Health Policy Review

Recommendations of the Medicare Payment Advisory Commission (MEDPAC) on the Health Care Delivery System: The Impact on Interventional Pain Management in 2014 and Beyond

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Disclaimer: There was no external funding in the preparation of this manuscript. Conflict of interest: Each author certifies that he or she, or a member of his or her immediate family, has no commercial association, (i.e., consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might post a conflict of interest in connection with the submitted manuscript.

Manuscript received: 08-01-2013 Accepted for publication: 08-07-2013

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Continuing rise in health care costs in the United States, the Affordable Care Act (ACA), and a multitude of other regulations impact providers in 2013. Despite federal spending slowing in the past 2 years, the Board of Medicare Trustees believes that cost savings are only achievable if health care providers are able to realize productivity improvements at a quicker pace than experienced historically. Consequently, the re-engineering of U.S. health care and bridging of the divide between health and health care have been proposed beyond affordable care.

Thus, the Medicare Payment Advisory Commission (MedPAC) envisions alignment of Medicare payment systems to eliminate variable rates for the same ambulatory services provided to similar patients in different settings, such as the physician's office, hospital outpatient departments (HOPDs), and ambulatory surgery centers (ASCs). MedPAC believes that if the same service can be safely provided in different settings, a prudent purchaser should not pay more for that service in one setting than in another. MedPAC is also concerned that payment variations across settings encourage arrangements among providers that result in care being provided in high paid settings. MedPAC recommends that payment rates be based on the resources needed to treat patients in the most efficient setting, adjusting for differences in patient severity, to the extent the severity differences affect costs.

MedPAC has analyzed the costs of evaluation and management (E&M) services and the differences between providing them in a HOPD setting compared to a physician office setting, echocardiography services, and multiple services provided in ASCs and HOPDs. MedPAC has shown that for an established patient office visit (CPT 99213) provided in a free-standing physician's office, the program pays the physician 70% less than in HOPD setting with a payment for physician practice of \$72.50 versus \$123.38 for HOPD setting. Similarly, for a Level II echocardiogram, HOPD costs 141% more for the same service than a free-standing office (\$188.31 versus \$452.89). For interventional techniques, Medicare payments vary from physician office to HOPD setting, with \$211.96 in an office setting, \$407.28 in ASC setting, and \$655.62 in HOPD for procedures such as epidural injections.

The MedPAC proposal for changing HOPD payment rates for services would reduce program spending and result in beneficiary cost sharing by \$900 million in one year. On average, hospitals' overall Medicare revenue will decline by 0.6% and HOPD revenue would fall by 2.7%. Further, MedPAC provided a specific example that aligning payment rates between HOPDs and free-standing offices only for cardiac imaging services would reduce program spending and beneficiary cost sharing by \$500 million in one year. In estimating the savings that would be realized by equalizing payment rates between HOPDs and ASCs for certain ambulatory surgical procedures, MedPAC have shown potential Medicare program spending and beneficiary cost savings to be about \$590 million per year.

The impact of the proposed policies that are discussed in this manuscript would result in savings of approximately \$1.5 billion per year for Medicare. MedPAC also has recommended a stop-loss policy that would limit the loss of Medicare revenue for those hospitals.

Key words: Medicare, health care delivery system, Medicare Payment Advisory Commission (MedPAC), hospital outpatient departments (HOPDs), ambulatory surgery centers (ASCs), physician office practices

Pain Physician 2013; 16:419-440

.S. health care costs are not only high, but continuing to rise. U.S. health care has been described as a growing burden on families and businesses and a threat to the fiscal stability of the government (1). Despite the slowing of health care expenditures and growth, it is estimated that for the fiscal year 2012, national health spending will total \$2.2 trillion, or 18% of the gross domestic product (GDP) (2). With the Affordable Care Act (ACA), expansions in health insurance coverage and an increase in the number of people on Medicare resulting from the ongoing retirement of the baby boomer generation (3,4), it is expected that by 2021, national health spending will account for nearly one-fifth of the U.S. economy (1). The Affordable Care Act (ACA), also known as ObamaCare, expands eligibility for Medicaid, creates new subsidies for coverage for large numbers of the uninsured, and changes the terms under which insurance can be sold to persons in the non-group market (1,3,4).

ObamaCare contains roughly 165 provisions affecting the Medicare program by reducing costs, improving benefits, combating fraud and abuse, and initiating a major program of research and development to identify alternative provider payment mechanisms, health care delivery systems, and other changes intended to improve the quality of health care and reduce costs (5,6). The new federal spending amount of \$1.2 trillion through 2022 is offset primarily through reductions in Medicare provider payments (7). The Board of Medicare Trustees' estimates assume that the various cost reduction measures - the most important of which are the reductions in the annual payment rate update for most categories of Medicare providers by the growth in economy-wide multifactor productivity - will occur as the Affordable Care Act requires (5). However, the trustees also believe that this outcome is only achievable if health care providers are able to realize productivity improvements at a faster rate than experienced historically. Consequently, if the health sector cannot transition to more efficient models of care delivery and achieve productivity increases that are commensurate with economy-wide productivity, the financial outlook for Medicare is uncertain because some provisions of the current law that are designed to reduce expenditures may be difficult to sustain. Thus, proposals for the re-engineering of U.S. health care (8) and bridging the divide between health and health care delivery (9) go beyond what is included in the ACA.

In addition to continued changes beyond ObamaCare and the re-engineering of health care in the Unit-

ed States, the Medicare Payment Advisory Commission (MedPAC) presented its legislative mandated annual report on June 14, 2013, to the president of the Senate and speaker of the House of Representatives (10). This report focused on competitively determined plan contributions (CPCs), Medicare payment differences across ambulatory settings, bundled payments for hospitalization episodes, options for refining Medicare's new hospital readmission reduction program, hospice payment policy issues, and care needs for dual-eligible beneficiaries, and included 3 issues mandated by Congress in the Middle Class Tax Relief and Job Creation Act of 2012 (11). These 3 issues consist of Medicare ambulance add-on payments and other aspects of the payment system, geographic adjustment of payments for the work of physicians and other health professionals under the physician fee schedule (PFS), and Medicare payment for outpatient therapy services.

Some of these recommendations, are impacted by Medicare payment differences across ambulatory settings and Medicare payment for outpatient therapy services, and include interventional pain physicians and chronic pain patients.

The objective of this review is to assess the impact of the MedPAC report on interventional pain management (IPM), both positive and negative.

CURRENT STATUS

U.S. health care in 2014 and beyond is mired in uncertainty. Defying historical patterns, it is estimated that the medical costs trend in 2014 will be lower than in 2013. Aggressive and creative steps by employers, new venues and models for delivering care, and multiple elements of ACA are expected to exert continued downward pressure on the health sector. The extension of the employer mandate announced on July 2, 2013, will exert a negative impact (12). Regardless, the news of insurance premium increases dominates headlines in all types of markets, primarily in the individual market (13,14).

For IPM, the issues are multi-fold with an increasing prevalence of chronic pain; escalating health care costs, specifically of interventional techniques; opioid usage and fatalities; and continuing disability secondary to musculoskeletal disorders in spite of exploding health expenditures (15-33). The estimations of health care expenditures and utilization in the U.S. adult population has been shown to be \$86 billion in 2005 (21). The Institute of Medicine (IOM) (23) estimated the costs of chronic pain to be approximately \$100 billion

in patients with moderate and severe pain based on the study by Gaskin and Richard (24). Manchikanti et al (15), in the analysis of utilization trends and Medicare expenditures from 2000 to 2008 for spinal interventional techniques, showed overall increases of 186.8% for interventional techniques, with 120.7% for epidural procedures, 322.5% for facet joint interventions, and 331% for sacroiliac joint injections per 100,000 Medicare population. They also showed estimated costs of all spinal interventional techniques in the Medicare population to be \$362,347,025 in 2000 increasing to \$1,231,180,420 in 2008, a 240% increase. Manchikanti et al (16-19), in multiple manuscripts assessing the utilization patterns and analysis of various factors, showed overall increases of IPM techniques of 177% per 100,000 Medicare beneficiaries (16). They also have shown the highest increases for sacroiliac joint blocks with a total increase of 331% per 100,000 Medicare beneficiaries (19), followed by 308% for facet joint interventions (18), and finally 130% for epidural procedures (17). Of interest in these statistics is that lumbosacral transforaminal epidural injections increased 665% and lumbosacral radiofrequency neurotomy increased 554% (17,18). With this type of explosive growth, it is perhaps not surprising that IPM seems to be in the crosshairs of many policy experts.

As Davis et al (31) showed, between 1999 and 2008 the mean inflation-adjusted annual expenditures on medical care for ambulatory services increased by 95%, with most of the increase accounted for by increased costs for medical specialists, as opposed to primary care physicians, with physical therapy being the most costly service overall. Dagenais et al (32,33), in an assessment of the costs of illness studies of low back pain in the United States and internationally, showed that the largest proportion of direct medical costs for low back pain were spent on physical therapy, 17%; inpatient services, 17%; pharmacy 13%; and family care, 13%.

ALIGNMENT OF MEDICARE PAYMENTS IN AMBULATORY SETTINGS

Traditionally, Medicare payment rates vary for the same ambulatory services provided to similar patients in different settings, such as physicians' offices, hospital outpatient departments (HOPDs), and ambulatory surgery centers (ASCs) (10,34-55). However, since 2012 MedPAC has been recommending that if the same service can be safely provided in different settings, a prudent purchaser should not pay more for that service in one setting than in another (10). MedPAC is concerned that

payment variations across settings may encourage arrangements among providers that result in care being provided in high paid settings, thereby increasing total Medicare spending and beneficiary cost sharing (10). Overall it is the philosophy of MedPAC that Medicare should base payment rates on the resources needed to treat patients in the most efficient setting, adjusting for differences in patient severity, to the extent the severity differences affect costs.

CMS sets payment rates for physicians and other practitioner services in the fee schedule for physicians and other health professions, also known as the PFS (34-43,52,53), payment rates for most HOPD services in the outpatient prospective payment system (OPPS) (44-51), and payment rates for ASC services in the ASC payment system (44-51). Thus, for services provided in HOPDs or ASCs, Medicare makes 2 payments that involve physicians' professional fees under the PFS and a facility fee for the HOPD or ASC under the OPPS or ASC payment system. Further complicating the understanding of these issues is that an outpatient facility that has provider-based status is considered part of the hospital and provider-based status is available for hospital-owned entities that meet criteria rules, such as being located on the hospital campus, or off campus but within 3 or 5 miles of the hospital campus. In general, the non-facility rate is higher than the facility rate in the PFS because physicians' practice costs are higher when physicians provide care in their offices instead of facilities due to direct costs such as equipment, supplies, and staff resulting in higher overhead costs. Thus, when a service is provided in a facility, Medicare makes a payment to the facility in addition to the payment to the physician. In contrast, a physician is provided a single payment for all the services provided in an office that includes the facility or overhead expenses and physician fee itself.

MedPAC has explored the differences between payments for evaluation and management (E&M) services and multiple other services provided in a free-standing physician office compared to HOPD showing an over 50% higher payment in an HOPD than in office services for E&M services and 141% more in HOPD payments than in a free-standing office for certain echocardiogram services.

MedPAC also explored the policy that would equalize payment rates for certain ambulatory surgical procedures between HOPDs and ASCs. For multiple procedures, specifically interventional procedures, there are substantial variations between ASC and HOPD payment rates. ASCs are reimbursed approximately at 52% of the HOPD payment for multiple interventional techniques (51,55,56).

