT services was generally flat, while the number of non-self-referred PT services increased. In addition, expenditures increased over this time period for both self-referred and non-self-referred PT services, but this increase was larger for services that were not self-referred.[17]

Self-Referred PT Services Were Generally Flat; Non-Self-Referred Services Increased About 40 Percent

The total number of PT services provided to Medicare beneficiaries increased nearly 30 percent from 2004 through 2010, despite a small decrease in the total number of FFS beneficiaries over this same period.[18] From 2004 to 2010, the number of services per 1,000 FFS beneficiaries that we identified as self-referred was generally flat—about 320 services in both 2004 and 2010 (see fig. 1).[19] In contrast, the number of non-self-referred PT services per 1,000 FFS beneficiaries grew by about 41 percent, from about 903 in 2004 to about 1,275 services in 2010. Because of the rapid growth in non-self-referred PT services, the

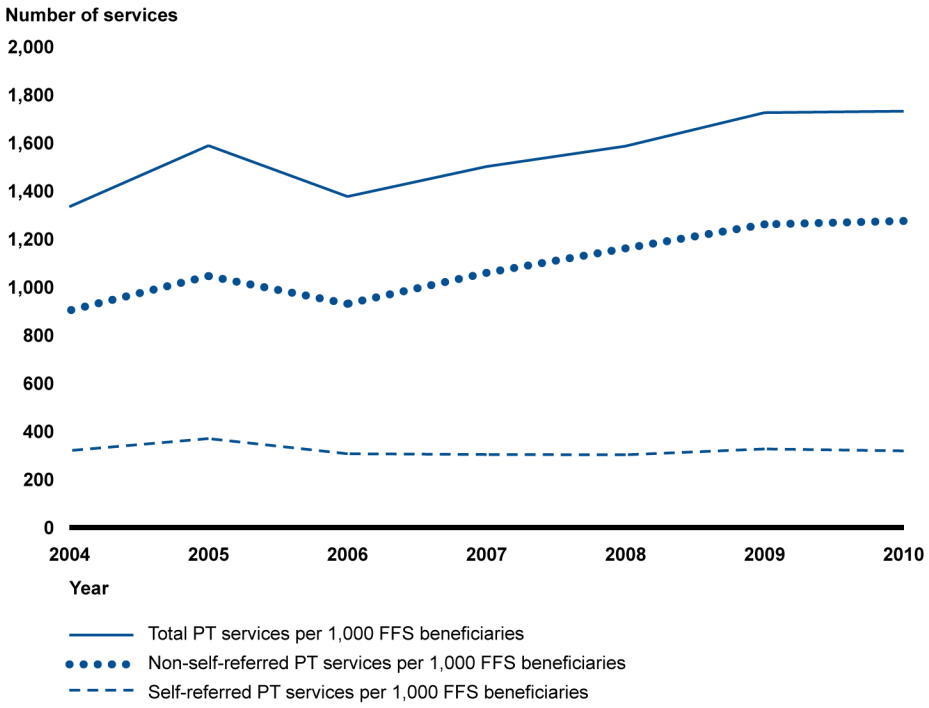
[17]We previously reported that self-referred services and expenditures for advanced imaging, anatomic pathology, and intensity-modulated radiation therapy grew faster than non-self-referred services and expenditures. See GAO-12-966, GAO-13-445, and GAO-13-525. One potential reason for this difference is that non-self-referred PT services can be performed by providers who can directly influence the amount, duration, and frequency of PT services through the written plan of care required by Medicare. In contrast, non-self-referred services we examined for our prior work tend to be performed by providers who have more limited ability to generate additional services or referrals; for example, radiologists generally do not have the discretion to order more imaging services or more intense imaging procedures.

[18]As a result of increased enrollment in Medicare Advantage, the number of Medicare FFS beneficiaries decreased from 2004 to 2010, going from approximately 35.5 million to approximately 35.3 million. The Medicare Advantage program is an alternative to the original Medicare FFS program in which private health insurance plans offer health care coverage to Medicare beneficiaries.

[19]Self-referred PT services per 1,000 FFS beneficiaries changed from approximately 320 to approximately 319 (about -0.3 percent) from 2004 to 2010.

proportion of PT services that were self-referred decreased from about 24 percent in 2004 to about 18 percent in 2010.

Figure 1: Trends in Number of Self-Referred and Non-Self-Referred Physical Therapy Services per 1,000 Medicare Fee-for-Service Beneficiaries, 2004-2010



Source: GAO analysis of CMS data.

Note: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office or PT clinic. Total PT services per 1,000 fee-for-service (FFS) beneficiaries include PT services that we could not classify as self-referred or non-self-referred because a referring provider identifier was not included on the Medicare claim. From 2004 to 2010, approximately 8.9 percent of Medicare claims for PT services provided in a physician office or PT clinic did not include a referring provider identifier.

The overall increase in PT services is likely due, in part, to an increase in the proportion of Medicare beneficiaries receiving these services. In 2004, approximately 4 percent of all Medicare FFS beneficiaries received PT services; this increased to approximately 6 percent in 2010. However, from 2004 through 2010, the number of beneficiaries that received self-referred PT services increased only 12 percent, while the number of beneficiaries that received non-self-referred PT services increased nearly 44 percent. In addition, the number of both self-referred and non-self-

referred PT services temporarily declined in 2006, likely due to the reinstatement of the therapy payment cap on PT services.[20]

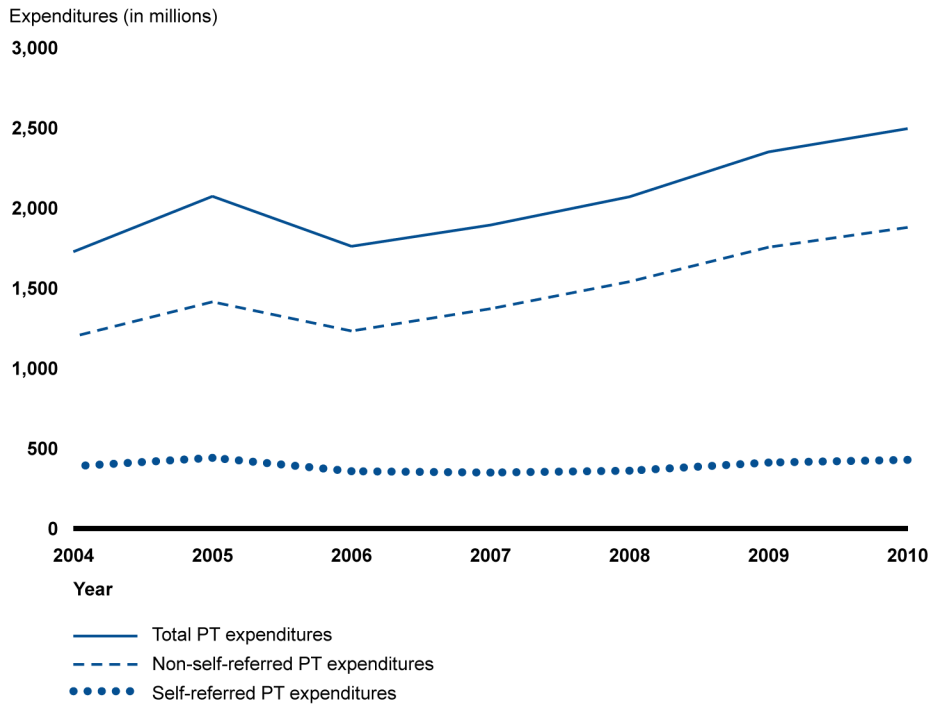
Expenditures for Self-Referred PT Services Increased About 10 Percent; Expenditures for Non-Self-Referred Services Increased Nearly 60 Percent

