SECTION 2F

Inpatient rehabilitation facility services

RECOMMENDATION

The update to the payment rates for inpatient rehabilitation facility services should be eliminated for fiscal year 2009.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

SECTION 2F

Inpatient rehabilitation facility services

Section summary

In this section, we present information on hospitals and units within hospitals that provide intensive inpatient rehabilitation services—including physical, occupational, and speech therapy. Beneficiaries must be able to tolerate and benefit from three hours of therapy per day to be eligible for treatment in a rehabilitation hospital or unit, also called inpatient rehabilitation facilities (IRFs). Medicare is the principal payer for IRF services, accounting for about 70 percent of discharges. Medicare expenditures for inpatient rehabilitation services have declined from $6.4 billion in 2005 to about $6.0 billion in 2006. Medicare spending for IRF services is projected to be $5.5 billion in each fiscal year from 2007 to 2009 and then will begin to increase as Medicare enrollment increases.

With the beginning of the IRF prospective payment system (PPS) in 2002, mandated by the Balanced Budget Act of 1997, the number of facilities, volume of cases, and costs and payments per case increased. In 2004, CMS found that very few IRFs met the Medicare requirement that 75 percent of patients must present with 1 of 10 (later changed to 13)

In this section

clinical conditions requiring rehabilitation, the so-called "75 percent rule." As a result, CMS published a rule that phased in the compliance threshold over four years to 75 percent, which would have been fully implemented on July 1, 2008. This change in policy is the principal reason the volume of patients admitted to IRFs declined in 2005 and 2006. In December 2007, the Congress rolled back the 75 percent rule, setting the compliance threshold permanently at 60 percent, in one of several provisions of the Medicare, Medicaid, and SCHIP Extension Act of 2007 addressing IRFs.

We examined a variety of data in assessing the adequacy of Medicare's payments for IRF services. Most data pertain to 2006, the second year of the transition to the revised 75 percent rule. The factors we examined are:

- ***Supply of facilities***—The supply of IRFs increased after implementation of the PPS at 1.6 percent per year from 2002 to 2004 and has remained stable through 2006. A decline in the number of urban IRFs between 2004 and 2006 was nearly offset by an increase in the number of rural IRFs. The number of for-profit IRFs grew faster than nonprofit IRFs after the PPS was implemented and even faster from 2004 to 2005, but declined in 2006.
- ***Volume of services and beneficiaries' access to care***—Medicare IRF cases increased by more than 6 percent per year from 2002 to 2004 but decreased by 10 percent per year, on average, between 2004 and 2006. The patients treated by IRFs in 2006 and 2007 were more complex than those who shifted to alternative settings. These increases in case mix are consistent with implementation of the 75 percent rule. While we have no direct measures of beneficiaries' access to care, an assessment of hospital discharge patterns to post-acute care suggests that beneficiaries who no longer qualify for admission to IRFs as a result of the 75 percent rule are able to obtain rehabilitation care in other settings.
- ***Quality***—Although the case mix of Medicare IRF patients increased considerably between 2004 and 2007, quality indicators for Medicare

IRF patients improved. We measure quality using the change in Functional Independence Measure™ scores reported on the Inpatient Rehabilitation Facility–Patient Assessment Instrument between admission and discharge; a higher score indicates greater improvement. All patients increased their functioning from admission to discharge, from 22.8 in 2004 to 23.8 in 2007. The subset of Medicare patients who were discharged home increased functioning between admission and discharge from 25.0 in 2004 to 27.5 in 2007.

- ***Access to capital***—Hospital-based units represent more than 80 percent of IRFs. These IRFs have access to capital through their parent institutions, as evidenced by hospitals' current ability to obtain capital as we describe in Section 2A. However, freestanding IRFs' access to capital is less clear.
- ***Payments and costs***—With the introduction of the IRF PPS in 2002, payments per case rose rapidly, while growth in costs per case remained low in 2002 and 2003. Implementation of the revised 75 percent rule resulted in growth in costs per case accelerating between 2004 and 2006 as case mix increased and the volume of cases declined. IRF Medicare margins for 2006 are 12.4 percent. We are projecting IRF Medicare margins for 2008 to be 8.4 percent.