The hospital industry believes that Medicare should pay higher rates for all services provided in HOPDs because the additional payments subsidize hospital standby capacity, access to care for low-income patients, efforts to improve care coordination, and community outreach. Contrary to the hospital industry opinions, MedPAC believes that billing of indirect subsidies for these activities into the payment rates for all services does not directly target resources to these activities and can distort prices, which could have unintended consequences. MedPAC also believes that paying high rates for services provided in HOPDs is an inefficient way to reward hospitals for improving care because it does not distinguish between hospitals that improve care and reduce spending and those that do not. Even though some hospitals that benefit from the higher rates that Medicare pays for services delivered in HOPDs relative to free-standing offices have lower Medicare spending per episode of care, others have higher spending per episode (10). In addition, in reference to the hospital costs that are associated with community benefits, but are hard to quantify, such as the cost of standby capacity, these costs are taken into consideration in MedPAC's annual assessment of payment adequacy. MedPAC believes that Medicare payments to hospitals are adequate to cover costs efficient hospitals incur. In addition, MedPAC also considers beneficiaries' access to care, hospitals' access to capital, and changes in the quality of care.

The MedPAC assessment shows that payment variations across settings encourage the migration of multiple services from physicians' offices and from ASCs to usually higher paid HOPD settings, and employment of physicians continues to rapidly increase with the formation of Accountable Care Organizations (ACOs), as the majority of these are controlled by hospitals or with hospital-physician partnerships (10,51-90).

Based on the survey of the American Hospital Association (AHA), the number of physicians and dentists employed by hospitals was relatively constant from 1998 to 2003, with a great surge by 55% from 2000 to 2011 (91). In addition, a survey conducted by the American College of Cardiology (ACC), found that the share of cardiologists who are employed by hospitals tripled between 2007 and 2012, from 11% to 35% (92). During the same period, the proportion of cardiologists who worked for physician-owned practices fell from 59% to

36% (92). Furthermore, in most of the 12 health care markets examined by the Center for Studying Health System Change, hospitals have increased the number of employed physicians over the last 3 years (57). In addition, the majority of ACOs are controlled by hospitals (64-90).

The increase in hospital employment and loss of private practice or physician-owned practices is a disturbing trend. Multiple factors have been cited for the trend toward greater physician employment by hospitals.

- Increasing operating costs of private practice, including new technologies with electronic health records and the administrative cost of dealing with separate insurers (58).
- 2. Increasing desire for lifestyle flexibility with different work-life balance (59).
- Medicare and many private insurers pay higher rates for many services provided in outpatient departments relative to physicians' offices or ASCs (58-61).
- 4. Hospitals prefer to employ physicians to ensure a stable stream of tests, admissions, and referrals to specialists.
- Hospitals are interested in acquiring physician practices to prepare for ACOs.

Thus, as more physicians become employed by hospitals, service billing is shifting from free-standing physicians' offices and ASCs to HOPDs.

EQUALIZING PHYSICIAN OFFICE AND OUTPATIENT DEPARTMENT PAYMENTS

Due to the changing landscape, physicians are being hired by hospitals with increasing frequency. Most services receive higher payment rates when provided in HOPDs rather than in free-standing offices. This migration of services to HOPDs results in higher program spending and beneficiary cost sharing without change in patient care.

Among E&M office visits, echocardiograms, and nuclear cardiology, for example, the volume of services decreased in free-standing offices and increased in HOPDs from 2010 to 2011 (Table 1).

As shown in Table 2, if an established patient office visit (CPT 99213) is provided in a free-standing physician's office, the program pays the physician 80% of the non-facility payment rate from the PFS and the beneficiary is responsible for the remaining 20% (10). In 2013, the PFS non-facility rate for CPT 99213, including

Table 1. Evaluation and management office visits and cardiac imaging services migrated from free-standing offices to hospital outpatient departments.

	Share of ambulatory services	Per beneficiary volume growth, 2010–2011		
Type of service	performed in OPDs, 2011	Freestanding office	OPD	
E&M office visits (CPT codes 99201–99215)	9.7%	-0.2%	7.8%	
Echocardiograms without contrast (APCs 269, 270, 697)	29.6	-6.3	17.6	
Nuclear cardiology (APCs 377, 398)	33.0	-12.0	13.6	

Note: E&M (evaluation and management), OPD (hospital outpatient department), CPT (Current Procedural Terminology), APC (ambulatory payment classification).

Source(s): MedPAC analysis of Standard Analytic Claims Files from 2010 and 2011 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

Table 2. Medicare and beneficiaries pay more for a 15-minute evaluation and management office visit provided in an outpatient department than in a free-standing physician's office, 2013.

	Service provided	Service provided in OPD			
	in freestanding	Physician	OPPS	Total,	
	physician practice*	facility rate*	rate	OPD rate	
Program payment	\$58.00	\$39.76	\$58.94	\$98.70	
Beneficiary cost sharing	<u>14.50</u>	<u>9.94</u>	14.74	<u>24.68</u>	
Total payment	72.50	49.70	73.68	123.38	

Note: E&M (evaluation and management), OPD (hospital outpatient department), OPPS (outpatient prospective payment system). The Current Procedural Terminology code for this visit is 99213.

Source(s): MedPAC analysis of payment rates in the 2013 physician fee schedule and OPPS and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10)

an E&M office visit with an approximately 15-minute time utilization is \$72.46, with Medicare paying \$57.97 and the patient being responsible for \$14.49. However, if the same service is provided in an HOPD, the program pays 80% of the PFS facility rate and 80% of the rate from the OPPS with the patient being responsible for 20% of both rates. The PFS facility rate in 2013 is \$46.75 and the OPPS payment is \$72.46, for a total payment of \$119.21 – 65% more than in-office service. The program pays \$95.37 and the patient is responsible for \$23.84.

The authors wish to be explicit on the following point. In many cases, a physician's practice that is purchased by a hospital stays in the same location and treats the same patients (62,63,93). However, if the hospital converts a practice to an outpatient department and begins billing under the OPPS, Medicare and beneficiaries pay more for the exact same services. The growth in hospital employment of physicians and the associated increased payment rates also affects private plans and their enrollees.

From 2010 to 2011 the share of E&M office visits provided in HOPDs of OPPS hospitals increased by 9%. It has been estimated that at this rate of increase from 2011 to 2021, 20% of E&M visits would be provided in HOPDs in 2021. However, with increasing hospital employment, this number could increase to as high as 50%. Using the current payment paradigm, even a shift of 20% would increase Medicare spending by \$1.2 billion per year and beneficiary cost sharing by \$300 million per year.

From 2010 to 2011, the share of echocardiograms provided in HOPDs increased by about 15% and the share of nuclear cardiology tests provided in HOPDs increased by about 22% (10). Consequently, even without further increases in utilization if these annual rates of increase continue from 2011 to 2021, virtually all of these services currently provided in ambulatory settings would be provided in HOPDs (10). This shift would increase Medicare costs by \$1.1 billion per year and beneficiary cost sharing by \$290 million per year.

^{*}Paid under the Medicare physician fee schedule.

As an example, for a Level II echocardiogram, counting the professional and facility fee, payment differences in 2013 for Medicare are 141% more in HOPD than in a free-standing office. In fact, MedPAC described 66 groups of services provided in HOPDs and physicians offices that meet 'edPAC's principles for aligning payment rates across settings. They also focused on a subset of the 66 groups: 3 groups of cardiac imaging services that have been migrating rapidly from free-standing offices to HOPDs.

While hospitals continue to make arguments that there are legitimate factors supporting the difference between payments, Medicare has developed a precedence for equalizing payments: they pay the same amount for outpatient therapy services, mammography tests, dialysis services, and clinical lab tests regardless of the setting. MedPAC has admitted that for certain services there may be higher level of payments required for outpatient departments due to emergency patients who may need to be transferred, increased complexity of patients and services, licensing and accreditation requirements, and the fact that hospitals tend to combine ancillary services and supplies into a single payment.

Equalizing Medicare Payment Rates for Evaluation and Management Office Visits across Settings

MedPAC, in its March 2012 report, focused on E&M office visits, which are similar across settings (94). Med-PAC provided the following details in their proposal to equalize payments:

- 1. Hospitals do not require any additional expenses to provide E&M visits in elective settings.
- 2. Complex patients are reflected in their coding structure, which classifies visits based on their length and complexity (95,96).
- 3. The package with ancillary services is similar across all payment settings.

MedPAC has outlined 5 criteria for equalizing payment rates between HOPDs and free-standing office E&M visits. These criteria also apply for other services identified:

- Services are safe and appropriate and frequently performed in physicians' offices (more than 50% of the time).
- Services have minimal packaging differences across payment systems.
- When furnished in an outpatient department, these services are frequently provided with an

- emergency department visit.
- Patient severity is similar in both settings.
- Services do not include 90-day global surgical codes.

MedPAC identified 24 ambulatory payment classifications (APCs) that met the 5 criteria for equal payment rates.

Other Services Meeting the Alignment Criteria

Utilizing the criteria as described above for E&M services, multiple other services were also identified. As an example, the difference in payment rates for Level II echocardiogram without contrast provided in a physician's office and HOPD are shown in Table 3.

MedPAC assessed OPPS payment rates by adjusting at the APC level rather than CPT level, due to variations in differences for each CPT code compared to APC as a group. When a Level II echocardiogram without contrast is provided in a free-standing office, the payment to the physician equals \$188.31 in 2013; in contrast, if the service is provided in an outpatient department the total payment equals \$452.89. If the OPPS rate is set equal to the difference between the non-facility practice expense (PE) rate and the facility PE rate, the OPPS rate would drop to \$125.91 and the total payment would fall to \$188.31, which is the same rate paid in a free-standing office.

The majority of services in these APC groups meeting the criteria of equalizing payments were diagnostic tests. These include:

- APC 269: Level II echocardiogram without contrast
- APC 209: Level II extended electroencephalography (EEG), sleep, and cardiovascular studies
- APC 288: Bone density: axial skeleton
- APC 382: Level II neuropsychological testing
- APC 698: Level II eye tests and treatment

Services to Reduce the Gap Between the Settings

In this group, MedPAC considered 42 APCs that have a significantly higher level of packaging in the OPPS than the PFS, but they also met the other 4 criteria for equal payment rates between HOPDs and free-standing offices. Consequently, MedPAC felt that Medicare could allow the HOPD payment rate for these services to exceed the free-standing office rate by an amount equal to the cost of additional packaging in

 $Table\ 3.\ Differences\ in\ payment\ rates\ for\ Level\ II\ echocardiogram\ without\ contrast\ provided\ in\ physician's\ office\ and\ outpatient\ department,\ 2013$

	Payment amount	Calculation
Current payment rates Service in physician's office		
Payment to physician	\$188.31	Work (\$) + PLI (\$) + nonfacility PE (\$)
Service in OPD Payment to physician Payment to hospital Total payment	\$62.40 <u>\$390.49</u> \$452.89	Work (\$) + PU (\$) + facility PE (\$) OPPS rate (\$)
Policy that aligns rates across settings		
Service in OPD Payment to physician Payment to hospital Total payment	\$62.40 <u>\$125.91</u> \$188.31	Work (\$) + PLI (\$) + facility PE (\$) Nonfacility PE (\$) – facility PE (\$)

Note: OPD (hospital outpatient department), PU (professional liability insurance), PE (practice expense), OPPS (outpatient prospective payment system). Payments include both program spending and beneficiary cost sharing. The services in this table are in ambulatory payment classification (APC) 269. When the services in this APC are provided in a physician's office, the average payment amount for physician work is \$44.31, the PU amount is \$1.72, and the nonfacility PE amount is \$1.22.8. When the services in this APC are provided in an OPD, the average payment amount for physician work is \$44.31, the PU amount is \$1.72, and the facility PE amount is \$1.6.37.