Expenditures for both self-referred and non-self-referred PT services grew from 2004 to 2010, but the increase was smaller for self-referred services (see fig. 2). Specifically, expenditures for self-referred services increased from $389 million to $428 million, an increase of about 10 percent. In contrast, expenditures for non-self-referred services increased from $1.2 billion in 2004 to $1.9 billion in 2010, an increase of about 57 percent. The larger increase in non-self-referred expenditures from 2004 to 2010 reflects the disproportionate increase in the number of beneficiaries receiving non-self-referred PT services over this period as well as more rapid growth in the number of 15-minute units billed for non-self-referred PT services.[21]

[20]Beginning in January 2006, beneficiaries could exceed the therapy payment caps through an exceptions process. Under an automatic exceptions process, beneficiaries who had qualifying conditions could exceed the therapy caps, while those who were not eligible for the automatic exceptions process could apply for a manual exception if they required services beyond the cap. In 2007, the exceptions process became fully automatic, allowing a provider to certify the medical necessity of therapy services in excess of the cap by adding a modifier to the therapy claim.

[21]On average, self-referred PT services were billed for a slightly shorter period of time than non-self-referred PT services. In 2010, the average number of 15-minute units billed per self-referred PT service was 1.4, or approximately 21 minutes per service; in contrast, the average number of 15-minute units billed per non-self-referred PT service was 1.5, which corresponds to approximately 23 minutes of therapy per service. Further, the average number of 15-minute units associated with each self-referred PT service grew less than 1 percent from 2004 through 2010, while the average number of units associated with each non-self-referred PT service grew 5.7 percent over this period.

Figure 2: Trends in Self-Referred and Non-Self-Referred Medicare Physical Therapy Expenditures, 2004-2010



Source: GAO analysis of CMS data.

Note: Medicare expenditures are in nominal dollars. We analyzed 100 percent of Medicare Part B claims data and included all expenditures for physical therapy (PT) Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office or PT clinic. Total PT expenditures include PT services that we could not classify as self-referred or non-self-referred because a referring provider identifier was not included on the Medicare claim. From 2004 to 2010, approximately 8.6 percent of Medicare claims for PT expenditures in a physician office or PT clinic did not include a referring provider identifier.

PT Referral Patterns Differed on the Basis of Whether the Providers Self-Referred

The overall relationship between provider referral status and the average number of PT services referred per provider was mixed and varied on the basis of referring provider specialty, Medicare beneficiary practice size, and geography. For example, self-referring family practice and internal medicine providers in urban areas, on average, generally referred more PT services in 2010 than their non-self-referring counterparts. Self-referring orthopedic surgeons, on average, generally referred fewer PT services than non-self-referring orthopedic surgeons. In addition, self-referring providers generally referred more beneficiaries for PT services, on average, than non-self-referring providers after accounting for differences in provider specialty, Medicare beneficiary practice size, and

geography.[22] However, self-referring providers, on average, referred fewer PT services per beneficiary than non-self-referring providers. Providers' referrals for PT services increased the year after they began to self-refer at a greater rate than non-self-referring providers.

Overall Relationship between Provider Referral Status and Average Number of PT Services Referred Was Mixed

In 2010, the relationship between provider referral status and number of PT services referred across all beneficiaries differed on the basis of geography, provider specialty, and Medicare beneficiary practice size. In urban areas, self-referring providers generally referred more PT services, on average, than non-self-referring providers, with some exceptions (see table 1). For example, self-referring family practice providers in urban areas referred more services, on average, than non-self-referring family practice providers in every beneficiary practice size category. In contrast, self-referring orthopedic surgeons in urban areas referred fewer PT services, on average, in every beneficiary practice size category except the middle category (101 to 250 beneficiaries).

[22]We determined Medicare beneficiary practice size on the basis of the number of unique Medicare FFS beneficiaries who received at least one service in a professional office from each provider for any medical condition covered by Medicare. Geographic location refers to the urban or rural location based on designations from the U.S. Census Bureau.

Table 1: Average Number of Medicare Physical Therapy Services Referred in Urban Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Urban self-referring providers	Urban non-self-referring providers	Relative rate of self-referring providers[b]
Family practice			
0 to 50	150.2	119.5	1.26
51 to 100	185.9	129.1	1.44
101 to 250	385.4	276.0	1.40
251 to 500	848.6	625.8	1.36
501+	1,756.3	1,639.2	1.07
Internal medicine			
0 to 50	150.8	175.5	0.86
51 to 100	361.4	143.2	2.52
101 to 250	465.9	309.1	1.51
251 to 500	799.4	679.5	1.18
501+	1,811.4	1,567.5	1.16
Orthopedic surgery			
0 to 50	195.7	243.9	0.80
51 to 100	431.9	442.0	0.98
101 to 250	1,001.4	984.7	1.02
251 to 500	1,892.1	2,034.4	0.93
501+	3,960.3	4,124.8	0.96

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. We considered providers to be self-referring if they self-referred at least one PT service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in urban areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 4,869 self-referring providers in family practice, 4,367 in internal medicine, and 6,458 in orthopedic surgery in urban areas. There were 35,977 non-self-referring providers in family practice, 39,981 in internal medicine, and 11,463 in orthopedic surgery in urban areas.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique Medicare fee-for-service (FFS) beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare FFS beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal

to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

In rural areas, self-referring providers in the three specialties generally referred fewer PT services, on average, than non-self-referring providers, with some exceptions, as shown in table 2.[23] For example, self-referring family practice providers with a beneficiary practice size greater than 500, and orthopedic surgeons in rural areas with a beneficiary practice size of 251 through 500 beneficiaries referred more PT services, on average.

Table 2: Average Number of Medicare Physical Therapy Services Referred in Rural Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Rural self-referring providers	Rural non-self-referring providers	Relative rate of self-referring providers[b]
Family practice			
0 to 50	226.5	245.8	0.92
51 to 100	222.9	321.5	0.69
101 to 250	311.0	393.4	0.79
251 to 500	682.3	718.7	0.95
501+	1,969.3	1,442.9	1.36
Internal medicine			
0 to 50	211.1	320.0	0.66
51 to 100	415.2	372.2	1.12
101 to 250	405.1	398.4	1.02
251 to 500	567.4	645.6	0.88
501+	1,332.3	1,440.2	0.93
Orthopedic surgery			
0 to 50	169.8	227.7	0.75
51 to 100	213.7	320.7	0.67
101 to 250	667.4	841.5	0.79
251 to 500	1,654.4	1,559.2	1.06
501+	3,069.2	3,222.1	0.95

Source: GAO analysis of CMS data.