As was the case last year, our recommendation for the IRF payment update attempts to balance beneficiary access to care with fiscal constraint. We believe that Medicare beneficiaries' access to hospital-level rehabilitation care is adequate, as evidenced by the number of IRFs and IRF beds. While the 75 percent rule has had significant impacts on IRF volume, this decline was consistent with the overall policy goal of the rule—to direct the most clinically appropriate cases to this costly setting. Beneficiaries with conditions not included in the 75 percent rule are obtaining care in alternative settings. However, it is difficult to compare rehabilitative care quality and outcomes among post-acute care settings, so we do not know whether less-intensive facilities are providing the same care available in IRFs. Measures of quality continue to show improvement for patients who

receive care in IRFs. Access to capital is mixed, with hospital-based IRFs having good access to capital, but with freestanding IRFs perhaps having difficulty. IRFs had begun to adapt to existence under the 75 percent rule by changing their admissions patterns, with growth in cost per Medicare case now slightly lower than the growth in Medicare payments for most IRFs. Our projected 2008 margin is 8.4 percent. We believe this margin should be sufficient to accommodate cost increases in 2009. On the basis of these analyses, we recommend eliminating the update to payment rates for inpatient rehabilitation services for fiscal year 2009. We will closely monitor indicators within our update framework and will be able to reassess our recommendation for the IRF payment update in the next fiscal year. ■

Recommendation 2F

COMMISSIONER VOTES:
YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

The update to the payment rates for inpatient rehabilitation facility services should be eliminated for fiscal year 2009.

Background

After an illness, injury, or surgery, some patients receive intensive inpatient rehabilitation services—including services such as physical, occupational, or speech therapy—in a specialized hospital or hospital-based unit known as an inpatient rehabilitation facility (IRF). Relatively few Medicare beneficiaries use these services because they must generally be able to tolerate and benefit from three hours of therapy per day to be eligible for treatment. IRFs may be freestanding hospitals or specialized, hospital-based units.

Medicare is the principal payer for IRF services, accounting for about 70 percent of discharges. About 369,000 beneficiaries received care in IRFs in 2006. Medicare expenditures on inpatient rehabilitation services were $6.0 billion in 2006, down from $6.4 billion in the prior fiscal year.

To qualify as an IRF for Medicare payment, facilities must meet the Medicare conditions of participation for acute care hospitals. They also must meet the following additional conditions:

- have a preadmission screening process to determine that each prospective patient is likely to benefit significantly from an intensive inpatient rehabilitation program;
- use a coordinated multidisciplinary team approach that includes rehabilitation nursing, physical and occupational therapists, and speech–language pathologists;
- have a director of rehabilitation, with training or experience in rehabilitating patients, who provides services in the facility on a full-time basis; and
- for each year, have no fewer than 60 percent of all patients admitted with a primary diagnosis or a comorbidity in 1 or more of 13 conditions, such as stroke or hip fracture.[1] This requirement was previously on a phased-in trajectory to require that 75 percent of IRF patients meet these criteria and has thus been referred to as the "75 percent rule" (see discussion of the 75 percent rule in the text box, pp. 196–197).[2]

Before January 2002, IRFs were paid under the Tax Equity and Fiscal Responsibility Act of 1982, on the basis of their average costs per discharge, up to an annually adjusted facility-specific limit. In January 2002, IRFs began to be paid predetermined per discharge rates based primarily on patient characteristics, the facility's wage index, and facility characteristics. As of 2004, all IRFs are paid under the prospective payment system (PPS).

Are Medicare payments adequate in 2008?

We examine the following factors in determining the adequacy of Medicare payments to IRFs:

- supply of facilities;
- volume of services and beneficiaries' access to care;
- quality;
- access to capital; and
- payments and costs, focusing in particular on the costs incurred by efficient providers, pursuant to a specific mandate of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