Source(s): MedPAC analysis of physician fee schedule and OPPS payment rates for 2013 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

Table 4. Differences in payment rates for Level III echocardiogram without contrast provided in physician's office and outpatient department, 2013.

	Payment amount	Calculation
Current payment rates		
Service in physician's office		
Payment to physician	\$278.61	Work (\$) + PLI (\$) + nonfacility PE (\$)
Service in OPD		
Payment to physician	\$94.82	Work (\$) + PLI (\$) + facility PE (\$)
Payment to hospital	\$558.66	OPPS rate (\$)
Total payment	\$653.48	107
Policy that aligns rates across settings and ad	liusts for packaging	
Service in OPD	Jesse see Passagang	
Payment to physician	\$94.82	Work (\$) + PLI (\$) + facility PE (\$)
Payment to hospital for primary service	\$183.79	Nonfacility PE (\$) - facility PE (\$)
Payment to hospital for packaged services	\$166.15	
Total payment	\$444.76	

Note: OPD (hospital outpatient department), PLI (professional liability insurance), PE (practice expense), OPPS (outpatient prospective payment system). Payments include both program spending and beneficiary cost sharing. The services in this table are in ambulatory payment classification (APC) 270. When the services in this APC are provided in a physician's office, the average payment amount for physician work is \$68.95, the amount for PLI is \$3.16, and the nonfacility PE amount is \$206.49. When the services in this APC are provided in an OPD, the average payment amount for physician work is \$68.95, the amount for PLI is \$3.16, and the facility PE amount is \$22.70.

Source(s): MedPAC analysis of physician fee schedule and OPPS payment rates for 2013 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10

the OPPS. They considered Level III echocardiogram without contrast (APC 270) as an example for which about 30% of its HOPD costs are related to packaged ancillaries, such as pharmaceuticals, supplies, and related imaging services. Table 4 shows payment details and modifications. This reduces the total hospital

payment to \$444.76 instead of the current payment of \$653.48.

APCs in this category cover a broad spectrum of services:

 APC 12: Minor procedures such as Level I debridement and destruction

- APC 142: More advanced procedures such as small intestine endoscopy
- APC 383: Advanced imaging such as cardiac computed tomographic imaging
- APC 344: Tests such as Level IV pathology

Effects of Equalizing or Limiting Differences in Payment Rates

For services with equal payments, MedPAC estimated a substantial decline of spending and cost sharing, whereas for others the decline would be small, and for a few it would increase -- specifically when the HOPD rate is currently below the physician office rates as shown in Table 5.

Overall, changing the OPPS payment rates for APCs in both categories would, on net, reduce program spending and beneficiary cost sharing by a total of \$900 million in one year. Beneficiary cost sharing savings would range from \$140 million to \$380 million, depending on how OPPS copayments are determined. APC 207 includes multiple interventional techniques, all types of epidural injections, facet joint interventions, and sympathetic blocks.

In this category, they have included Level III nerve injections (APC 207), which include minor nerve blocks such as peripheral nerve blocks, trigger point injections, and intraarticular injections with a reduction of \$170.3 million, and Level I nerve in-

Table 5. Ten APCs with the largest reduction in program spending and beneficiary cost sharing and 10 APCs with the largest increase in spending and cost sharing due to reducing differences in payment rates across settings, 2012.

		Change in program spending and cost sharing			
APC	APC description	Total program spending (in millions)	Cost sharing (in millions)		
10 APCs with l	argest reduction				
269	Level II echocardiogram without contrast	-\$308.5	-\$61.7		
377	Level II cardiac imaging	-168.5	-33.7		
209	Level II extended EEG, sleep, and cardiovascular studies	-55.5	0.0		
15	Level III debridement and destruction	-45.9	-9.2		
440	Level V drug administration	-31.1	-6.2		
20	Level II excision/biopsy	-30.0	-6.0		
74	Level IV endoscopy upper airway	-28.1	0.0		
160	Level I cystourethroscopy and other genitourinary procedures	-25.6	-5.1		
10 APCs with l	argest increase				
126	Level I urinary and anal procedures	0.6	0.0		
692	Level III electronic analysis of devices	0.6	0.1		
678	External counterpulsation	0.7	0.1		
1	Level I photochemotherapy	0.8	0.2		
383	Cardiac computed tomographic imaging	0.9	0.2		
300	Level I radiation therapy	2.0	0.4		
288	Bone density: axial skeleton	6.1	0.0		
96	Level II noninvasive physiologic studies	9.3	0.0		
344	Level IV pathology	39.1	0.0		
412	IMRT treatment delivery	159.6	31.9		

Note: APC (ambulatory payment classification), EEG (electroencephalography), IMRT (intensity-modulated radiation therapy). We modeled cost-sharing changes based on current law: Copayments for APCs that are currently higher than 20 percent of the total payment rate would stay the same even if the total payment rate declines. APCs with copayments that equal 20 percent of the total payment rate would stay at 20 percent, but the copayment amount would be smaller if the total payment rate declines.

Source(s): MedPAC analysis of 100 percent Standard Analytic Claims files from 2010. MedPAC analysis of payment rates in the 2010 physician fee schedule and outpatient prospective payment system (OPPS) trended forward to 2012 using updates to the physician fee schedule and OPPS and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

jections (APC 204), which include 20526, 20527, 20550, 20551, 20552, 20553, 20600, 20605, 20610, 20612, 64400, 64402, 64408, 64410, 64455, 64505, 64508, 64566, 64611, 64612, 64615, 64632, 64650, 64653, 64999 with a reduction of \$46.7 million.

Alignment of Specific and Limited Services

MedPAC also has evaluated the alignment of targeted APC groups, of which only 3 out of 66 APCs essentially meet the criteria, either to equalize or reduce the payments. This approach focused on cardiac imaging since these services have been migrating from free-standing offices to HOPDs where the payment rates are substantially higher (Table 1). An important factor driving this migration continues to be the rapid growth in hospitals' employment of cardiologists (91,92,97). MedPAC based this assessment on available sources including a survey conducted by the ACC, which showed the share of cardiologists who are employed by hospitals tripling between 2007 and 2012, from 11% to 35% (91,92,97). In Washington State alone, the share of cardiologists employed by hospitals grew between 2007 and 2012 from 2% to 42% (97). MedPAC opined that the shift in volume towards HOPDs is consistent with the financial incentives in Medicare's payment systems:

- APC 269: The payment rate for a Level II echocardiogram without contrast is 141% higher in HOPDs than in physicians' offices.
- APC 270: The payment rate for a Level III echocardiogram without contrast is 47% higher in HOPDs than in physicians' offices, even after adjusting for differences in packaging.
- APC 377: The payment rate for Level II cardiac imaging is 19% higher in HOPDs than in physicians' offices, even after adjusting for differences in packaging.

EQUALIZING OUTPATIENT SURGERY AND AMBULATORY SURGERY CENTER PAYMENTS

MedPAC looked at HOPD and ASC procedures for equalizing payment rates. This will compare the procedures that are performed in ASCs to hospital outpatient surgery rather than in an office setting. The relative weights for most procedures in the ASC payment system are based on the relative weights in the OPPS, but the ASC system uses a lower conversion factor (average payment amount). In contrast, for PFS payments they are calculated with a different PE component rather than a facility component. Consequently, payment

rates for all procedures are much higher in the OPPS - for 2013, with most Medicare rates for most services being 78% higher in HOPDs than in ASCs. Similarly, payment rates are higher in ASCs compared to physicians' offices. Manchikanti et al (15), in their analysis of the growth of spinal IPM techniques along with expenditures from 2000 to 2008, showed overall increases from \$362,347,025 to \$1,231,180,420, a 240% increase. However, per patient increases were \$833.17 to \$1,188.93, a 43% increase, with per visit increases of 28% and per procedure code increases of 3%, from 2000 to 2008. Total expenditures in ASCs including facility and physician fee were \$360,693,700 in 2008, \$408,134,340 in HOPD settings and \$362,352,380 in office settings. Costs per visit was 11% less from 2000 to 2008 in ASC settings, 83% higher for HOPD settings, and 6% higher for physician offices.

In addition, beneficiary cost sharing is also much greater in HOPDs than in ASCs or office settings, which are the same in office settings, and ASCs. The gap in payment rates between the 2 settings has increased over time, which has influenced some ASC owners to sell their facilities to hospitals and some health care systems to expand their HOPDs rather than establish new ASCs (98,99). The migration of procedures from HOPDs to ASCs from 2006 to 2010 appears to have stalled, perhaps because of higher payment rates in HOPDs (10) and hospitals employing more physicians and purchasing facilities. MedPAC has opined that this change could signal the beginning of a movement of procedures from ASCs to HOPDs.

Similar to E&M services as well as cardiology and other services, MedPAC used 3 criteria to select services for which payment rates could be equalized between outpatient departments and ASCs.

- Safe and appropriate services that are frequently performed in ASCs (more than 50 percent of the time), which indicates that they are likely safe and appropriate and the ASC payment amounts are sufficient to ensure beneficiaries' access.
- Infrequently provided with an emergency department visit when furnished in an HOPD.
- Similar payment severity, i.e., difference in payment rate between the systems.

MedPAC identified 12 APCs that met the 3 criteria for making payment rates equal between HOPDs and ASCs (Table 6). These APCs included 9 eye procedures groups, 2 nerve injection groups (Group III was included in the equalization of office and HOPD payments), and

Table 6. Reduction in outpatient department payments from equalizing payment rates across settings for 12 APCs commonly performed in ambulatory surgery centers.

APC	APC description	Reduction in payments (in millions)
137	Level V skin repair	\$26.5
203*	Level IV nerve injections	13.2
207*	Level III nerve injections	147.5
233	Level II anterior segment eye procedures	3.9
234	Level III anterior segment eye procedures	9.9
239*	Level II repair and plastic eye procedures	1.3
240	Level III repair and plastic eye procedures	16.4
241	Level IV repair and plastic eye procedures	5.2
244	Corneal and amniotic membrane transplant	9.5
245	Level I cataract procedures without IOL insertion	0.2
246	Cataract procedures with IOL insertion	341.2
247	Laser eye procedures	13.6
Total		588.4

Note: OPD (hospital outpatient department), APC (ambulatory payment classification), ASC (ambulatory surgical center), IOL (intraocular lens).

*These APCs also appear in Group 2. See online-only Appendix 2-A for the full list of APCs in Group 2, available at http://www.medpac.gov.

Source(s): MedPAC analysis of 100 percent Standard Analytic Claims File from 2010 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

one skin repair group. Overall, 3 of these 12 APC groups also appeared in previous discussions of reduction in payments with none appearing in discussions of equalizing payments between hospitals and physicians. Consequently, if policy makers were to adapt criteria for aligning payment rates between HOPDs and physicians' offices, along with the criteria for aligning payment rates between HOPDs and ASCs, they would have to decide whether to use the physicians' office or ASC payment rate as the basis for determining HOPD rates for APCs that meet both sets of criteria. MedPAC estimated that equalizing payment rates between HOPDs and ASCs for these 12 APCs would reduce program spending and beneficiary cost sharing by a total of about \$590 million in one year.