[23]During 2010, a smaller percentage of family practice, internal medicine, and orthopedic surgery providers in rural areas were self-referring compared with their urban counterparts.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. We considered providers as self-referring if they self-referred at least one PT service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in rural areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 964 self-referring providers in family practice, 452 in internal medicine, and 596 in orthopedic surgery in rural areas. There were 11,492 non-self-referring providers in family practice, 5,584 in internal medicine, and 2,327 in orthopedic surgery in rural areas.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique Medicare fee-for-service (FFS) beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare FFS beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

In 2010, Self-Referring Providers Generally Referred More Beneficiaries, on Average, but Referred Fewer PT Services per Beneficiary

Self-referring providers generally referred more beneficiaries for PT services during 2010, on average, but referred fewer PT services per beneficiary compared with non-self-referring providers. Specifically, in urban areas, self-referring providers in family practice, internal medicine, and orthopedic surgery referred more beneficiaries for PT services on average, than their non-self-referring counterparts in every Medicare beneficiary practice size category.[24] However, the magnitude of the differences between the two groups varied by specialty and practice size. For example, the average number of beneficiaries referred by self-referring orthopedic surgeons was 13 to 29 percent higher than for their non-self-referring counterparts, depending on the beneficiary practice size category, while the average number of beneficiaries referred by self-referring family practice providers was approximately 43 to 87 percent

[24]We classified referring providers into five beneficiary practice size groups: 0 to 50, 51 to 100, 101 to 250, 251 to 500, and 501 or more beneficiaries. Some referring providers had a beneficiary practice size of zero because they treated all their beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

higher than for their non-self-referring counterparts, depending on the beneficiary practice size category (see table 3).[25]

Table 3: Average Number of Medicare Beneficiary Referrals for Physical Therapy Services in Urban Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Urban self-referring providers	Urban non-self-referring providers	Relative rate of self-referring providers[b]
Family practice			
0 to 50	5.6	4.0	1.43
51 to 100	8.9	4.8	1.87
101 to 250	15.0	8.8	1.71
251 to 500	26.6	16.3	1.63
501+	48.2	32.3	1.49
Internal medicine			
0 to 50	6.7	4.9	1.35
51 to 100	11.5	4.8	2.40
101 to 250	16.9	9.2	1.83
251 to 500	27.2	17.8	1.53
501+	48.8	33.8	1.44
Orthopedic surgery			
0 to 50	8.4	7.4	1.13
51 to 100	18.4	14.4	1.28
101 to 250	39.6	30.8	1.29
251 to 500	72.2	61.5	1.17
501+	140.5	118.7	1.18

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. For this analysis, we considered providers as self-referring if they self-referred at least one PT service during 2010, and as non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To

[25]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

identify providers as practicing in urban areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 4,869 self-referring providers in family practice, 4,367 in internal medicine, and 6,458 in orthopedic surgery in urban areas. There were 35,977 non-self-referring providers in family practice, 39,981 in internal medicine, and 11,463 in orthopedic surgery in urban areas.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique Medicare fee-for-service (FFS) beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare FFS beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

In general, self-referring providers in rural areas also tended to refer more beneficiaries for PT services across provider specialties and practice size categories. In rural areas, self-referring providers in family practice in our smallest beneficiary practice size category and orthopedic surgery with a practice size of 51 to 100 beneficiaries referred fewer beneficiaries for PT services, on average, than their non-self-referring counterparts. However, in all other instances, self-referring providers in rural areas referred more beneficiaries for PT services, on average, than their non-self-referring counterparts. For example, self-referring internal medicine providers in rural areas referred about 25 to 94 percent more beneficiaries than their non-self-referring counterparts, depending on the beneficiary practice size category (see table 4).

Table 4: Average Number of Medicare Beneficiary Referrals for Physical Therapy Services in Rural Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Rural self-referring providers	Rural non-self-referring providers	Relative rate of self-referring providers[b]
Family practice			
0 to 50	7.0	7.1	0.99
51 to 100	12.2	8.6	1.42
101 to 250	15.1	11.4	1.33
251 to 500	24.3	18.1	1.35
501+	49.8	30.6	1.63
Internal medicine			
0 to 50	11.2	7.4	1.51
51 to 100	18.8	9.7	1.94
101 to 250	14.6	11.7	1.25
251 to 500	23.4	17.8	1.31
501+	42.8	32.8	1.30
Orthopedic surgery			
0 to 50	9.8	8.4	1.16
51 to 100	11.5	12.0	0.96
101 to 250	34.0	30.0	1.13
251 to 500	71.1	54.5	1.30
501+	126.6	102.7	1.23

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. For this analysis, we considered providers as self-referring if they self-referred at least one PT service during 2010 and as non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in rural areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 964 self-referring providers in family practice, 452 in internal medicine, and 596 in orthopedic surgery in rural areas. There were 11,492 non-self-referring providers in family practice, 5,584 in internal medicine, and 2,327 in orthopedic surgery in rural areas.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare fee-for-service (FFS) beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal

to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

While self-referring providers generally referred more beneficiaries during 2010, beneficiaries referred by self-referring providers in family practice, internal medicine, and orthopedic surgery received fewer PT services, on average, compared with beneficiaries referred by non-self-referring providers.[26] For example, in urban areas, beneficiaries referred by self-referring family practice providers received 12 to 28 percent fewer PT services, on average, compared with beneficiaries referred by non-self-referring family practice providers, depending on the beneficiary practice size category (see table 5).

[26]A study of PT self-referral using worker's compensation data from California found similar results: self-referring providers initiated PT treatment 2.3 times more often than non-self-referring physicians, but the mean cost per case for PT was lower in the self-referral group (see A. Swedlow, G. Johnson, N. Smithline, and A. Milstein, "Increased Costs and Rates of Use in the California Workers' Compensation System as a Result of Self-Referral by Physicians," *The New England Journal of Medicine*, vol. 327, no. 21 (1992)). Examining why beneficiaries referred by self-referring providers received fewer services, on average, compared with beneficiaries referred by non-self-referring providers was beyond the scope of this study.

Table 5: Average Number of Physical Therapy Services Received per Medicare Beneficiary in Urban Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Urban self-referring providers	Urban non-self-referring providers	Relative rate of self-referring providers[b]
Family practice			
0 to 50	26.7	30.3	0.88
51 to 100	20.8	27.1	0.77
101 to 250	25.7	31.4	0.82
251 to 500	31.9	38.4	0.83
501+	36.4	50.7	0.72
Internal medicine			
0 to 50	22.6	35.5	0.64
51 to 100	31.5	30.0	1.05
101 to 250	27.6	33.6	0.82
251 to 500	29.4	38.1	0.77
501+	37.1	46.3	0.80
Orthopedic surgery			
0 to 50	23.4	32.9	0.71
51 to 100	23.5	30.8	0.76
101 to 250	25.3	32.0	0.79
251 to 500	26.2	33.1	0.79
501+	28.2	34.8	0.81

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. For this analysis, we considered providers as self-referring if they self-referred at least one PT service during 2010 and as non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in urban areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 4,869 self-referring providers in family practice, 4,367 in internal medicine, and 6,458 in orthopedic surgery in urban areas. There were 35,977 non-self-referring providers in family practice, 39,981 in internal medicine, and 11,463 in orthopedic surgery in urban areas.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare fee-for-service (FFS) beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal

to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

In rural areas, beneficiaries referred by self-referring providers in family practice, internal medicine, and orthopedic surgery received fewer PT services, on average, than their non-self-referring counterparts in every practice size category (see table 6).

Table 6: Average Number of Physical Therapy Services Received per Medicare Beneficiary in Rural Areas, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Rural self-referring providers	Rural non-self-referring providers	Relative rate of self-referring providers[b]
Family practice			
0 to 50	32.6	34.9	0.93
51 to 100	18.3	37.5	0.49
101 to 250	20.7	34.7	0.60
251 to 500	28.1	39.8	0.71
501+	39.5	47.1	0.84
Internal medicine			
0 to 50	18.9	43.2	0.44
51 to 100	22.1	38.5	0.57
101 to 250	27.8	34.0	0.82
251 to 500	24.3	36.3	0.67
501+	31.1	43.9	0.71
Orthopedic surgery			
0 to 50	17.3	27.0	0.64
51 to 100	18.7	26.8	0.70
101 to 250	19.6	28.1	0.70
251 to 500	23.3	28.6	0.81
501+	24.2	31.4	0.77

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. We considered providers as self-referring if they self-referred at least one PT service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in rural areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 964 self-referring providers in family practice, 452 in internal medicine, and 596 in orthopedic surgery in rural areas. There were 11,492 non-self-referring providers in family practice, 5,584 in internal medicine, and 2,327 in orthopedic surgery in rural areas.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare fee-for-service (FFS) beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]The relative rate of self-referring providers refers to the factor by which the average number of services referred by self-referring providers is different from the average number of services referred by non-self-referring providers. For example, if the relative rate of self-referring providers is equal to 2, it would mean that, on average, self-referring providers referred 2 times as many PT services as did non-self-referring providers.