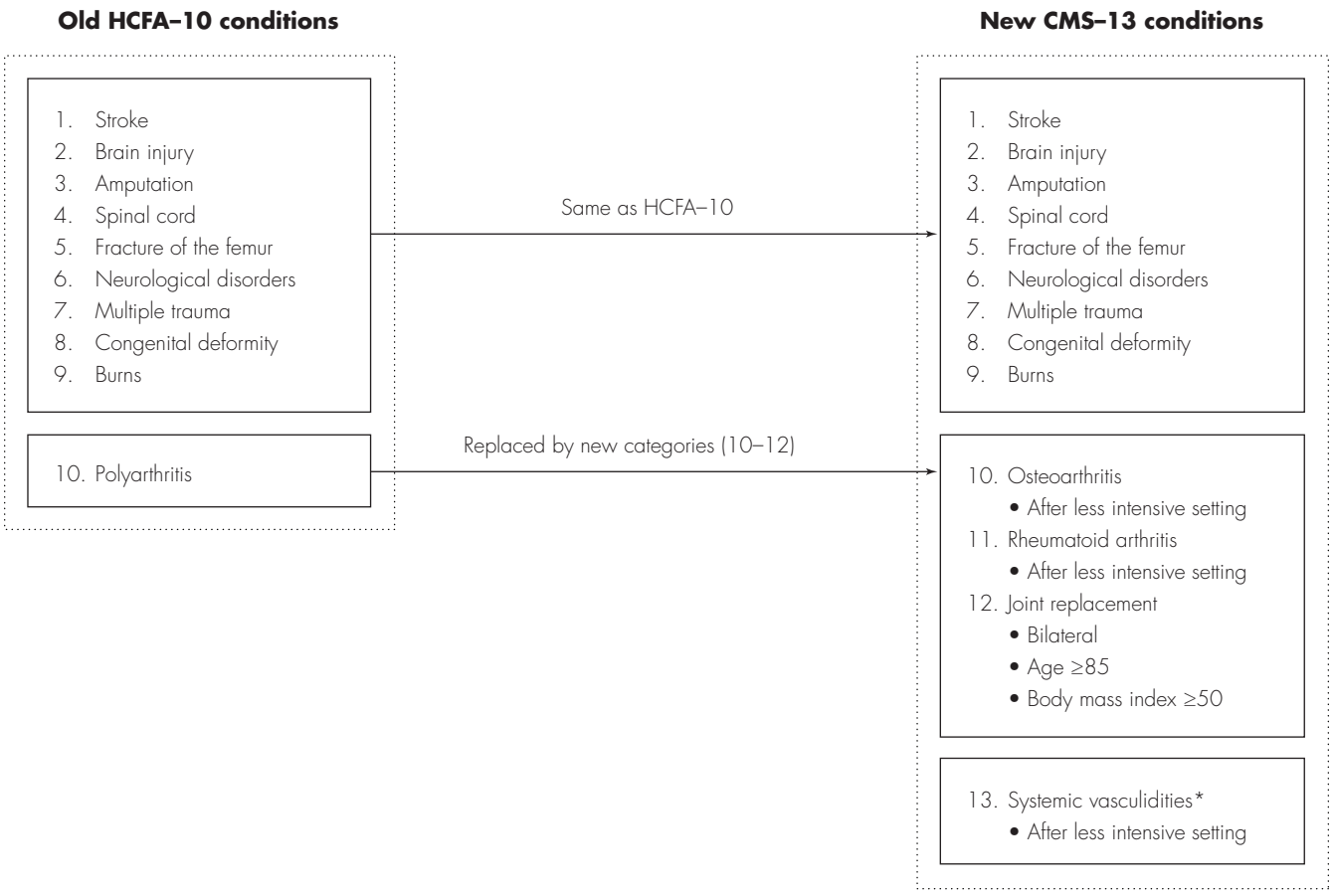
Our indicators of Medicare payment adequacy are mixed. The number of IRFs increased after the PPS was implemented; the total number of IRFs has since remained stable from 2004 to 2006, with declines in the number of urban facilities being generally offset by increases in rural IRFs. The number of hospital-based IRFs declined slightly between 2005 and 2006, while the number of freestanding providers remained constant. After the PPS began, the volume of cases and Medicare spending grew rapidly, with both cases and spending per case increasing by about 6.5 percent annually during this time. From 2004 to 2005, the volume of cases dropped, although spending increased, consistent with the increase in patient complexity. We have no direct indicators of beneficiaries' access to care because there are no surveys specific to this population and because some patients who could potentially receive care in IRFs can be treated in other settings. Quality indicators for all IRF patients and patients discharged home improved slightly from 2004 to 2007. IRFs' access to capital is mixed: Hospital-based units have access through their parent institution, but freestanding IRFs may have difficulty raising capital.