IPM techniques include equalizing payments for offices and outpatient surgery. APC 207 with Level III nerve injections and APC 204 with Level I nerve injections were included with savings of \$170.3 million and \$46.7 million. In equalizing payments between ASCs and HOPDs they have also included APC 203 Level IV nerve injections (percutaneous adhesiolysis and all neurolytic codes), along with APC 207 Level III nerve injections (all epidural, facet joint, and sympathetic blocks). APC 204 is included in-office and HOPD equalization. For Level III nerve injections, a savings of \$170.3 million is created through equalizing physicians' offices to pay-

ments to hospitals, whereas, these savings are \$147.5 million with the equalization of ASCs and hospitals, a difference of \$22.8 million. This approach is balanced in reference to the intensity of the services provided, the place of service provided, and accreditation requirements. Table 7 illustrates various payment groups per procedure in APC 203, 204, and 207.

MedPAC also estimated that equalizing payment rates between settings for these 12 APCs would reduce their overall Medicare revenue by 0.4% and HOPD revenue by 1.7%. The effect of these policies would vary among types of hospitals, with 10% of hospitals not losing overall Medicare revenue and 10% losing at least 1.4% of Medicare revenue. In addition, rural hospitals would lose 0.7% of their overall Medicare revenue while urban hospitals would lose 0.3%.

MedPAC also described and illustrated the same stop-loss policy model earlier in the context of revising payment rates for APCs and physician office payments.

PHYSICAL THERAPY SERVICES

MedPAC issued a report on improving Medicare's payment system for outpatient therapy services. They also provided 3 recommendations to the Congress which would direct the Secretary to reduce the certification period for the outpatient therapy plan of care from 90 days to 45 days, to avoid caps without excep-

 $Table \ 7. \ Illustration \ of \ various \ 2013 \ payment \ groups \ per \ procedure \ in \ APC \ 203, \ 204, \ and \ 207.$

HCPCS	Dosovinton	APC	Faci	lity Paymen	t Rates (\$)	Physician Paymen	
ncrus	Descriptor	Art	HOPD	ASC	Office overhead	Rate (\$)	
62263	Epidural lysis mult sessions	0203	856.68	480.71	365.41	357.24	
62264	Epidural lysis on single day	0203	856.68	480.71	199.03	241.22	
62281	Treat spinal cord lesion	0203	856.68	480.71	88.80	161.27	
62282	Treat spinal canal lesion	0203	856.68	480.71	148.00	146.30	
62319	Inject spine w/cath lmb/scrl	0203	856.68	480.71	76.56	96.97	
62355	Remove spinal canal catheter	0203	856.68	480.71	0	267.76	
63746	Removal of spinal shunt	0203	856.68	480.71	0	612.75	
64600	Injection treatment of nerve	0203	856.68	480.71	182.36	219.45	
64620	Injection treatment of nerve	0203	856.68	480.71	34.36	177.26	
64635	Destroy lumb/sac facet jnt	0203	856.68	480.71	189.85	218.77	
64680	Injection treatment of nerve	0203	856.68	480.71	154.80	171.14	
64681	Injection treatment of nerve	0203	856.68	480.71	168.07	198.35	
20526	Ther injection carp tunnel	0204	182.61	29.25	20.07	56.48	
20550	Inj tendon sheath/ligament	0204	182.61	22.25	17.35	41.17	
20551	Inj tendon origin/insertion	0204	182.61	23.75	18.03	42.53	
20600	Drain/inject joint/bursa	0204	182.61	16.50	12.25	35.04	
20605	Drain/inject joint/bursa	0204	182.61	20.75	12.93	52.74	
20610	Drain/inject joint/bursa	0204	182.61	21.50	14.29	45.93	
64400	N block inj trigeminal	0204	182.61	60.25	56.14	69.75	
64402	N block inj facial	0204	182.61	55.75	47.97	76.55	
64408	N block inj vagus	0204	182.61	34.00	26.54	73.15	
64410	N block inj phrenic	0204	182.61	102.47	53.76	75.19	
64491	Inj paravert f jnt c/t 2 lev	0204	182.61	102.47	36.40	61.24	
64492	Inj paravert f jnt c/t 3 lev	0204	182.61	102.47	36.06	61.92	
64494	Inj paravert f jnt l/s 2 lev	0204	182.61	102.47	37.43	52.06	
64495	Inj paravert f jnt l/s 3 lev	0204	182.61	102.47	36.74	53.08	
64505	N block spenopalatine gangl	0204	182.61	40.75	18.37	86.76	
64634	Destroy c/th facet int addl	0204	182.61	102.47	121.80	66.69	
64650	Chemodenery eccrine glands	0204	182.61	73.50	86.42	41.17	
64653	Chemodenery eccrine glands	0204	182.61	85.00	100.37	53.42	
G0260	Inj for sacroiliac jt anesth	0207	565.75	317.46	84.38	85.74	
62268	Drain spinal cord cyst	0207	565.75	317.46	0.00	263.68	
62273	Inject epidural patch	0207	565.75	317.46	62.94	114.66	
62280	Treat spinal cord lesion	0207	565.75	317.46	167.73	177.26	
62292	Injection into disk lesion	0207	565.75	317.46	0.00	601.19	
52310	Inject spine cerv/thoracic	0207	565.75	317.46	141.54	110.23	
62311	Inject spine cerv/thoracic Inject spine lumbar/sacral	0207	565.75	317.46	122.14	89.82	
	, ,		565.75	317.46			
62318	Inject spine w/cath crv/thrc	0207			140.17	100.03	
64416	N block cont infuse b plex	0207	565.75	317.46	0.00	77.57	
64421 64430	N block inj intercost mlt N block inj pudendal	0207	565.75 565.75	317.46 317.46	62.94 57.84	95.60 82.00	

				_				_
Table 7 (cont.)	Illustration of	f various 201	3 navment are	uns per procedur	oin.	4 PC 203	201.	and 207

HCDCC	D	Facility Payment		Rates (\$)	Physician Payment	
HCPCS	Descriptor	APC	HOPD ASC Of		Office overhead	Rate (\$)
64445	N block inj sciatic sng	0207	565.75	60.50	66.34	71.79
64446	N blk inj sciatic cont inf	0207	565.75	317.46	0.00	77.57
64449	N block inj lumbar plexus	0207	565.75	317.46	0.00	81.66
64479	Inj foramen epidural c/t	0207	565.75	317.46	111.94	136.43
64483	Inj foramen epidural l/s	0207	565.75	317.46	117.38	115.00
64490	Inj paravert f jnt c/t 1 lev	0207	565.75	317.46	91.86	110.23
64493	Inj paravert f jnt l/s 1 lev	0207	565.75	317.46	89.48	93.22
64510	N block stellate ganglion	0207	565.75	317.46	57.50	74.51
64517	N block inj hypogas plxs	0207	565.75	317.46	60.56	123.50
64520	N block lumbar/thoracic	0207	565.75	317.46	112.28	81.32
64530	N block inj celiac pelus	0207	565.75	317.46	105.81	94.92
64630	Injection treatment of nerve	0207	565.75	317.46	33.68	181.34
64633	Destroy cerv/thor facet jnt	0207	565.75	317.46	194.27	221.83
64636	Destroy l/s facet jnt addl	0207	565.75	317.46	111.26	58.52
64640	Injection treatment of nerve	0207	565.75	68.00	42.19	95.94

tions, and prohibit the use of V codes as the principle diagnosis on outpatient therapy claims.

Medicare's outpatient therapy benefit covers services for physical therapy, occupational therapy, and speech-language pathology. The Middle Class Tax Relief and Job Creation Act of 2012 (1) required MedPAC to study outpatient therapy services provided under Medicare Part B and make recommendations for reforming Medicare's payment system for these services by June 15, 2013. The focus of the examination was (1) how to better document patients' functional limitations and severity of condition and thus better assess patients' therapy needs, and (2) private sector initiatives to manage outpatient therapy.

In 2011, Medicare spending on outpatient therapy totalled \$5.7 billion, with services provided to 4.9 million beneficiaries. In 2011, about 45,000 physical therapists, occupational therapists, and speech-language pathologists billed Medicare independently for outpatient therapy services. Outpatient therapy services were delivered in skilled nursing facilities incurring 37% of total spending, HOPDs incurring 16% of total spending, outpatient rehabilitation facilities and home health agencies with 11% of expenses, and other settings with 7% of the expenses. In office-based settings, physical therapists in private practice accounted for 30% of spending.

Under Medicare, there are 2 per beneficiary annual spending limits (caps) on outpatient therapy services to

restrain excessive spending and utilization. There is one cap for physical therapy and speech-language pathology services combined and another cap for occupational therapy services. Each cap equals \$1,900 in allowed charges for 2013. Caps have been permanent; however, the exceptions process expires periodically under current law unless explicitly reauthorized by Congress and was extended by the American Taxpayer Relief Act of 2012 to December 31, 2013 (100).

Therapy services may be furnished by physicians or by physical therapists, occupational therapists, and speech-language pathologists in their respective disciplines. These services also may be furnished by physician assistants, nurse practitioners, and clinical nurse specialists, if permitted by the state in which the provider practices. Qualified physical and occupational therapy assistants may also provide therapy services when supervised by physical and occupational therapists, respectively (101). Athletic trainers, chiropractors, nurses, and nurse aides do not meet Medicare's qualification and training requirements for therapists and therefore can neither provide nor bill Medicare for therapy services.

In reference to chronic pain management, stretching, strengthening, and structured physical therapy exercises can improve symptoms associated with chronic low back pain (102). Further, physical therapy can reduce a beneficiary's risk of falling (103). However, while physical therapy shows extensive application in

chronic pain accounting for 17% of overall revenues spent (32,33), a cost utility analysis of physical therapy approaches has shown highly variable results (104-123). Furthermore, the majority of patients undergoing either interventional techniques or surgical interventions has undergone conservative management including physical therapy and/or have received opioids (104-109,124-130). Overall, it is well known that physical therapy assists the patients in improving functional status and mobility in conjunction with other modalities of treatments.

In accordance with the Balanced Budget Act (BBA) of 1997 (131), outpatient therapy services are paid under the fee schedule for physicians and other health professional services regardless of whether the services are provided in facilities or in professional offices. Under the fee schedule, most physical therapy and occupational therapy codes are defined in 15-minute increments, but most speech language pathology services are not. Therapy services may be covered under Part B when they are provided in various settings, such as an outpatient rehabilitation facility, a therapist's office, a hospital, a critical access, or a beneficiary's residence.

Overall, the local coverage determinations (LCDs) allow broad coverage for the most common type of therapy services and their coverage rules are usually consistent with one another (132-140). The most commonly billed outpatient therapy service is "therapeutic exercises to develop strength and endurance, range of motion, and flexibility" (CPT 97110), and is considered medically necessary for many types of conditions. The second most common therapy service is therapeutic activities (CPT 97530) which is considered medically

necessary for patients needing a broad range of rehabilitation techniques. HOPDs were initially excluded from the caps with the rationale that beneficiaries with high care needs would receive therapy services in that setting, but eventually they were included in the caps as well (141). These concerns led Congress to suspend the caps from 2000 to 2005.