Observed differences between self-referring and non-self-referring providers within each specialty in the number of PT services referred are not likely due to differences in the overall health status of the beneficiaries they referred. We found that self-referring and non-self-referring providers referred beneficiaries who were similar with respect to their average Medicare risk scores[27] and disability status (see table 7). For example, self-referring and non-self-referring family practice providers referred beneficiaries whose average estimated cost to Medicare in 2010 was about 30 percent higher than for the average FFS beneficiary (31 and 33 percent higher, respectively).

[27]CMS calculates a risk score for each Medicare beneficiary, which is the ratio of expected Medicare payments for that beneficiary under Medicare FFS relative to the average health care payments for all Medicare FFS beneficiaries. For example, a beneficiary with a risk score of 1.05 would have expected Medicare payments that were 5 percent greater than the average Medicare FFS beneficiary, who is assigned a risk score of 1.

Table 7: Selected Characteristics of Medicare Beneficiaries Referred for Physical Therapy Services by Self-Referring and Non-Self-Referring Providers in Selected Specialties, 2010

	Family practice		Internal medicine		Orthopedic surgery	
Beneficiary characteristics, average	Self-referring provider	Non-self-referring provider	Self-referring provider	Non-self-referring provider	Self-referring provider	Non-self-referring provider
Normalized risk score[a]	1.31	1.33	1.45	1.47	1.06	1.07
Percentage age 85 or older	15%	20%	17%	24%	6%	6%
Percentage disabled	18%	16%	13%	11%	15%	17%

Source: GAO analysis of CMS data.

Note: We considered providers to be self-referring if they self-referred at least one physical therapy (PT) service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred.

[a]A beneficiary's risk score is a proxy for health status and is equivalent to the ratio of expected Medicare payments for that beneficiary under Medicare fee-for-service (FFS) relative to the average Medicare payments for all Medicare FFS beneficiaries. The risk scores are normalized using the FFS normalization factor of 1.041 for 2010 that CMS used. Normalization keeps the average FFS risk score constant at 1.0 over time.

Some of the differences between self-referring and non-self-referring providers in the number of PT referrals may be due to differences in the severity or type of medical conditions of the beneficiaries that they referred for PT treatment. Although data on the severity of beneficiaries' medical conditions requiring PT treatment were not available for our study period, we found some differences in the extent to which self-referring and non-self-referring providers referred beneficiaries for selected diagnoses (see table 8). For example, self-referring family practice, internal medicine, and orthopedic surgery providers were more likely to refer beneficiaries who were treated for spine conditions. Non-self-referring providers in these specialties were more likely to refer beneficiaries who were treated for neurologic conditions or rehabilitation.

Table 8: Percentage of Medicare Beneficiaries Referred for Physical Therapy Services by Self-Referring and Non-Self-Referring Providers in Selected Specialties by Diagnostic Category, 2010

	Family practice		Internal medicine		Orthopedic surgery	
Beneficiary diagnostic category, average[a]	Self-referring provider	Non-self-referring provider	Self-referring provider	Non-self-referring provider	Self-referring provider	Non-self-referring provider
Arthritis	53	56	50	55	69	70
Spine	39	30	40	30	21	19
Sprains	6	4	4	4	7	7
Fractures	3	3	2	4	10	11
Neurologic	17	26	18	28	6	7
Rehabilitation	23	33	23	32	20	29
Other diagnoses	15	24	16	26	4	6

Source: GAO analysis of CMS data.

Note: We considered providers to be self-referring if they self-referred at least one physical therapy (PT) service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred.

[a]The diagnostic categories are defined based on groups of related medical diagnosis codes. They are maintained by the U.S. Agency for Healthcare Research and Quality and are referred to as Clinical Classification Software (CCS) codes. Percentages do not add up to 100 because two or more diagnoses may be reported on a single claim.

In addition, we found some differences in the types of PT treatments used by self-referring and non-self-referring providers. For example, during 2010, self-referring providers in family practice and internal medicine were more likely to refer beneficiaries who were treated with ancillary services such as massage therapy and electrical stimulation. In contrast, non-self-referring providers in these specialties were more likely to refer beneficiaries who were treated with gait training and therapeutic activities (see app. II, which presents tables that show the distribution of PT services by provider specialty and self-referral status).

Providers' Referrals for PT Services Increased the Year After They Began to Self-Refer

PT service referrals for providers in family practice, internal medicine, and orthopedic surgery increased the year after they began to self-refer at a higher rate relative to non-self-referring providers of the same specialty. We compared the average number of PT service referrals made by providers that began self-referring beneficiaries for PT services in 2009 and continued doing so in 2010 ("switchers") with the average number of service referrals made by providers who were non-self-referring between 2008 and 2010. The percentage increase in average PT service referrals for switchers between 2008 and 2010 ranged from approximately 7 percent for orthopedic surgeons to 33 percent for family practice

providers. In contrast, the percentage increase in the average number of PT service referrals for non-self-referring providers during this time was lower, ranging from approximately 4 percent for orthopedic surgeons to 14 percent for family practice providers (see table 9). The percentage point difference in the number of PT services referred between switchers and non-self-referring providers was higher for family practice and internal medicine providers (approximately 20 percent and 18 percent, respectively) and lower for orthopedic surgeons (approximately 4 percent). This is consistent with our earlier finding that self-referring family practice and internal medicine providers tended to have higher relative referral rates, on average, than their non-self-referring counterparts in 2010, while this effect was much more limited for orthopedic surgeons.

Table 9: Change in Average Number of Medicare Physical Therapy Services Referred for Self-Referring Providers, Non-Self-Referring Providers, and Switchers in Selected Specialties Who Had at Least One Office Referral, 2008 and 2010

Provider specialty	Referral type	Number of providers with at least one office referral	Average 2008 referred services	Average 2010 referred services	Percentage change, 2008 to 2010	Percentage point difference, switchers and non-self-referring providers
Family practice	Self-referring	3,572	699	798	14.2%	
	Non-self-referring	29,951	547	621	13.7%	
	Switchers	439	582	775	33.2%	19.5%
Internal medicine	Self-referring	3,110	1,039	1,079	3.9%	
	Non-self-referring	30,969	771	863	12.0%	
	Switchers	412	733	951	29.8%	17.8%
Orthopedic surgery	Self-referring	5,523	2,146	2,281	6.3%	
	Non-self-referring	10,573	1,716	1,777	3.6%	
	Switchers	514	1,767	1,896	7.3%	3.7%

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data and counted physical therapy (PT) services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. We considered providers to be self-referring if they self-referred at least one PT service in 2008, 2009, and 2010 and non-self-referring if they referred at least one PT service to a professional office in 2008, 2009, and 2010 and none of their referrals were self-referred. We defined switchers as providers who were non-self-referring in 2008 and self-referring in 2009 and 2010. Switchers may have started to self-refer in 2009 by hiring PT provider(s) or joining a group practice that self-referred.