The 75 percent rule for inpatient rehabilitation facilities

The intent of the 75 percent rule is to ensure that inpatient rehabilitation facilities (IRFs) are unique compared with other hospitals. For 20 years, from 1984 to 2004, the diagnoses included in the 75 percent rule were the same and were known as the Health Care Financing Administration-10 (HCFA–10) (Figure 2F-1).[3] In 2002, CMS discovered that fiscal intermediaries were using inconsistent methods to enforce the 75 percent rule. As a result, CMS suspended enforcement of the rule until the agency could examine it and determine whether the regulation should be modified.

FIGURE 2F–1

Change in the inpatient rehabilitation facility criteria



Note: HCFA–10 (Health Care Financing Administration–10).
*Systemic vasculidities are relatively rare inflammations of the arteries, frequently autoimmune, that involve a variety of systems, including joints.

Supply of providers

After the PPS was implemented, the supply of IRFs increased at an average rate of about 1.6 percent per year from 2002 to 2004 and grew slightly between 2004 and 2005 (Table 2F-1, p. 198). In 2006, however, the number of IRFs participating in Medicare declined slightly. This aggregate change masks interesting trends among its components. For example, the number of IRFs located in urban areas declined by more than 3 percent between 2005 and 2006. Rural IRFs, however, have a very different

The 75 percent rule for inpatient rehabilitation facilities (cont.)

In 2004, CMS redefined arthritis conditions allowed to be treated in IRFs. This removed from the 75 percent rule the largest single category of IRF admissions (major joint replacements) and substituted three more precise conditions. This change contributed to the reduction in the volume of patients admitted to IRFs between 2004 and 2005 and to the increase in the complexity of patients. Complexity increased because IRFs no longer admitted as many joint replacement patients, who were less complex than other IRF patients.

CMS created a four-year transition period for compliance with the revised 75 percent rule. The Deficit Reduction Act of 2005 added a year to the transition. The policy was:

- 50 percent of the IRF's total patient population must meet the revised regulations in cost reporting years beginning on or after July 2004,
- 60 percent in cost reporting years beginning on or after July 2005 through June 2007,
- 65 percent in cost reporting years beginning on or after July 2007 through June 2008.

For cost reporting periods beginning on or after July 2008, the threshold was scheduled to return to 75 percent. However, the Medicare, Medicaid, and SCHIP Extension Act of 2007 rolled back the compliance threshold to 60 percent and set it at that level permanently; it made permanent, via statute, the CMS discretionary policy of allowing IRFs to count patients whose comorbidities (rather than primary diagnoses) were in 1 of the 13 conditions toward the compliance threshold.

The renewed enforcement of the 75 percent rule was extremely controversial. Even though the rule has been in place since 1984, CMS has not consistently enforced it, as noted earlier.

The rule categorized large classes of admissions as not appropriate for IRF care. CMS concluded that most joint replacement patients (the largest category of IRF patient in 2004) did not need the intensive rehabilitation services IRFs provided and could receive rehabilitation services from alternative providers, such as acute care hospitals, skilled nursing facilities, long-term care hospitals, outpatient rehabilitation providers, and home health agencies. IRFs not in compliance with the revised rule—most of the IRFs at the time—would be declassified and paid acute inpatient prospective payment system (PPS) rates for all cases, which generally are much lower than IRF PPS rates.[5] ■

trend, increasing by 4 percent per year under the first years of the PPS. The number of rural IRFs grew by another 6 percent from 2004 to 2005, and by more than 10 percent in 2006, likely in response to the ability of critical access hospitals to open IRF units beginning in October 2004 (rural hospital-based units grew by 8.8 percent between 2005 and 2006) and to the 21.3 percent rural adjustment included in the PPS payment.[4]

Changes in the number of IRFs broken down by ownership also show different patterns of growth. The number of proprietary IRFs grew at nearly three times the pace of nonprofit IRFs after the PPS was implemented. From 2002 to 2004, for-profit IRFs grew at 3 percent per year, and they grew by an additional 3.7 percent between 2004 and 2005. The number of nonprofit IRFs grew by 1.1 percent annually and then declined by 1 percent during these periods. Both categories declined between 2005 and 2006. The number of government-owned IRFs has increased in the last year, likely reflecting an increase in the number of rehabilitation units at critical access hospitals operated by county or local governments.