Medicare spending on outpatient therapy has been significant and continues to increase. In 2011, Medicare spending on outpatient therapy totaled \$5.7 billion for services provided to 4.9 million beneficiaries, as shown in Table 8. More importantly, spending on physical therapy (\$4.1 billion) accounted for about two-thirds of all therapy services, with 27% of physical therapy services provided for back pain. In 2011, about 15% of Part B beneficiaries used therapy services, and the average Part B payment per therapy used was just under \$1,200. The number of days of an episode of care averaged 33 across all therapy types. The sites where outpatient therapy services are furnished as shown in Figure 1 has shifted somewhat from 2004 to 2011. In 2004, Medicare spent about \$4.3 billion on outpatient therapy services increasing to \$5.7 billion in 2011 (32.6%). Payments to physical therapists and private practice accounted for almost one-quarter of Medicare spending in 2004. From 2004 to 2011, the shares of spending grew for physical therapists in private practice and nursing facilities, while shares shrank in physicians' offices, outpatient rehabilitation facilities, home health agencies, and hospitals secondary to stricter implementation of Stark regulations and Anti-Kickback statutes (142-144). Overall, as shown in Table 9, annual growth in spending on therapy services has been highly variable since

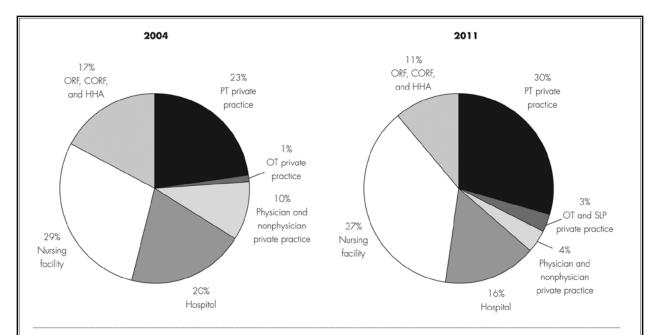
Table 8. Spending for and utilization of Medicare outpatient therapy services, 2011.

		Spending				Utilization			
	Number of beneficiaries (in millions)	Total (in billions)	Share by type	Per user	Per user service counts	Mean number of visits per user	Mean length of episode (in days)		
Physical therapy	4.3	\$4.1	71%	\$942	47	13	34		
Occupational therapy	1.1	1.1	19	1,026	48	14	28		
Speech-language pathology	0.6	0.5	10	981	18	12	34		
Total	4.9	5.7	100	1,173	54	16	33		

Note: Totals include beneficiaries who use multiple therapy types. Total number of beneficiaries is an unduplicated count. Service counts are miles/time/units/services (Medicare physician fee schedule) and revenue center unit (facility) counts. Per user service counts show the number of 15-minute service codes billed per user for occupational and physical therapy. Most speech-language pathology service codes are not defined in 15-minute limed increments. An episode begins with the first therapy service provided during the year and ends after a 30-day period during which there are no additional therapy services.

Source(s): MedPAC analysis of 100% Medicare Part B therapy claims, 20100 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. www.medpac.gov/documents/Jun13_EntireReport. pdf (10).

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Note: ORF (outpatient rehabilitation facility), CORF (comprehensive outpatient rehabilitation facility), HHA (home health agency), PT (physical therapy), OT (occupational therapy), SLP (speech—language pathology). Totals may not sum to 100 percent due to rounding.

Fig. 1. Distribution of outpatient therapy spending by setting, 2004 and 2011.

Source(s): MedPAC analysis of 100% Medicare Part B therapy claims, 2004 and 2011 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

Table 9. Medicare spending for outpatient therapy services, 2004–2011.

Year	Medicare spending (in billions)	Share of all FFS Part B beneficiaries who used therapy	Average spending per user	Annual change in per user spending
2004	\$4.3	13%	\$994	
2005	N/A	N/A	N/A	N/A
2006	4.1	13	926	N/A
2007	4.4	14	999	8%
2008	4.8	14	1,057	6
2009	5.3	14	1,165	10
2010	5.6	15	1,182	1
2011	5.7	15	1,173	0

Note: FFS (fee-for-service), N/A (not available).

Source(s): MedPAC analysis of Medicare claims data and CMS contractor reports and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

2004. As shown in this table, Medicare spending per therapy user grew by 10% between 2008 and 2009 but remained constant between 2010 and 2011. The share of fee-for-service (FFS) beneficiaries who used therapy grew slightly from 13% in 2004 to 15% in 2011. The number of FFS beneficiaries using outpatient therapy

increased by 10% between 2004 and 2011 even though FFS enrollment overall was virtually unchanged during this period. The decrease in spending growth from 2009 to 2011 compared to prior years reflects recent trends in the overall growth rate of Part B spending and health care spending in general (10).

There also has been substantial geographic variation in spending in outpatient therapy. In 2011, Medicare spending on therapy services averaged \$1,173 per user, but the top-spending counties spent 5 times as much per user as the bottom-spending counties, adjusting for differences in health status with an expense of \$2,588 versus \$513 as shown in Table 10. Further assessment of these counties shows that 7 of the 20 counties were located in Louisiana, and another 8 of 20 were located in Texas, with 2 of 20 being located in New York. All other states were involved with only one county, which included Pennsylvania, Mississippi, and Florida. Medicare spent almost \$3,600 per beneficiary on outpatient therapy services in St. Mary's County in Louisiana, more than 3 times the national average of \$1,173. Spending on outpatient therapy services in Kings County and Queens County, New York, was also above the national average in 2011, accounting for \$2,798 and \$2,278 per

user respectively. Some of the counties that were shown to be high spenders in earlier years such as Miami-Dade County, Florida, were not high spending areas in 2011, due to extensive investigations and coverage and press for therapy services and abuses.

The caps, while providing reductions in Medicare spending in some years, in later years had no effect as shown in Figure 2 (145,146). In fact, in 2010, the Office of Inspector General (OIG) at the Department of Health and Human Services (HHS) (146) reported on the growth in spending on outpatient therapy in the Miami-Dade area. Furthermore, OIG recommended that CMS and Medicare administrative contractors (MACs) monitor claims from high-use areas and perform further reviews and target claims with questionable billing practices, review claims with questionable billing based on geographic location, and revise the therapy caps exception process.

Table 10. Twenty counties with the highest spending on outpatient therapy, 2011

	State	County	Per user spending	Number of therapy beneficiaries	Share of FFS beneficiaries living in county who used therapy
National			\$1,173	4.9 million	15%
1	LA	St. Mary's	3,582	759	10
2	TX	Jim Wells	3,293	515	11
3	LA	Avoyelles	2,799	685	10
4	NY	Kings	2,798	41,973	24
5	TX	Rusk	2,696	731	10
6	PA	Lawrence	2,653	1,193	16
7	TX	San Patricio	2,609	852	14
8	MS	Lincoln	2,581	<i>7</i> 81	13
9	TX	Hardin	2,550	662	10
10	LA	Lincoln	2,501	656	13
11	TX	Atascosa	2,492	521	12
12	TX	Angelina	2,490	1,385	11
13	FL	Okeechobee	2,478	763	16
14	TX	Upshur	2,461	537	9
15	LA	Iberia	2,328	1,067	10
16	LA	Ouachita	2,323	1,939	10
17	LA	Livingston	2,294	1,070	14
18	TX	Cherokee	2,285	684	9
19	NY	Queens	2,278	34,753	21
20	LA	Caddo	2,261	3,919	12

Note: FFS (fee-for-service). These counties had at least 500 Part B beneficiaries with spending for outpatient therapy services in 2011. Spending is risk adjusted for county health status using hierarchical condition categories risk scores.

Source(s): MedPAC analysis of 100% Medicare Part B therapy claims, 2011 and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

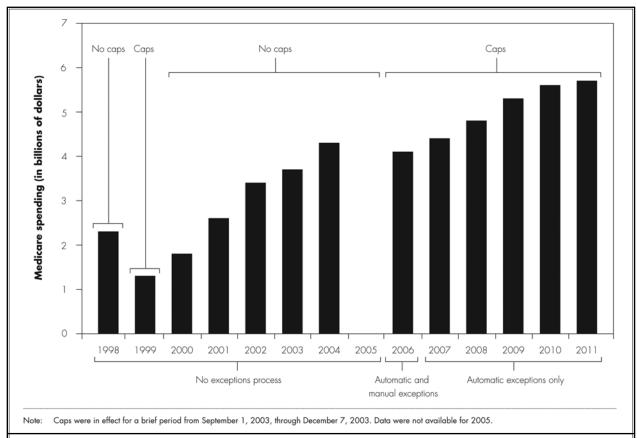


Fig. 2. Total Medicare spending on outpatient therapy services, 1998-2011.

Source(s): MedPAC analysis of Medicare claims data and CMS contractor reports and Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. http://www.medpac.gov/documents/Jun13_EntireReport.pdf (10).

Following the extensive review, MedPAC made the following recommendations to be implemented: increase physician oversight of the patients' plan of care. This incorporates the following:

- Reduce the certification period for the outpatient therapy plan of care from 90 days to 45 days
- Develop national guidelines for therapy services, implement payment edits at the national level based on these guidelines that target implausible amounts of therapy, and use authorities granted by the Patient Protection and Affordable Care Act of 2010 to target high-use geographic areas and aberrant providers.

MedPAC, while believing that a policy of hard caps on therapy spending without an exception may unduly compromise beneficiaries access to medically necessary services, also believes that the current automatic exceptions process may be too loose and permit the delivery of excessive amounts of therapy without any way to establish the necessity of these treatments. Consequently, MedPAC recommended the following:

- Reduce the therapy cap for physical therapy and speech-language pathology services combined and the separate cap for occupational therapy to \$1,270 in 2013. These caps should be updated each year by the Medicare Economic Index (MEI).
- Direct the Secretary to implement a manual review process for requests to exceed cap amounts, and provide the resources to CMS for this purpose.
- Permanently include services delivered in HOPDs under therapy caps.
- Apply a multiple procedure payment reduction of 50% to the PE portion of outpatient therapy services provided to the same patient on the same day.

MedPAC also recommended that due to the lack of adequate data with which to evaluate the medical necessity of therapy services, diagnostic codes and collection of information about functional status during the course of therapy should be improved.

The Congress should direct the Secretary to:

- Prohibit the use of V codes as the principal diagnosis on outpatient therapy claims, and
- Collect functional status information on therapy users using a streamlined, standardized, assessment tool that reflects factors such as patients' demographic information, diagnoses, medications, surgery, and functional limitations to classify patients across all therapy types. The Secretary should use the information collected using this tool to measure the impact of therapy services on functional status, and provide a basis for the development of an episode-based or global payment system.

Overall, MedPAC estimated that the implications of these measures will not have any substantial effect on access, but will reduce spending and improve quality by reforming the delivery system. MedPAC has provided information for a streamlined standardized tool to measure functional status for outpatient therapy services.

SUMMARY

This manuscript describes various policy suggestions put forth by MedPAC in its report to the Congress on Medicare and the health care delivery system in 2013, affecting the payment rates by Medicare beyond the ACA. MedPAC has undertaken these recommendations based on the fact that Medicare pays 141% more for a Level II echocardiogram in an HOPD than in a free-standing physician's office. For interventional techniques, Medicare payments vary from \$211.96 in an office setting, to \$407.28 in ASC setting, and \$655.62 in an HOPD for procedures such as epidural injections. Consequently, these variations raise questions about how Medicare should pay for the same service when it is delivered in different settings. MedPAC asserts that a prudent purchaser should not pay more for that service in one setting than in another. Payment variations across settings may encourage arrangements among providers that result in care being provided in higher paid settings, thereby increasing total Medicare spending and beneficiary cost sharing. In general, MedPAC maintains that Medicare should base payment rates on the resources needed to treat patients in the most efficient setting, adjusting for differences in patient severity to the extent that severity differences affect costs. MedPACs role is advisory and these recommendations do not necessarily result in policy changes.