Concluding Observations

By improving patients' physical functioning, strength, or mobility, PT treatment offers many Medicare beneficiaries the opportunity to restore function that they may have lost due to illness or injury. Proponents of PT self-referral contend that it has the potential to improve coordination of care and provide convenient access to PT services. Our review indicates that PT service use and expenditures grew considerably from 2004 to 2010, despite a slight decrease in the total number of FFS beneficiaries over this period. The primary driver of this growth was growth in non-self-referred services. These results differ from our prior work on self-referral of other Medicare services—namely, advanced imaging, anatomic pathology, and intensity-modulated radiation therapy—in which we reported that self-referred services and expenditures grew faster than non-self-referred services and expenditures. One potential reason for this difference is that non-self-referred PT services can be performed by providers who can directly influence the amount, duration, and frequency of PT services through the written plan of care required by Medicare. In contrast, non-self-referred services we examined for our prior work tend to be performed by providers who have more limited ability to generate additional services or referrals; for example, radiologists generally do not have the discretion to order more imaging services or more intense imaging procedures.

Regardless, substantial growth in PT services raises concerns about higher costs for Medicare and beneficiaries. Although this growth is primarily due to non-self-referred services, we found notable differences between non-self-referring and self-referring providers. For example, we found that average PT service referrals, average PT beneficiary referrals, and average PT services per beneficiary differed based on whether the providers self-referred; further, PT service referrals increased the year after a provider began to self-refer at a higher relative rate to non-self-referring providers of the same specialty. Better understanding the differences in referral patterns between self-referring and non-self-referring providers may provide useful information to help manage growth in PT services. In 2013, CMS began collecting additional information on beneficiary functional status on all PT claims. These data may help CMS to better assess the appropriateness and effectiveness of PT treatment provided by both self-referring and non-self-referring providers.

Agency and Third-Party Comments and Our Evaluation

We provided a draft of this report to HHS, which oversees CMS, for comment. HHS thanked GAO for the opportunity to review the draft and stated that it had no comments. We obtained written comments from four professional associations selected because they represent an array of stakeholders with specific involvement in referring PT services: the American Academy of Family Physicians (AAFP), which represents physicians in family practice; the American Academy of Orthopaedic Surgeons (AAOS), which represents orthopedic surgeons; the American College of Physicians (ACP), which represents physicians in internal medicine; and the American Physical Therapy Association (APTA), which represents physical therapists. The following sections contain a summary of these organizations' comments on our methodology and findings and our response to these comments. We incorporated any technical comments provided where appropriate.

American Academy of Family Physicians

AAFP appreciated the opportunity to review the draft report, but expressed a concern that our methodology to define self-referring providers as those with at least one self-referred PT service to a professional office may skew our results if the majority of the PT services referred by several self-referring providers were not self-referred. We applied this same threshold in our previous work on self-referral, as it is a conservative method for determining providers' self-referral status. Furthermore, we examined the distribution of self-referred PT services to professional offices during 2010 and found that providers who self-refer tended to self-refer a majority of the PT services utilized.

AAFP also provided some context for our findings, noting that some factors may account for our finding that overall spending for PT services increased. For example, AAFP stated that health insurers have encouraged providers to use imaging procedures, surgery for back pain, and medications that manage pain (such as opioids) less frequently. According to AAFP, some providers may be choosing to use less imaging and treat fewer patients with surgery or opioids and instead manage these patients by referring them for PT services. AAFP considers PT a more cost-effective yet less invasive way to treat patients. In addition, AAFP believes that one possible explanation for GAO's finding that self-referring providers referred fewer PT services per beneficiary, on average, than non-self-referring providers, is that providers who self-refer are likely to fully understand the variety of services that are available in the PT facility for which they have an ownership interest.

American Academy of Orthopaedic Surgeons

AAOS appreciated the opportunity to review the draft report and was pleased to see that the data showed that self-referring orthopedic practices generally self-referred the smallest number of PT services per beneficiary on average when compared to other specialty groups in our study. However, AAOS stated that it did not believe there was a rationale for examining "switchers"—providers who became self-referrers during our period of study—because we found that self-referring providers referred fewer services per beneficiary on average. We conducted an analysis of switchers to isolate the effects of self-referral, using a methodology similar to our previous reports on self-referral in Medicare. As noted in the draft report, the average number of PT service referrals made by providers that began self-referring beneficiaries for PT services in 2009 increased at a higher rate relative to non-self-referring providers of the same specialty during our period of study. Specifically, among these "switchers," the percentage increase in average PT service referrals between 2008 and 2010 was approximately 4 percentage points higher for orthopedic surgeons, 18 percentage points higher for internal medicine providers, and 20 percentage points higher for family practice providers.

AAOS made two additional points for our consideration. First, AAOS noted that self-referring orthopedic surgeons may also refer some services outside of their practice. Our analyses provided a picture of self-referral at both the service and provider levels. Specifically, for our analysis of trends between 2004 and 2010 in the utilization of and expenditures for self-referred and non-self-referred services, we examined each PT service to determine if it was self-referred or not by matching the Taxpayer Identification Number (TIN) on the claim with a crosswalk of the TINs associated with each provider submitting claims. This method allowed us to examine utilization and spending for each PT service—self-referred and non-self-referred. For our analysis of self-referring providers, as we note in the draft report, we considered a provider to be non-self-referring if the provider referred at least one beneficiary for a PT service in a professional office and did not self-refer any PT services. Conversely, we considered a provider to be self-referring if the provider self-referred at least one beneficiary for a PT service that was provided in a professional office during our period of study. Second, AAOS noted that nine states have changed their laws governing self-referral to PT services during the study period and that this may impact our results. We agree that this may impact our results, but examining state laws governing self-referral were outside the scope of this report.

American College of Physicians

ACP stated that a major conclusion of our report, that the primary driver of growth in Medicare expenditures and utilization of PT services was due to non-self-referred PT services, differs from our prior work on self-referral for advanced imaging, anatomic pathology, and intensity-modulated radiation therapy services. According to ACP, this finding demonstrates the complex effects of self-referral on Medicare utilization and expenditures, which may be influenced by type of service as well as the other variables outlined in this report, such as provider specialty, geographic location, and Medicare beneficiary practice size. ACP also stated that the primary payment model can also affect the relationship between self-referral, expenditures, and utilization. For example, practices that participate in Medicare Shared Savings[28] and other value-based payment models likely refer in a different manner than those paid predominantly through the traditional Medicare FFS payment system. While we agree that different payment models could affect physicians' referral patterns, such payment models generally had not been implemented by Medicare at the time of our study. ACP also stated that it is important to consider the extent to which services are ordered on the basis of recognized appropriate use criteria. However, using appropriate use criteria can involve assessing the severity of symptoms in order to determine the appropriate course of treatment, and data on severity were not available at the time of our study. ACP believes that self-referral alone cannot explain expenditure growth differences and that, if utilized appropriately, self-referral allows for increased quality oversight by ordering physicians, better care coordination, and the potential for the provision of lower-cost care compared to alternative settings, such as hospitals.

American Physical Therapy Association

APTA acknowledged the thoroughness of the draft report and appreciated our comprehensive analysis. According to APTA, our findings that self-referring providers referred more beneficiaries for PT services, and that PT referrals for switchers in the three specialties we examined increased relative to non-self-referring providers, are consistent with other studies that found that providers have a financial interest to self-refer. However,

[28]The Medicare Shared Savings Program is a program that encourages coordination of care under Medicare Parts A and B and promotes accountability for patient populations. Under this program, eligible health systems that achieve savings for Medicare by improving quality and efficiency may receive a share of the savings they generate as financial incentive payments.