The supply of IRFs presents a partial picture of Medicare beneficiary access to IRF services. Rehabilitation hospitals may have responded to the ongoing phase-in of the 75 percent rule by reducing the number of beds they operate, either by closing down beds or by putting dedicated IRF rooms to other inpatient purposes, as would be expected in the face of declines in volume. Such changes would

TABLE 2F–1

The number of IRFs rose slightly from 2002 to 2005, but the trend changed in 2006

	TEFRA		PPS					Average annual change	Change	Change
Type of IRF	2000	2001	2002	2003	2004	2005	2006	2002–2004	2004–2005	2005–2006
All IRFs	1,117	1,157	1,188	1,211	1,227	1,231	1,224	1.6%	0.3%	–0.6%
Urban	950	971	988	1,001	1,009	1,000	969	1.1	–0.9	–3.1
Rural	167	186	200	210	218	231	255	4.4	6.0	10.4
Freestanding	195	214	215	215	217	217	217	0.5	0.0	0.0
Hospital based	922	943	973	996	1,010	1,014	1,007	1.9	0.4	–0.7
Nonprofit	731	733	755	765	772	765	757	1.1	–0.9	–1.0
For profit	240	271	277	290	294	305	299	3.0	3.7	–2.0
Government	146	153	156	156	161	161	168	1.6	0.0	4.3

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of Provider of Services files from CMS.

also affect beneficiary access. The number of beds at freestanding IRFs increased by an average of about 1.6 percent annually from 2000 to 2004 and then decreased by an annual average rate of 2.7 percent between 2004 and 2006, during CMS's renewed enforcement of the 75 percent rule (Table 2F-2). While the total number of beds at freestanding IRFs has increased since 2005, the counts are lower than the historic high levels of 2002 and 2003.

Hospital-based IRFs show similar trends, with the number of beds in IRF units increasing between 2000 and 2004 and then decreasing between 2004 and 2006. The number of beds in IRF units declined by 0.5 percent between 2004 and 2005 and then by nearly 3 percent between 2005 and 2006, for an average annual decline of 1.7 percent over these two years. The fact that the rate of reduction in beds is greater than the rate of reduction in the number of facilities between

TABLE 2F–2

Fewer rehabilitation beds are available

								Average annual change	
Type of bed	2000	2001	2002	2003	2004	2005	2006	2000–2004	2004–2006
Beds, freestanding hospitals	12,298	12,755	13,321	13,271	13,117	12,339	12,424	1.6%	–2.7%
Beds, hospital-based rehabilitation units	21,888	22,068	22,538	23,096	23,653	23,532	22,866	2.0	–1.7
Total inpatient rehabilitation beds	34,186	34,823	35,859	36,367	36,770	35,871	35,290	1.8	–2.0

Note: Excludes data from Maryland, non-U.S. hospitals, and outliers.

Source: MedPAC analysis of Medicare hospital cost report data from CMS, 2000–2006.

TABLE 2F–3 **Number of IRF cases has declined since 2004, while payments per case have increased**

	TEFRA		PPS					Average annual change	
	2000	2001	2002	2003	2004	2005	2006	2002–2004	2004–2006
Medicare spending (in billions)	$4.23	$4.51	$5.65	$6.16	$6.43	$6.40	$5.98	6.7%	–3.6%
Unique beneficiaries	N/A	N/A	398,000	435,000	451,000	410,000	369,000	6.5	–9.5
IRF patients per 10,000 FFS beneficiaries	N/A	N/A	114	121	124	112	103	4.4	–8.8
Cases	384,207	415,579	439,631	478,723	496,695	449,321	404,255	6.3	–9.8
Payment per case	$10,312	$9,982	$11,152	$12,952	$13,275	$14,248	$15,354	9.1	7.5
ALOS (in days)	14.6	14.0	13.3	12.8	12.7	13.1	13.0	–2.3	1.0

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system), N/A (not available), FFS (fee-for-service), ALOS (average length of stay).