In summary, MedPAC identified multiple groups of services provided in different settings and proposed to equalize payments resulting in approximate savings of \$1.5 billion per year.

ACKNOWLEDGMENTS

The authors wish to thank Vidyasagar Pampati, MSc, for statistical assistance; Alvaro F. Gómez, MA, and Laurie Swick, BS, for manuscript review; and Tonie M. Hatton and Diane E. Neihoff, transcriptionists, for their assistance in preparation of this manuscript. We would like to thank the editorial board of *Pain Physician* for review and criticism in improving the manuscript.

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Conflicts of Interest:

Dr. Benyamin is a consultant and lecturer for Boston Scientific and Kimberly Clark. Dr. Falco is a consultant for St. Jude Medical Inc. and Joimax Inc

REFERENCES

- Antos JR, Pauly MV, Wilensky GR. Bending the cost curve through market-based incentives. N Engl J Med 2012; 367:954-958.
- Keehan SP, Cuckler GA, Sisko AM, Madison AJ, Smith SD, Lizonitz JM, Poisal JA, Wolfe CJ. National health expenditure projections: Modest annual growth until coverage expands and economic growth accelerates. Health Aff (Millwood) 2012; 31:1600-1612.
- Public Law No: 111-148: H.R. 3590. Patient Protection and Affordable Care Act. March 23, 2010.
- Manchikanti L, Hirsch JA. Obamacare 2012: Prognosis unclear for interventional pain management. *Pain Physician* 2012; 15:E629-E640.
- 2013 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, May 31, 2013. www.cms.gov/Research-Statistics-Dataand-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/ TR2013.pdf
- Manchikanti L, Hirsch JA. Regulatory burdens of the Affordable Care Act. Harvard Health Policy Rev 2012; 13:9-12.
- Congressional Budget Office. Updated estimates for the insurance coverage provisions of the Affordable Care Act. March 2012. www.cbo.gov/sites/default/ files/cbofiles/attachments/03-13-Coverage%20Estimates.pdf
- 8. Hoffman A, Emanuel EJ. Reengineering US health care. JAMA 2013; 309:661-662.
- Shortell SM. Bridging the divide between health and health care. JAMA 2013; 309:1121-1122.
- Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. Washington, DC: MedPAC. June 2013. www.medpac.gov/documents/Jun13_EntireReport.pdf
- Public Law 112-96. Middle Class Tax Relief and Job Creation Act of 2012. February 22, 2012.
- Rubin J. Employer mandate delay pulling on a string. Washington Post, July 3, 2013.
 - www.washingtonpost.com/blogs/rightturn/wp/2013/07/03/employer-mandatedelay-pulling-on-a-string/
- United States House of Representatives, Energy & Commerce Committee, Chairman Fred Upton. Obamacare oversight: The looming premium rate shock. May

- 13, 2013.
- http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/insurancepremiums/Final-Report.pdf
- Blankley B. ObamaCare to Increase Health Insurance Premiums by 100-400 Percent, Deficit and Taxes to Skyrocket. CP Opinion, June 10, 2013.
 - www.christianpost.com/news/obamacare-to-increase-health-insurance-premiums-by-100-400-percent-deficit-andtaxes-to-skyrocket-97599/
- Manchikanti L, Pampati V, Falco FJE, Hirsch JA. Growth of spinal interventional pain management techniques: Analysis of utilization trends and Medicare expenditures 2000 to 2008. Spine (Phila Pa 1976) 2013; 38:157-168.
- Manchikanti L, Falco FJE, Singh V, Pampati V, Parr AT, Benyamin RM, Fellows B, Hirsch JA. Utilization of interventional techniques in managing chronic pain in the Medicare population: Analysis of growth patterns from 2000 to 2011. Pain Physician 2012; 15:E969-E982.
- Manchikanti L, Pampati V, Falco FJE, Hirsch JA. Assessment of the growth of epidural injections in the Medicare population from 2000 to 2011. Pain Physician 2013; 16:E349-E364.
- Manchikanti L, Pampati V, Singh V, Falco FJE. Assessment of the escalating growth of facet joint interventions in the Medicare population in the United States from 2000 to 2011. Pain Physician 2013; 16:E365-E378.
- 19. Manchikanti L, Hansen H, Pampati V, Falco FJE. Utilization and growth patterns of sacroiliac joint injections from 2000 to 2011 in the Medicare population. *Pain Physician* 2013; 16:E379-E390.
- Abbott ZI, Nair KV, Allen RR, Akuthota VR. Utilization characteristics of spinal interventions. Spine J 2012; 1:35-43.
- Martin BI, Deyo RA, Mirza SK, Turner JA, Comstock BA, Hollingworth W, Sullivan SD. Expenditures and health status among adults with back and neck problems. JAMA 2008; 299:656-664. Erratum in: JAMA 2008; 299:2630.
- 22. Martin BI, Turner JA, Mirza SK, Lee MJ, Comstock BA, Deyo RA. Trends in health care expenditures, utilization, and health status among US adults with spine problems, 1997-2006. Spine (Phila Pa 1976) 2009; 34:2077-2084.
- Institute of Medicine (IOM). Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research.

- The National Academies Press, Washington, DC, June 29, 2011.
- www.iom.edu/~/media/Files/Report%20 Files/2011/Relieving-Pain-in-America-A-Blueprint-for-Transforming-Prevention-Care-Education-Research/Pain%20Research%202011%20Report%20Brief.pdf
- Gaskin DJ, Richard P. The economic costs of pain in the United States. J Pain 2012; 13:715-724.
- Freburger JK, Holmes GM, Agans RP, Jackman AM, Darter JD, Wallace AS, Castel LD, Kalsbeek WD, Carey TS. The rising prevalence of chronic low back pain. Arch Intern Med 2009; 169:251-258.
- Manchikanti L, Abdi S, Atluri S, Benyamin RM, Boswell MV, Buenaventura RM, Bryce DA, Burks PA, Caraway DL, Calodney AK, Cash KA, Christo PJ, Cohen SP, Colson J, Conn A, Cordner HJ, Coubarous S, Datta S, Deer TR, Diwan SA, Falco FJE, Fellows B, Geffert SC, Grider JS, Gupta S, Hameed H, Hameed M, Hansen H, Helm II S, Janata JW, Justiz R, Kaye AD, Lee M, Manchikanti KN, McManus CD, Onyewu O, Parr AT, Patel VB, Racz GB, Sehgal N, Sharma M, Simopoulos TT, Singh V, Smith HS, Snook LT, Swicegood J, Vallejo R, Ward SP, Wargo BW, Zhu J, Hirsch JA. An update of comprehensive evidence-based guidelines for interventional techniques of chronic spinal pain: Part II: Guidance and recommendations. Pain Physician 2013; 16:S49-S283.
- Manchikanti L, Abdi S, Atluri S, Balog CC, Benyamin RM, Boswell MV, Brown KR, Bruel BM, Bryce DA, Burks PA, Burton AW, Calodney AK, Caraway DL, Cash KA, Christo PJ, Damron KS, Datta S, Deer TR, Diwan S, Eriator I, Falco FJE, Fellows B, Geffert S, Gharibo CG, Glaser SE, Grider JS, Hameed H, Hameed M, Hansen H, Harned ME, Hayek SM, Helm II S, Hirsch JA, Janata JW, Kaye AD, Kaye AM, Kloth DS, Koyyalagunta D, Lee M, Malla Y, Manchikanti KN, McManus CD, Pampati V, Parr AT, Pasupuleti R, Patel VB, Sehgal N, Silverman SM, Singh V, Smith HS, Snook LT, Solanki DR, Tracy DH, Vallejo R, Wargo BW. American Society of Interventional Pain Physicians (ASIPP) opioid prescribing in chronic non-cancer pain: Part 2 - Guidance. Pain Physician 2012; 15:S67-S116.
- Erickson W, von Schrader S, Lee C. 2010
 Disability Status Report, United States.
 Cornell University ILR School, January 1, 2012.http://digitalcommons.ilr.
 cornell.edu/cgi/viewcontent.cgi?artic le=1561&context=gladnetcollect&seiredir=1&referer=http%3A%2F%2Fwww.

- google.com%2Furl%3Fsa%3Dt%26rct%3 Dj%26q%3D2010%2520disability%2520sta tus%2520report%26source%3Dweb%26cd %3D2%26ved%3DoCDoQFjAB%26url%3 Dhttp%253A%252F%252Fdigitalcommons. ilr.cornell.edu%252Fcgi%252Fviewcontent. cgi%253Farticle%253D1561%2526conte xt%253Dgladnetcollect%26ei%3Du7Lu UZm9E4_M9gTLm4H4Cw%26usg%3 DAFQjCNFL5h4gi7FLj7_nY2OCsHX67 Elu2w%26bvm%3Dbv.49641647%2Cd. eWU#search=%222010%20disability%20 status%20report%2229. Merlin J. Disability ranks outpace new jobs in Obama recovery. Investor's Business Weekly, July 6, 2012.
- U.S. Social Security Administration. Annual statistical report on the Social Security Disability Insurance Program, 2011.
 Release July 2012. www.ssa.gov/policy/docs/statcomps/di_asr/2011/di_asr11.pdf
- Davis MA, Onega T, Weeks WB, Lurie JD.
 Where the United States spends its spine
 dollars: Expenditures on different ambulatory services for the management of
 back and neck conditions. Spine (Phila Pa
 1976) 2012; 37:1693-1701.
- Dagenais S, Roffey DM, Wai EK, Haldeman S, Caro J. Can cost utility evaluations inform decision making about interventions for low back pain? Spine J 2009; 9:944-957.
- Dagenais S, Caro J, Haldeman S. A systematic review of low back pain cost of illness studies in the United States and internationally. Spine J 2008; 8:8-20.
- 34. Department of Health and Human Services, Health Care Financing Administration. 42 CFR Parts 410, 411, 414, 415, and 485. Medicare Program; Revisions to payment policies under the physician fee schedule for Calendar Year 2000; Final Rule. November 2, 1999.
- 35. Department of Health and Human Services, Health Care Financing Administration. 42 CFR Parts 410 and 414 Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2001; Final Rule. November 1, 2000.
- 36. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 410, 411, 414, and 415. Medicare Program; Revisions to Payment Policies and Five-Year Review of and Adjustments to the Relative Value Units Under the Physician Fee Schedule for Calendar Year 2002; Final Rule. November 1, 2001.
- 37. Department of Health and Human Services, Centers for Medicare & Medicaid

- Services. 42 CFR Parts 403, 405, 410, 411, 414, 418, 424, 484, and 486. Medicare Program; Medicare Payment Policies Under the Physician Fee Schedule for Calendar Year 2005; Final Rule. November 15, 2004.
- 38. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 410, 411, 413, 414, 424, and 426. Medicare Program; Medicare Payment Policies Under the Physician Fee Schedule for Calendar Year 2006 and Certain Provisions Related to the Competitive Acquisition Program of Outpatient Drugs and Biologicals Under Part B; Final Rule. November 21, 2005.
- 39. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 410, 411, 414, 415, and 424. Medicare Program; Medicare Payment Policies, Five-Year Review of Work Relative Value Units, Changes to the Practice Expense Methodology Under the Physician Fee Schedule, and Other Changes to Payment Under Part B; Revisions to the Payment Policies of Ambulance Services Under the Fee Schedule for Ambulance Services; and Ambulance Inflation Factor Update for CY 2007; Final Rule. December 1, 2006.
- 40. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 409, 410, 411, 414, 415, 424, 485, and 486. Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2009; E-Prescribing Exemption for Computer-Generated Facsimile Transmissions; and Payment for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS); Final Rule. November 19, 2008.
- 41. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 411, 414, et al. Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2010; Final Rule; Medicare Program; Solicitation of Independent Accrediting Organizations To Participate in the Advanced Diagnostic Imaging Supplier Accreditation Program Notice; Final Rule. November 25, 2009.
- 42. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 409, 410, 411, 413, 414, 415, and 424 Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2011; Final Rule. November 29, 2010.