APTA also expressed concerns about some of our results. Specifically, APTA noted that patient condition, physical impairments, and comorbidities have a major impact on the amount, duration, and frequency of PT services provided, and without this information it is difficult to draw conclusions about the impact of self-referral arrangements on the frequency of PT services. For example, APTA noted that the frequency of PT use could be attributed to differences in the complexity of the conditions of patients treated by self-referring compared with non-self-referring providers. It also expressed concern that the measures of health status in this report—such as disability status, average risk score, and Clinical Classification Software (CCS) diagnostic categories—are limited in their ability to explain differences in PT frequency. In this report, we state that some of the differences between self-referring and non-self-referring providers in the number of PT referrals may be due to differences in the severity or type of medical conditions of the beneficiaries that they referred for PT treatment. We also acknowledge that data on the severity of beneficiaries' medical conditions requiring PT treatment were not available for our study period. Given the lack of severity data, we examined risk scores, age, and disability status, and described these measures as "overall health status variables," and we present data on beneficiary diagnostic categories without labeling them as measures of severity. We also note that APTA agreed with our conclusion that data CMS began collecting in 2013 may help the agency to better assess the appropriateness and effectiveness of PT treatment for both self-referring and non self-referring providers.

APTA also expressed concerns that including data on PT referrals to facilities, such as outpatient hospitals and skilled nursing facilities, may have affected the results shown in the tables in appendix II of this report, which compare the distribution of Medicare PT services for self-referring and non-self-referring providers. According to APTA, our assumption that all PT services referred to facilities were non-self-referred neglects a significant portion of self-referral arrangements. APTA also stated that because patients in facility settings tend to be more medically complex than patients seen in physician offices, these tables may make an unfair comparison. As we note in the limitations section of this report, we acknowledge that we may have understated the occurrence of certain self-referral arrangements, such as referring physician ownership of hospitals, by assuming that all PT services referred to facilities were non-self-referred. For example, some providers may have referred beneficiaries for PT services to hospital(s) in which they had a financial interest in the entire hospital, and, due to data limitations, we did not analyze the extent to which this type of referral may have occurred.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to the Secretary of Health and Human Services and relevant congressional committees, and others. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staffs have any questions about this report, please contact me at (202) 512-7114 or cosgrovej@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.

James Cosgrove
Director, Health Care

Appendix I: Scope and Methodology

This appendix describes the scope and methodology used to analyze our study objectives: (1) trends in the number of and expenditures for self-referred and non-self-referred Medicare physical therapy (PT) services from 2004 through 2010, and (2) how provision of these services differs among providers on the basis of whether they self-refer. For both objectives, we used 100 percent of fee-for-service (FFS) claims from the Medicare Part B Carrier file, which contains final action Medicare Part B claims for noninstitutional providers, such as physicians. For the second objective, we also used 100 percent of FFS claims from the Medicare Outpatient Claims file, which includes final action Medicare Part B claims for five types of facilities that also provide PT services: outpatient hospitals, skilled nursing facilities, comprehensive outpatient rehabilitation facilities, rehabilitation agencies, and home health agencies.

Each Medicare claim contains data for one or more services for a particular beneficiary. Each service is identified on a claim by its Healthcare Common Procedure Coding System (HCPCS) code, which the Centers for Medicare & Medicaid Services (CMS) assigns to products, supplies, and services for billing purposes. To identify all PT services covered by Medicare, we used outpatient therapy HCPCS codes published in the Federal Register and in CMS's Annual Therapy Update to identify the universe of outpatient therapy HCPCS codes in use from 2004 through 2010. We then used the HCPCS code claim modifier (for Carrier file claims) and Revenue Center code (for Outpatient file claims) to distinguish PT services from occupational therapy or speech-language pathology services. Because there is no indicator or flag on the claim that identifies whether services were self-referred or non-self-referred, we developed a claims-based methodology to identify services as either self-referred or non-self-referred. Specifically, we classified services as self-referred if the provider that referred the beneficiary for a PT service and the provider that performed the PT service were identical or had a financial relationship.[1] To determine providers' financial relationships, we used the Taxpayer Identification Number (TIN), which is either the Social Security Number or Employer Identification Number that an individual or

[1]Although physicians have long been required by Medicare to report a provider identification number on claims for services they performed, they were not required to report a provider identification number for services they referred in the referring or attending provider fields in Medicare Part B outpatient claims until 2012. The Middle Class Tax Relief and Job Creation Act of 2012 required that the identification number of the physician who certified the plan of care be included in Medicare outpatient claims for outpatient therapy services, including PT. PL 112-96, § 3005(c), 126 Stat 188.

organization uses to report tax information to the Internal Revenue Service. A TIN could be that of the provider, the provider's employer, or another entity to which the provider reassigns payment.[2] There may be one or multiple TINs for a medical group practice depending on the organizational structure of the practice.[3] To identify the associated TINs for the referring and performing providers, we created a crosswalk of the performing provider's unique physician identification number, or national provider identifier (NPI), to the TIN that appeared on the claim and used that to assign TINs to the referring and performing providers.[4]

To describe the trends in the number of and expenditures for self-referred PT services from 2004 through 2010, we used the 100 percent Medicare Part B Carrier file for each year to calculate utilization and expenditures for self-referred and non-self-referred PT services. We focused on PT referrals to professional offices, such as physician offices or PT clinics, because the financial incentive for providers to self-refer is most direct when the service is performed in a professional office. To calculate utilization, we counted the number of PT HCPCS codes. We also calculated the average number of 15-minute units provided per PT

[2]Some providers may be associated with TINs with which they or their immediate family members do not have a direct or indirect financial relationship and thus would not have the same incentives as other self-referring providers. We anticipate that relatively few providers in our self-referring group meet this description, but to the extent that they do, it may have limited the differences we found in utilization and expenditure rates between self-referring and non-self-referring providers.

[3]For example, all providers in the same medical group practice may have the same TIN. Alternatively, five medical group practices that belong to the same corporate entity may each have a separate TIN.

[4]The final rule implementing the Health Insurance Portability and Accountability Act established the standard for a unique health identifier for health care providers for use in the health care system and announced the adoption of the NPI as that standard. *HIPAA Administrative Simplification: Standard Unique Health Identifier for Health Care Providers*, 69 Fed. Reg. 3434 (Jan. 23, 2004) (adding a new subpart D to 45 C.F.R. part 162). Performing physicians were required to include their NPI on any claim submitted to Medicare as of May 23, 2008. Prior to implementation of the NPI, Medicare required providers to submit another type of unique provider identifier called the unique physician identification number. Our methodology for identifying self-referred services was similar to the methodology we used for our study of physician self-referral of imaging services. See GAO, *Medicare: Higher Use of Advanced Imaging Services by Providers Who Self-Refer Costing Medicare Millions*, GAO-12-966 (Washington, D.C.: Sept. 28, 2012).

service.[5] To calculate expenditures, we used the allowed charges variable, which includes payments by Medicare and the beneficiary.

To determine the extent to which the provision of PT services differs for providers who self-refer when compared with other providers, we classified providers based on the type of referrals they made each year between 2008 and 2010. Specifically, we classified providers as self-referring during a year if they self-referred at least one beneficiary for a PT service that was provided in a professional office. We classified providers as non-self-referring if they referred at least one beneficiary for a PT service in a professional office and did not self-refer any PT services.[6] We then performed two separate analyses. For the first analysis, we compared the number of referrals made for PT services by self-referring providers and non-self-referring providers in 2010. Because the amount, frequency, and duration of PT services may vary for each beneficiary, we examined three PT referral measures for each referring provider: total number of PT services referred, total number of beneficiary referrals to an office or facility, and average number of PT services received by each beneficiary referred. We assumed that all beneficiaries referred to facilities were provided non-self-referred PT services.[7] We compared the number of PT referrals made by self-referring and non-self-referring providers in 2010, disaggregated by selected provider specialty, Medicare beneficiary practice size, and geography (i.e., urban or rural

[5]The number of 15-minute service units per PT service is reported for timed PT HCPCS codes. For example, a Medicare claim line with a timed PT HCPCS code and a unit count of "2" means that a beneficiary received two 15-minute increments of that service. Not all PT services are timed. For example, the HCPCS codes for PT evaluation and PT re-evaluation are untimed.