Source: MedPAC analysis of Provider of Services files from CMS.

2004 and 2006 (–2.0 percent compared with –0.1 percent (not shown)) suggests that IRFs are more likely to reduce capacity than to stop participating in Medicare altogether.

Volume of services and access to care

Medicare spending grew by almost 7 percent per year from 2002 to 2004, reaching more than $6.4 billion in 2004 before declining to about $6.0 billion in 2006 (Table 2F-3).[6]

The number of unique beneficiaries and the number of IRF cases also increased rapidly from 2002 to 2004 and then began to decline in 2005. The number of unique beneficiaries using IRFs increased 6.5 percent annually from 2002 to 2004 but decreased by an average of 9.5 percent annually between 2004 and 2006. After we adjust for decreases in fee-for-service (FFS) enrollment reflecting increased enrollment in Medicare Advantage, the decline was 8.8 percent annually over this period. The number of Medicare IRF cases (some beneficiaries have multiple IRF admissions in a given year) followed similar trends. After we account for the effects of declining enrollment in FFS Medicare, most of the residual decline in IRF utilization is the result of the 75 percent rule.[7] As the 75 percent rule has been permanently set at 60 percent via the Medicare, Medicaid, and SCHIP Extension Act of 2007, we do not anticipate continued dramatic reductions in IRF utilization attributable to this rule. Payments per case increased by an average annual rate of 9.1 percent between 2002 and 2004 and then by an average 7.5 percent annually from 2004 to 2006. These payment increases generally reflect the increasing complexity of IRFs' patient mix over time, as less complex patients are going to other settings.

From 2002 to 2004, the average length of stay declined, consistent with implementation of the new IRF PPS. From 2004 to 2005, the average length of stay increased 4 percent, from 12.7 days to 13.1 days; the average length of stay remained stable at 13 days in 2006. Stays were longer at proprietary and freestanding facilities than at nonprofits, government IRFs, and hospital-based facilities in 2006. The increased length of stay is consistent with the increased average complexity of patients treated in IRFs since 2004.

The most common rehabilitation conditions for Medicare beneficiaries for 2004 to 2006 are shown in Table 2F-4 (p. 200). The most frequent rehabilitation diagnoses changed from major joint replacement in 2004 to stroke in 2007. In 2004, stroke patients made up less than 12 percent of IRF cases, but by 2007 they made up nearly 21 percent. In contrast, in 2004 major joint replacement patients

TABLE 2F–4 **Most common types of cases in inpatient rehabilitation facilities**

Type of case	2004	2005	2006	2007
Stroke	11.5%	14.9%	18.5%	20.5%
Major joint replacement	30.3	25.8	21.0	15.5
Fracture of the lower extremity	7.8	10.5	14.5	16.4
Debility	6.5	6.1	5.8	7.9
Neurological disorders	6.4	7.4	7.0	7.5
Brain injury	4.7	6.1	5.9	6.4
Other orthopedic conditions	6.4	6.1	5.4	5.5
Spinal cord injury	5.1	5.2	4.7	4.3
Cardiac conditions	6.5	5.1	4.2	4.3
Other	14.7	12.7	12.9	11.7

Note: "Other" includes conditions such as major medical trauma, amputations, and pain syndrome. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS for 2004, 2005, 2006, and January 1 through June 30, 2007.

made up more than 30 percent of IRF cases; by 2007, these patients represented 15.5 percent of cases. These changes are consistent with IRFs' response to continued implementation of the 75 percent rule.