- 43. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 414, 415, and 495. Medicare Program; Payment Policies Under the Physician Fee Schedule, Five-Year Review of Work Relative Value Units, Clinical Laboratory Fee Schedule: Signature on Requisition, and Other Revisions to Part B for CY 2012; Final Rule. November 28, 2011.
- 44. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Part 416. Medicare Program; Update of Ambulatory Surgical Center List of Covered Procedures; Proposed Rule. November 26, 2004.
- 45. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Part 416. Medicare Program; Update of Ambulatory Surgical Center List of Covered Procedures; Interim Final Rule. May 4, 2005.
- 46. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 416 et al. Medicare Program—Revisions to Hospital Outpatient Prospective Payment System and Calendar Year 2007 Payment Rates; Final Rule. November 24, 2006.
- Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 416, and 419. Medicare Program: Changes to the Hospital Outpatient Prospective Payment System and CY 2009 Payment Rates; Changes to the Ambulatory Surgical Center Payment System and CY 2009 Payment Rates; Hospital Conditions of Participation: Requirements for Approval and Re-Approval of Transplant Centers To Perform Organ Transplants—Clarification of Provider and Supplier Termination Policy Medicare and Medicaid Programs: Changes to the Ambulatory Surgical Center Conditions for Coverage; Final Rule. November 18, 2008.
- 48. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 416, and 419 Medicare Program: Changes to the Hospital Outpatient Prospective Payment System and CY 2010 Payment Rates; Changes to the Ambulatory Surgical Center Payment System and CY 2010 Payment Rates; Final Rule. November 20, 2009.
- 49. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 411, 412, 413, 416, 419, and 489. Medicare Program: Hospital Outpatient Prospective Payment System and CY 2011 Payment Rates; Am-

- bulatory Surgical Center Payment System and CY 2011 Payment Rates; Payments to Hospitals for Graduate Medical Education Costs; Physician Self-Referral Rules and Related Changes to Provider Agreement Regulations; Payment for Certified Registered Nurse Anesthetist Services Furnished in Rural Hospitals and Critical Access Hospitals; Final Rule. November 24, 2010.
- 50. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 411, 416, 419, 489, and 495. Medicare and Medicaid Programs: Hospital Outpatient Prospective Payment; Ambulatory Surgical Center Payment; Hospital Value-Based Purchasing Program; Physician Self-Referral; and Provider Agreement Regulations on Patient Notification Requirements. Final Changes to the Hospital Outpatient Prospective Payment System and CY 2012 Payment Rates. November 30, 2011.
- Manchikanti L, Singh V, Hirsch JA. Saga of payment systems of ambulatory surgery centers for interventional techniques: An update. *Pain Physician* 2012; 15:109-130.
- Hirsch JA, Rosman DA, Liu RW, Ding A, Manchikanti L. Sustainable growth rate 2013: Time for definitive intervention. J Neurointerv Surg 2013; 5:382-386.
- Manchikanti L, Singh V, Caraway DL, Benyamin RM, Falco FJE, Hirsch JA. Proposed physician payment schedule for 2013: Guarded prognosis for interventional pain management. *Pain Physician* 2012; 15:E615-E627.
- 54. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 410, 411, 414, 423, and 425. Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule, Clinical Laboratory Fee Schedule & Other Revisions to Part B for CY 2014; Proposed Rule. June 26, 2013.
- 55. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 405, 410, 412, 416, 419, 475, 476, 486, and 495. Medicare and Medicaid Programs: Hospital Outpatient Prospective Payment and Ambulatory Surgical Center Payment Systems and Quality Reporting Programs; Organ Procurement Organizations; Quality Improvement Organizations; Electronic Health Records (EHR) Incentive Program; Provider Reimbursement Determinations and Appeals; Proposed Rule. June 26, 2013.

- Medicare Payment Adivsory Commission. Fact Sheet: Report to the Congress. Washington, DC. March 2010.
 - www.medpac.gov/documents/Mar1o_ FactSheet.pdf
- 57. Berenson RA, Ginsburg PB, Christianson JB, Yee T. The growing power of some providers to win steep payment increases from insurers suggests policy remedies may be needed. Health Aff (Millwood) 2012; 31:973-981.
- 58. O'Malley AS, Bond AM, Berenson RA. Rising hospital employment of physicians: Better quality, higher costs? Issue Brief Cent Stud Health Syst Change 2011; 136:1-4.
- Kocher R, Sahni NR. Hospitals' race to employ physicians--the logic behind a money-losing proposition. N Engl J Med 2011; 364:1790-1793.
- 60. Testimony of Paul B. Ginsburg, PhD, President, Center for Studying Health System Change. Hearing on "Health care industry consolidation." Before the Subcommittee on Health, Ways and Means Committee, United States House of Representatives. September 9, 2011.
- 61. Jain M. Doctors in private practices are now joining hospital staffs. *Washington Post*, March 12, 2012.
- Dutton A. The cost of doctor buyouts: Charges rise, patient choice suffers, critics say. *Idaho Statesman*, October 28, 2012.
- 63. Mathews AW. Same doctor visit, double the cost: Insurers say rates can surge after hospitals buy private physician practices; Medicare spending rises, too. Wall Street Journal, August 27, 2012.
- 64. Hacker K, Walker DK. Achieving population health in accountable care organizations. *Am J Public Health* 2013; 103:1163-1167.
- Hines P, Mercury M. Designing the role of the embedded care manager. Prof Case Manag 2013; 18:182-187.
- 66. Landon BE, Onnela JP, Keating NL, Barnett ML, Paul S, O'Malley AJ, Keegan T, Christakis NA. Using administrative data to identify naturally occurring networks of physicians. *Med Care* 2013 Jun 25. [Epub ahead of print].
- 67. Freeman WD, Vatz KA, Griggs RC, Pedley T. The Workforce Task Force Report: Clinical implications for neurology. *Neurology* 2013 Jun 19. [Epub ahead of print].
- Harvey HB, Cohen IG. The looming threat of liability for accountable care organizations and what to do about it.

- JAMA 2013; 310:141-142.
- Maust DT, Oslin DW, Marcus SC. Mental health care in the accountable care organization. Psychiatr Serv 2013 Jun 14. [Epub ahead of print].
- Homer CJ, Patel KK. Accountable care organizations in pediatrics: Irrelevant or a game changer for children? JAMA Pediatr 2013; 167:507-508.
- 71. Shaz BH, Hillyer CD, Waters JH. Patient blood management: Key for accountable care organizations. *JAMA Surg* 2013; 148:491-492.
- 72. Miller DC, Ye Z, Gust C, Birkmeyer JD. Anticipating the effects of accountable care organizations for inpatient surgery. *JAMA Surg* 2013; 148:549-554.
- Penson DF. Accountable care organizations in surgery: location, location, location: comment on "will accountable care organizations cut costs and improve quality for inpatient surgery?" JAMA Surg 2013; 148:554.
- 74. Zusman E, Reagan R. Competitive kaisers: The future of American healthcare is vertically integrated accountable care organizations where patient members pay for health care instead of health insurance. Neurosurgery 2013; 72:N11-N13.
- Sorrel AL. ACOs, Texas-Style. Tex Med 2013; 109:25-28.
- Ranola P. Leadership of accountable care organizations. Virtual Mentor 2013; 15:515-517.
- Kuperman GJ, McGowan JJ. Potential unintended consequences of health information exchange. J Gen Intern Med 2013
 May 21. [Epub ahead of print].
- Rosman DA, Farinhas JM, Ullrich CG, McGinty G. Accountable care organizations: Is the radiologist at risk? J Am Coll Radiol 2013 May 9. [Epub ahead of print].
- Schultz S, Abercrombie S, Crownover B, Hoekzema G, Krug N, Maxwell L, Mazzone M, Mitchell K, Shaffer T, Tuggy M. Accountable care organizations: An opportunity for synergy. Ann Fam Med 2013; 11:283-284.
- Taplin SH, Foster MK, Shortell SM. Organizational leadership for building effective health care teams. *Ann Fam Med* 2013; 11:279-281.
- 81. King ML. Affordability, accountability, and accessibility in health care reform: Implications for cardiovascular and pulmonary rehabilitation. J Cardiopulm Rehabil Prev 2013; 33:144-152.
- 82. Thorpe JH. Health system transformation and the role of health information

- law. Public Health Rep 2013; 128:231-235.
- 83. Curnow RT Jr, Doers JT. Preparing for accountable care organizations: A physician primer. *Chest* 2013; 143:1140-1144.
- 84. Maddux FW, McMurray S, Nissenson AR. Toward population management in an integrated care model. Clin J Am Soc Nephrol 2013; 8:694-700.
- Ortiz J, Bushy A, Zhou Y, Zhang H. Accountable care organizations: Benefits and barriers as perceived by rural health clinic management. Rural Remote Health 2013; 13:2417.
- Jaffery J, Golden RN. Accountable Care Organizations: What are they? Where are they coming from? Where will they lead? WMJ 2013; 112:98-99.
- Noble DJ, Casalino LP. Can accountable care organizations improve population health?: Should they try? JAMA 2013; 309:1119-1120.
- Stecker EC. The Oregon ACO experiment--bold design, challenging execution. N Engl J Med 2013; 368:982-985.
- Lewis VA, McClurg AB, Smith J, Fisher ES, Bynum JP. Attributing patients to accountable care organizations: Performance year approach aligns stakeholders' interests. Health Aff (Millwood) 2013; 32:587-595.
- Robeznieks A. Collaborating on healthcare. Insurers, physicians see value in partnerships. Mod Healthc 2013; 43:12-13.
- Burling S. Why heart doctors are leaving practice to work for hospitals. *Philadel*phia Inquirer, January 26, 2012.
- American College of Cardiology. Changing CV practice landscape: Findings from ACC Cardiovascular Practice Census. Presentation to the ACC Michigan Chapter, September 2012.
- 93. Schulte F. Hospitals face increased scrutiny for charging facility fees. Washington Post, December 23, 2012.
- 94. Medicare Payment Advisory Commission. Report to the Congress. Medicare Payment Policy. Washington, DC: Med-PAC. March 2013. www.medpac.gov/documents/Mar13_entirereport.pdf
- Current Procedural Terminology. CPT 2012.
 American Medical Association, Chicago, 2011.
- Current Procedural Terminology. CPT 2013. American Medical Association, Chicago, 2012.
- Ostrom CM. Why you might pay twice for one visit to doctor. Seattle Times, November 3. 2012.