[6]We also conducted some analyses with an alternative definition of "non-self-referring provider." Our alternative definition of "non-self-referring provider" included providers who referred at least one beneficiary for a PT service in a professional office *or a facility* and did not self-refer any PT services. This alternative definition included an additional 49,062 providers in family practice, internal medicine, and orthopedic surgery who referred beneficiaries for PT services exclusively to facilities during 2010. With this alternative definition, we computed higher relative rates of self-referral for the average number of Medicare beneficiary referrals for PT services and for the average number of PT services provided per beneficiary (except for family practice providers). We decided to use our original definition of non-self-referring provider because it generally produced more conservative results.

[7]Some providers may refer beneficiaries for PT services to hospital(s) in which they have a financial interest in the entire hospital. We did not analyze the extent to which this type of referral may have occurred.

provider location). We identified providers' specialties on the basis of the specialties listed on the claims. We report results for three physician specialties that referred nearly 75 percent of PT services during 2010 that had a unique referring provider identification number—family practice (20 percent), internal medicine (26 percent), and orthopedic surgery (28 percent).[8] We calculated beneficiary practice size by computing the number of unique Medicare FFS beneficiaries that providers treated in a professional office in 2010 for any medical condition covered by Medicare. We defined urban settings as metropolitan statistical areas, a geographic entity defined by the Office of Management and Budget as a core urban area of 50,000 or more population. We used rural-urban commuting area codes—a Census tract-based classification scheme that utilizes the standard Bureau of Census Urbanized Area and Urban Cluster definitions in combination with work commuting information to characterize all of the nation's Census tracts regarding their rural and urban status—to identify providers as practicing in metropolitan statistical areas.[9] We considered all other settings to be rural.[10]

In addition, we examined the extent to which the characteristics of the beneficiaries referred by self-referring and non-self-referring providers differed. We used CMS's risk score file to identify each beneficiary's risk score, age (specifically, whether the beneficiary was age 85 or older), and disability status.[11] The risk score is an estimate of each beneficiary's overall health status. It is the ratio of expected Medicare payments for that beneficiary under Medicare FFS relative to the average health care

[8]During 2010, we could not identify a unique referring provider for 8.6 percent of PT services provided in professional offices (because a referring provider identifier was missing) and for 2.6 percent of PT services provided in facilities (because two or more referring providers were reported on the claim).

[9]We considered a location with a rural-urban commuting area code of 1.0, 1.1, 2.0, 2.1, or 3.0 to be a metropolitan statistical area.

[10]If we could not find a provider's zip code on the Medicare claim or in the National Plan and Provider Enumeration System file (which has data on the provider's business address for every provider identification number in the file), then we did not classify the provider as having either an urban or a rural location. We were unable to find zip code data for less than 1 percent of the providers who referred a beneficiary for PT services in a professional office during 2010.

[11]Beneficiaries who are enrolled in Medicare because of disability are under age 65 and have been entitled to Social Security disability benefits for at least 24 months.

payments for all Medicare FFS beneficiaries.[12] We used the Clinical Classification Software (CCS) categories maintained by the U.S. Agency for Healthcare Research and Quality to identify the diagnostic category for which each beneficiary received PT treatment. The CCS categories are based on International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM), a uniform and standardized diagnostic and procedural coding system. The CCS categories group ICD-9-CM codes into a smaller number of clinically meaningful categories. The CCS diagnostic categories for PT that we used include Arthritis/Other Connective Tissue and Joint Disorders, Fractures/Traumatic Joint Disorders, Neurological, Spine, Sprains/Strains, V codes/Miscellaneous Rehab, and Other PT diagnoses.

For the second analysis, we determined the extent to which the number of PT service referrals made by providers changed after they began to self-refer. Specifically, we identified a group of providers, whom we called "switchers," that were non-self-referring in 2008 and self-referring in 2009 and 2010. We then calculated the change in the number of PT referrals made from 2008 (i.e., the year before the switchers began self-referring) to 2010 (i.e., the year after they began self-referring). We compared the change in the number of referrals made by these providers to the change in the number of referrals made over the same time period by providers who were non-self-referring between 2008 and 2010. Differences in the average number of PT services referred by non-self-referring providers between 2008 and 2010 reflect changes during this period that were not related to self-referral, such as changes in the number of beneficiaries who needed PT services or changes in the severity or types of the medical conditions treated with PT. Differences in the average number of PT services referred by switchers may reflect these changes as well as changes associated with self-referral. The difference in the percentage change in the number of PT services referred by switchers and non-self-referring providers is an estimate of the change in providers' referrals for PT services that may be associated with self-referral.

Our study has some limitations. First, we may not have identified all self-referred PT services, because CMS uses the referring provider identifier on PT claims to identify the provider who certified the beneficiary's plan of

[12]For example, a beneficiary with a risk score of 1.05 would have expected Medicare payments that were 5 percent greater than the average Medicare FFS beneficiary, who is assigned a risk score of 1.

care, and in some cases the referring provider may be different from the certifying provider. In addition, Medicare claims data do not capture all financial relationships between performing and referring providers. Second, we may have understated the occurrence of certain self-referral arrangements, such as referring physician ownership of hospitals, by assuming that all PT services referred to facilities were non-self-referred. Third, our analysis that compares PT diagnostic categories for beneficiaries referred by self-referring and non-self-referring providers is based on data that CMS does not use to determine payment for PT services. Consequently, providers do not have a financial incentive to accurately report diagnostic data for PT services on Medicare claims. Finally, it is outside the scope of this report to examine the medical necessity, clinical appropriateness, or effectiveness of PT services beneficiaries received.

We took several steps to ensure that the data used to produce this report were sufficiently reliable. Specifically, we assessed the reliability of the CMS data we used by interviewing officials responsible for overseeing these data sources, including CMS and Medicare contractor officials. We also reviewed relevant documentation, compared means and frequencies of selected variables with published data, and examined the data for obvious errors, such as missing values and values outside of expected ranges. We determined that the data were sufficiently reliable for the purposes of our study, as they are used by the Medicare program as a record of payments to health care providers. As such, they are subject to routine CMS scrutiny.

We conducted this performance audit from February 2012 through April 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Distribution of Medicare Physical Therapy Services for Self-Referring and Non-Self-Referring Providers, 2010

Table 10: Distribution of Physical Therapy Services for Self-Referring and Non-Self-Referring Family Practice Providers, 2010

Physical therapy (PT) service[a]	Percentage of all PT services		Percentage point difference
	Self-referring family practice providers	Non-self-referring family practice providers	
Electrical stimulation (HCPCS 97032)	3.5	1.2	2.3
Electrical stimulation, other than wound (HCPCS G0283)	7.3	6.2	1.1
Gait training therapy (HCPCS 97116)	7.5	12.0	-4.5
Manual therapy (HCPCS 97140)	13.1	10.7	2.4
Massage therapy (HCPCS 97124)	3.2	0.5	2.7
Neuromuscular reeducation (HCPCS 97112)	10.4	9.8	0.6
Physical therapy evaluation (HCPCS 97001)	3.1	3.5	-0.4
Therapeutic activities (HCPCS 97530)	10.0	12.7	-2.7
Therapeutic exercises (HCPCS 97110)	30.3	33.7	-3.4
Ultrasound therapy (HCPCS 97035)	5.6	4.2	1.4
Subtotal	94.0	94.5	—
All other PT services	6.0	5.5	—
Total	**100**	**100**	**—**

Source: GAO analysis of CMS data.