The patients who continued being treated in IRFs were more complex than those who shifted to alternative settings. From the first half of calendar year 2006 to the first half of 2007, IRFs experienced an overall 0.3 percent increase in Medicare case-mix index. These changes in case mix are consistent with what we would expect under the second year of implementation of the renewed enforcement of the 75 percent rule, as IRFs continued to refrain from admitting cases that potentially would not count toward an IRF's compliance with the rule. In the first half of calendar year 2007, cases that did not meet the criteria of the 75 percent rule had much lower relative weights (1.0) than cases that met the criteria (1.37) (eRehabData® 2007). Under the clinical protocols eRehabData® used to ascertain whether a claim is likely to be counted toward the 75 percent rule, 55.5 percent of Medicare cases counted in 2005, 60.1 percent of cases in 2006, and 60.4 percent of cases in the first half of 2007.[8]

It is important to note, however, that the rate of increase in case mix slowed significantly in 2007 compared with previous years; the average annual change in case mix from 2004 to 2006 was just over 5 percent. Not only was the aggregate change slower in 2007, but in some instances (e.g., traumatic brain injury, amputation, and hip and knee replacements), the case mix actually declined.

We have no direct measures of beneficiaries' access to care. The decrease in IRF discharges is difficult to interpret because we do not know where beneficiaries who needed intensive rehabilitation received services (e.g., from skilled nursing facilities (SNFs), long-term care hospitals, home health agencies, or outpatient providers). It is not possible to identify a beneficiary who received rehabilitation care in one of these other settings who would have received care in an IRF if not for the 75 percent rule. Additionally, some of the decline in IRF services reflects the decline in the Medicare FFS population, as more beneficiaries enroll in Medicare Advantage. We can analyze changes in discharges to IRFs in the aggregate, however, and draw inferences about the effects of the 75 percent rule on the patterns we observe.

We examined Medicare acute care hospital inpatient claims to identify the discharge destinations for the 10 conditions that had the highest number of discharges to IRFs in 2003. Although these conditions represented a significant share of IRFs' volume, IRFs were the discharge destination for only about 10 percent of the cases in these diagnosis related groups (DRGs) discharged from acute care hospitals. We then analyzed how the share of cases with these conditions that were discharged to IRFs changed between 2003 and 2006.[9] Two conditions—major joint replacement of the lower extremity and stroke—illustrate how IRFs' admitting patterns changed over this time period (Table 2F-5).

The most significant shift in acute care hospital discharge and IRF admissions patterns is seen in hip and knee replacements (DRG–209).[10] IRF admissions of patients discharged from acute care hospitals under this DRG declined by 27 percent between 2004 and 2006, falling from a high of more than 130,000 to just under 96,000 admissions. Such a decline is not surprising. Major joint replacements were the subject of a specific policy change by CMS designed to better identify patients who warranted the high level of care that IRFs provide.[11] Some of this decline is not due to the 75 percent rule but rather reflects a decline in the number of beneficiaries enrolled in FFS Medicare between 2004 and 2006.[12]

TABLE 2F–5

Discharges from hospitals to IRFs declined for hip and knee replacements, but increased for stroke

DRG	Discharge destination	2004 Number of patients	2004 Percent of DRG	2006 Number of patients	2006 Percent of DRG	Percent change in patients, 2004–2006	Change in share, 2004–2006
Major joint replacement/ hip and knee replacement	IRF	130,418	28%	95,578	20%	–27%	–30%
	SNF/swing bed	150,397	33	169,052	35	12	8
	Home health	98,036	21	130,732	27	33	28
	All other settings	83,249	18	86,545	18	4	0
	Total	462,100	100	481,907	100	4	N/A
Stroke	IRF	41,501	18	48,519	19	17	5
	SNF/swing bed	62,425	27	67,694	26	8	–2
	Home health	25,734	11	30,545	12	19	7
	All other settings	105,004	45	114,157	44	9	–2
	Total	234,664	100	260,915	100	11	N/A

Note: IRF (inpatient rehabilitation facility), DRG (diagnosis related group), SNF (skilled nursing facility), N/A (not applicable). All other settings includes outpatient care, other inpatient facilities, or to home.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS, 2003–2006.