- North Carolina Department of Health and Human Services, Division of Health Service Regulation. Declaratory ruling to the Presbyterian Hospital and SameDay Surgery Center at Presbyterian Hospital, LLC. 2008
- 99. State of Connecticut, Department of Public Health, Office of Health Care Access. Notice of final decision for an application for a certificate of need filed by Hartford Hospital & Constitution Eye Surgery Center, LLC. Change of ownership and control of Constitution Eye Surgery Center, LLC to Hartford Hospital. January 20, 2011.
- 100. Public Law 112-240. The American Taxpayer Relief Act of 2012 (ATRA). January 2, 2013.
- 101. Manchikanti L, Burks T. Correct coding policies for physical therapy. In: Manchikanti L (ed). Principles of Documentation, Billing, Coding, and Practice Management for the Interventional Pain Professional. ASIPP Publishing, Paducah, KY, 2004, pp 281-288.
- 102. Hayden JA, van Tulder MW, Tomlinson G. Systematic review: strategies for using exercise therapy to improve outcomes in chronic low back pain. Ann Intern Med 2005; 142:776-785.
- 103. Michael YL, Whitlock EP, Lin JS, Fu R, O'Connor EA, Gold R; US Preventive Services Task Force. Primary care-relevant interventions to prevent falling in older adults: A systematic evidence review for the U.S. Preventive Services Task Force. Ann Intern Med 2010; 153:815-825.
- 104. Manchikanti L, Falco FJE, Pampati V, Cash KA, Benyamin RM, Hirsch JA. Cost utility analysis of caudal epidural injections in the treatment of lumbar disc herniation, axial or discogenic low back pain, central spinal stenosis, and post lumbar surgery syndrome. Pain Physician 2013; 16:E129-E143.
- 105. Indrakanti SS, Weber MH, Takemoto SK, Hu SS, Polly D, Berven SH. Value-based care in the management of spinal disorders: A systematic review of cost-utility analysis. Clin Orthop Relat Res 2012; 470:1106-1023.
- 106. Whynes DK, McCahon RA, Ravenscroft A, Hardman J. Cost effectiveness of epidural steroid injections to manage chronic lower back pain. BMC Anesthesiol 2012; 12:26.
- 107. Chou R, Huffman L. Guideline for the Evaluation and Management of Low Back Pain: Evidence Review. American Pain Society, Glenview, IL, 2009. www.ameri-

- canpainsociety.org/uploads/pdfs/LBPE-vidRev.pdf
- 108. Pinto RZ, Maher CG, Ferreira ML, Hancock M, Oliveira VC, McLachlan AJ, Koes B, Ferreira PH. Epidural corticosteroid injections in the management of sciatica: A systematic review and meta-analysis. Ann Intern Med 2012; 157:865-877.
- 109. Staal JB, de Bie RA, de Vet HC, Hildebrandt J, Nelemans P. Injection therapy for subacute and chronic low back pain: An updated Cochrane review. *Spine* (*Phila Pa* 1976) 2009; 34:49-59.
- 110. Tosteson AN, Skinner JS, Tosteson TD, Lurie JD, Andersson GB, Berven S, Grove MR, Hanscom B, Blood EA, Weinstein JN. The cost effectiveness of surgical versus nonoperative treatment for lumbar disc herniation over two years: Evidence from the Spine Patient Outcomes Research Trial (SPORT). Spine (Phila Pa 1976) 2008; 33:2108-2115.
- 111. Tosteson AN, Lurie JD, Tosteson TD, Skinner JS, Herkowitz H, Albert T, Boden SD, Bridwell K, Longley M, Andersson GB, Blood EA, Grove MR, Weinstein JN; SPORT Investigators. Surgical treatment of spinal stenosis with and without degenerative spondylolisthesis: Cost-effectiveness after 2 years. Ann Intern Med 2008; 149:845-853.
- 112. Tosteson AN, Tosteson TD, Lurie JD, Abdu W, Herkowitz H, Andersson G, Albert T, Bridwell K, Zhao W, Grove MR, Weinstein MC, Weinstein JN. Comparative effectiveness evidence from the spine patient outcomes research trial: Surgical versus nonoperative care for spinal stenosis, degenerative spondylolisthesis, and intervertebral disc herniation. Spine (Phila Pa 1976) 2011; 36:2061-2068.
- 113. Abbott JH, Robertson MC, Chapple C, Pinto D, Wright AA, Leon de la Barra S, Baxter GD, Theis JC, Campbell AJ; MOA Trial team. Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee: A randomized controlled trial. 1: Clinical effectiveness. Osteoarthritis Cartilage 2013; 21:525-534.
- 114. Pinto D, Robertson MC, Abbott JH, Hansen P, Campbell AJ; the MOA Trial Team. Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee. 2: Economic evaluation alongside a randomized controlled trial. Osteoarthritis Cartilage 2013 Jun 27. [Epub ahead of print].
- 115. Giné-Garriga M, Martin-Borràs C, Puig-Ribera A, Martín-Cantera C, Solà M,

- Cuesta-Vargas A; on behalf of the PPAF Group. The effect of a physical activity program on the total number of primary care visits in inactive patients: A 15-month randomized controlled trial. *PLoS One* 2013; 8:e66392.
- 116. Jowett S, Crawshaw DP, Helliwell PS, Hensor EM, Hay EM, Conaghan PG. Cost-effectiveness of exercise therapy after corticosteroid injection for moderate to severe shoulder pain due to subacromial impingement syndrome: A trial-based analysis. Rheumatology (Oxford) 2013; 52:1485-1491.
- 117. Maas ET, Juch JN, Groeneweg JG, Ostelo RW, Koes BW, Verhagen AP, van Raamt M, Wille F, Huygen FJ, van Tulder MW. Cost-effectiveness of minimal interventional procedures for chronic mechanical low back pain: Design of four randomised controlled trials with an economic evaluation. BMC Musculoskelet Disord 2012; 13:260.
- 118. Standaert CJ, Friedly J, Erwin MW, Lee MJ, Rechtine G, Henrikson NB, Norvell DC. Comparative effectiveness of exercise, acupuncture, and spinal manipulation for low back pain. *Spine (Phila Pa 1976)* 2011; 36:S120-S130.
- 119. Tricco AC, Antony J, Soobiah C, Hemmelgarn B, Moher D, Hutton B, Yu CH, Majumdar SR, Straus SE. Safety, effectiveness, and cost of dipeptidyl peptidase-4 inhibitors versus intermediate acting insulin for type 2 diabetes: Protocol for a systematic review and network metaanalysis. Syst Rev 2013; 2:47.
- 120. Memtsoudis SG, Stundner O, Yoo D, Gonzalez Della Valle A, Boettner F, Bombardieri AM, Jules-Elysee K, Poultsides L, Ma Y, Sculco TP. Does limb preconditioning reduce pain after total knee arthroplasty? A randomized, double-blind study. Clin Orthop Relat Res 2013 Jun 13. [Epub ahead of print].
- 121. Oosterhuis T, van Tulder M, Peul W, Bosmans J, Vleggeert-Lankamp C, Smakman L, Arts M, Ostelo R. Effectiveness and cost-effectiveness of rehabilitation after lumbar disc surgery (REALISE): Design of a randomised controlled trial. BMC Musculoskelet Disord 2013; 14:124.
- 122. Liamina NG, Razborova IB, Kotel'nikova EV, Karpova ÉS, Nosenko AN, Lipchanskaia TP. Clinico-economic aspects of physical rehabilitation of patients with coronary heart disease after endovascular interventions. Klin Med (Mosk) 2013; 91:9-13.
- 123. Delaney CL, Spark JI, Thomas J, Wong YT,

- Chan LT, Miller MD. A systematic review to evaluate the effectiveness of carnitine supplementation in improving walking performance among individuals with intermittent claudication. *Atherosclerosis* 2013; 229:1-9.
- 124. Manchikanti L, Buenaventura RM, Manchikanti KN, Ruan X, Gupta S, Smith HS, Christo PJ, Ward SP. Effectiveness of therapeutic lumbar transforaminal epidural steroid injections in managing lumbar spinal pain. *Pain Physician* 2012; 15:E199-E245.
- 125. Parr AT, Manchikanti L, Hameed H, Conn A, Manchikanti KN, Benyamin RM, Diwan S, Singh V, Abdi S. Caudal epidural injections in the management of chronic low back pain: A systematic appraisal of the literature. Pain Physician 2012; 15:E159-E198.
- 126. Benyamin RM, Manchikanti L, Parr AT, Diwan SA, Singh V, Falco FJE, Datta S, Abdi S, Hirsch JA. The effectiveness of lumbar interlaminar epidural injections in managing chronic low back and lower extremity pain. *Pain Physician* 2012; 15:E363-E404.
- 127. Falco FJE, Manchikanti L, Datta S, Sehgal N, Geffert S, Onyewu O, Zhu J, Coubarous S, Hameed M, Ward SP, Sharma M, Hameed H, Singh V, Boswell MV. An update of the effectiveness of therapeutic lumbar facet joint interventions. *Pain Physician* 2012; 15:E909-E953.
- 128. Falco FJE, Manchikanti L, Datta S, Wargo BW, Geffert S, Bryce DA, Atluri S, Singh V, Benyamin RM, Sehgal N, Ward S, Helm II S, Gupta S, Boswell MV. Systematic review of therapeutic effectiveness of cervical facet joint interventions: An update. Pain Physician 2012; 15:E839-E868.
- Manchikanti KN, Atluri S, Singh V, Geffert S, Sehgal N, Falco FJE. An update of evaluation of therapeutic thoracic facet joint interventions. *Pain Physician* 2012; 15:E463-E481.
- 130. Helm II S, Benyamin RM, Chopra P, Deer TR, Justiz R. Percutaneous adhesiolysis in the management of chronic low back pain in post lumbar surgery syndrome and spinal stenosis: A systematic review. *Pain Physician* 2012; 15:E435-E462.
- Balanced Budget Act of 1997. H.R. 2015.
 P.L. 105-33, August 5, 1997.
- 132. Centers for Medicare and Medicaid Services. National Coverage Determinations. www.cms.gov/medicare-coverage-database/indexes/ncd-alphabetical-index.aspx?bc=AgAAAAAAAAAAAAAA3d%3d%3d&

- 133. National Government Services. www.ngsmedicare.com/wps/portal/ ngsmedicare/
- 134. CGS Medicare. www.cgsmedicare.com/medicare.html
- 135. Wisconsin Physician Services. www.wpsmedicare.com/index.shtml
- 136. Novitas Solutions. www.novitas-solutions.com/
- 137. Palmetto GBA Medicare. www.palmettogba.com/palmetto/palmetto.nsf/SiteHome?ReadForm
- 138. Noridian Healthcare Solutions. www.noridianmedicare.com/
- 139. First Coast Service Options, Inc. http://medicare.fcso.com/
- 140. Cahaba Government Benefit Administrators, LLC.
 - www.cahabagba.com/
- 141. Maxwell S, Basseggio C, Storeygard M. Part B therapy services under Medicare, 1998–2000: Impact of extending fee schedule payments and coverage limits. Urban Institute, Washington, DC. September 2001.
- 142. Department of Health and Human Services, Health Care Financial Administration, Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities With Which They Have Financial Relationships; Final Rule. 66 Federal Register 855, Jan. 4, 2001.
- 143. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 411 and 424. Medicare Program; Physicians' Referrals to Health Care Entities With Which They Have Financial Relationships (Phase II); Correction, Federal Register, July 26, 2004.
- 144. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 411 and 424. Medicare Program; Physicians' Referrals to Health Care Entities With Which They Have Financial Relationships (Phase III); Final Rule. Federal Register, Wednesday, September 5, 2007.
- Schoofs M, Tamman M. Confidentiality cloaks Medicare abuse. Wall Street Journal, December 22, 2010.
- 146. Office of Inspector General, Department of Health and Human Services. 2010. Questionable billing for Medicare outpatient therapy services. Report # OEI-04-09-00540. Washington, DC: OIG.