Note: We analyzed 100 percent of Medicare Part B claims data and counted PT services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency.

[a]We considered providers to be self-referring if they self-referred at least one PT service during 2010, and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred.

Table 11: Distribution of Medicare Physical Therapy Services for Self-Referring and Non-Self-Referring Internal Medicine Providers, 2010

	Percentage of all PT services		
Physical therapy (PT) service[a]	**Self-referring internal medicine providers**	**Non-self-referring internal medicine providers**	**Percentage point difference**
Electrical stimulation (HCPCS 97032)	3.9	1.3	2.6
Electrical stimulation, other than wound (HCPCS G0283)	7.8	5.5	2.3
Gait training therapy (HCPCS 97116)	6.9	12.3	-5.4
Manual therapy (HCPCS 97140)	13.8	10.6	3.2
Massage therapy (HCPCS 97124)	2.9	0.6	2.3
Neuromuscular reeducation (HCPCS 97112)	9.3	10.9	-1.6
Physical therapy evaluation (HCPCS 97001)	2.8	3.3	-0.5
Therapeutic activities (HCPCS 97530)	10.6	13.0	-2.4
Therapeutic exercises (HCPCS 97110)	30.1	33.7	-3.6
Ultrasound therapy (HCPCS 97035)	6.6	3.6	3.0
Subtotal	94.7	94.8	—
All other PT services	5.3	5.2	—
Total	**100**	**100**	**—**

Source: GAO analysis of CMS data.

Note: We analyzed 100 percent of Medicare Part B claims data and counted PT services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency.

[a]We considered providers to be self-referring if they self-referred at least one PT service during 2010, and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred.

Table 12: Distribution of Medicare Physical Therapy Services for Self-Referring and Non-Self-Referring Orthopedic Surgery Providers, 2010

Physical therapy (PT) service[a]	Percentage of all physical therapy services		Percentage point difference
	Self-referring orthopedic surgery providers	Non-self-referring orthopedic surgery providers	
Electrical stimulation (HCPCS 97032)	1.4	1.6	-0.2
Electrical stimulation, other than wound (HCPCS G0283)	10.5	10.4	0.1
Gait training therapy (HCPCS 97116)	1.4	1.5	-0.1
Manual therapy (HCPCS 97140)	20.3	21.0	-0.7
Massage therapy (HCPCS 97124)	0.4	0.4	0.0
Neuromuscular reeducation (HCPCS 97112)	5.2	5.7	-0.5
Physical therapy evaluation (HCPCS 97001)	4.0	3.6	0.4
Therapeutic activities (HCPCS 97530)	5.1	5.5	-0.4
Therapeutic exercises (HCPCS 97110)	40.5	39.3	1.2
Ultrasound therapy (HCPCS 97035)	4.6	4.7	-0.1
Subtotal	93.4	93.7	—
All other PT services	6.6	6.3	—
Total	**100**	**100**	**—**

Source: GAO analysis of CMS data.

Note: We analyzed 100 percent of Medicare Part B claims data and counted PT services based on the number of PT Healthcare Common Procedure Coding System (HCPCS) services on each claim that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency.

[a]We considered providers to be self-referring if they self-referred at least one PT service during 2010, and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred.

Appendix III: Providers Who Referred Medicare Physical Therapy Services, by Selected Characteristics, 2010

Table 13: Providers in Urban Areas Who Referred Medicare Physical Therapy Services, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Urban self-referring providers	Urban non-self-referring providers
Family practice		
0 to 50	0.2%	3.2%
51 to 100	0.3%	1.9%
101 to 250	0.9%	6.5%
251 to 500	0.8%	5.2%
501+	0.4%	1.9%
Internal medicine		
0 to 50	0.1%	3.0%
51 to 100	0.1%	1.3%
101 to 250	0.6%	5.0%
251 to 500	0.8%	6.7%
501+	0.7%	4.9%
Orthopedic surgery		
0 to 50	0.1%	1.1%
51 to 100	0.1%	0.5%
101 to 250	0.8%	1.7%
251 to 500	1.4%	1.9%
501+	0.9%	0.7%
All practice sizes for the three specialties		
Percentage of urban referring providers	8.1%	45.3%
Number of urban referring providers	15,694	87,421

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data for physical therapy (PT) services that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. We considered providers to be self-referring if they self-referred at least one PT service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in urban areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 4,869 self-referring providers in family practice, 4,367 in internal medicine, and 6,458 in orthopedic surgery in urban areas. There were 35,977 non-self-referring providers in family practice, 39,981 in internal medicine, and 11,463 in orthopedic surgery in urban areas. In 2010, there were 192,809 providers in urban areas from all specialties who referred PT services.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique Medicare fee-for-service (FFS) beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare FFS beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

Table 14: Providers in Rural Areas who Referred Medicare Physical Therapy Services, by Provider Referral Status, Selected Specialty, and Beneficiary Practice Size in 2010

Provider specialty and Medicare beneficiary practice size[a]	Rural self-referring providers	Rural non-self-referring providers
Family practice		
0 to 50	0.1%	4.8%
51 to 100	0.1%	2.4%
101 to 250	0.7%	8.0%
251 to 500	1.1%	10.9%
501+	0.7%	6.1%
Internal medicine		
0 to 50	0.0%[b]	1.5%
51 to 100	0.0%[b]	0.5%
101 to 250	0.2%	2.1%
251 to 500	0.4%	4.6%
501+	0.6%	7.1%
Orthopedic surgery		
0 to 50	0.0%[b]	0.7%
51 to 100	0.0%[b]	0.3%
101 to 250	0.3%	1.5%
251 to 500	0.8%	2.6%
501+	0.6%	1.4%
All practice sizes for the three specialties		
Percentage of rural referring providers	5.7%	54.6%
Number of rural referring providers	2,012	19,403

Source: GAO analysis of CMS data.

Notes: We analyzed 100 percent of Medicare Part B claims data for physical therapy (PT) services that Medicare covered in a physician office, PT clinic, outpatient hospital department, skilled nursing facility, comprehensive outpatient rehabilitation facility, rehabilitation agency, or home health agency. We considered providers to be self-referring if they self-referred at least one PT service during 2010 and non-self-referring if they referred at least one PT service to a professional office during 2010 and none of their referrals were self-referred. To identify providers as practicing in rural areas, we used urban-rural commuting area codes, which are a Census-tract-based classification scheme. In 2010, there were 964 self-referring providers in family practice, 452 in internal medicine, and 596 in orthopedic surgery in rural areas. There were 11,492 non-self-referring providers in family practice, 5.584 in internal medicine, and 2,327 in orthopedic surgery in rural areas. In 2010, there were 35,546 providers in rural areas from all specialties who referred PT services.

[a]The Medicare beneficiary practice size for each provider refers to the number of unique Medicare fee-for-service (FFS) beneficiaries that received at least one service in a professional office from that provider during 2010 for any medical condition that was covered by Medicare. Some referring providers had a beneficiary practice size of zero because they treated all their Medicare FFS beneficiaries in a setting other than a professional office (such as a hospital outpatient department).

[b]Values given as 0.0 percent are values less than 0.05 percent, rounded to zero.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

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