Additionally, the effects of the 75 percent rule are confounded with the increased adoption of computer-assisted surgery and minimally invasive surgery (MIS) for hip and knee replacements. The literature on the efficacy of this change in surgical practice is mixed. Some researchers assert that there is no difference between MIS for hip and knee replacement relative to more traditional approaches (Bozic and Beringer 2007, Cuckler 2007, Malik and Dorr 2007, Ulrich et al. 2007, Vail and Callaghan 2007), while others have identified significant differences between MIS and traditional hip and knee replacement surgery. Most notably, many researchers have found that MIS results in shorter acute hospital lengths of stay (Mahmood et al. 2007). Other research has shown that, in addition to shorter lengths of stay, MIS patients have less postoperative pain and quicker rehabilitation after surgery (Dorr et al. 2007, King et al. 2007, Learmonth et al. 2007, Pour et al. 2007, Procyk 2007, Tashiro et al. 2007), especially when the performing physicians have advanced training in the technique (Levine et al. 2007) or other operative changes are made (Berger 2007).[13] If these new protocols do result in less postoperative pain and more rapid and effective rehabilitation, such changes may also partly explain the shift of hip and knee replacement cases from IRFs to SNFs and home health care. Alternatively, additional changes in orthopedic surgery or rehabilitation techniques, coupled with a healthier aging population, may expand the population of clinically appropriate candidates for treatment in the IRF setting.

By contrast, IRF admissions of stroke patients—a condition that CMS has continued to identify as appropriate for admission to IRFs, without qualifications—increased by 17 percent between 2004 and 2006 (an enrollment-adjusted increase of 19 percent). IRFs' admissions of stroke patients (as well as their share of stroke patients) increased, while FFS enrollment declined and acute care discharges of stroke patients to SNFs and settings other than home health care also declined, suggesting that, even under the 75 percent rule, IRFs were able to develop strategies to maintain or increase their rates of admission of appropriate patients.

The hip and knee replacement example also illustrates the fact that declines in IRF admissions, even if attributable to the 75 percent rule, do not necessarily mean that Medicare beneficiaries are forgoing rehabilitation services. While we cannot say that an individual patient who was not admitted to an IRF because of the 75 percent rule received care in another setting, we can look at general trends. In the case

of patients with hip and knee replacements discharged under DRG–209, admissions to SNFs increased by 8 percent between 2004 and 2006, and admissions to home health agencies increased by 28 percent over this period. Among the 10 DRGs that resulted in the greatest number of discharges to IRFs in 2002, discharges to home health agencies grew the fastest in nearly all these DRGs between 2003 and 2006, outpacing growth in discharges to any other setting.

If patients who need intensive rehabilitation are still able to obtain this care in other settings, the reduction in IRF volume, while significant, may not constitute an access problem. However, it is difficult to assess whether rehabilitation care is comparable across settings in terms of quality, outcomes, or relative costliness. A MedPAC-commissioned study conducted by RAND found that Medicare costs for hip and knee replacement patients receiving post-acute care in IRFs cost Medicare roughly $4,400 more than patients treated in SNFs in 2002 and 2003, but the evidence as to whether these additional expenditures result in better outcomes is inconclusive (Beeuwkes Buntin et al. 2005, MedPAC 2005). This is primarily because this study was limited in its ability both to assess how strongly patient selection influenced these results and to examine utilization of physician and outpatient therapy services and also because of the difficulties in comparing patients and outcomes across different assessment tools and patient populations.

Patient assessment instruments (where they exist) are not comparable across post-acute care settings in their content or application. While Medicare requires three of the post-acute care settings to use patient assessment tools, each uses a different one. SNFs use the Minimum Data Set, home health agencies use the Outcome and Assessment Information Set (OASIS), and IRFs use the Inpatient Rehabilitation Facility–Patient Assessment Instrument (IRF–PAI). Medicare does not require long-term care hospitals to use a patient assessment tool. Although the existing tools measure the same broad aspects of patient care—functional status, diagnoses, comorbidities, and cognitive status—the time frames covered, the scales used to differentiate among patients, and the definitions of the care included in the measures vary considerably (MedPAC 2005).

MedPAC has previously observed that the lack of a common patient assessment instrument impedes analyses of comparative quality and cost of post-acute care across settings (MedPAC 2007, 2006, 2005). The inability to precisely compare and categorize patients with respect to their conditions warranting post-acute care has precluded the development of patient criteria that could help hospital discharge planners identify the most appropriate venues for patients' post-acute care needs. (The Medicare, Medicaid, and SCHIP Extension Act of 2007 requires the Secretary of Health and Human Services to further study alternatives to the 75 percent rule that may better identify patients appropriate for treatment in IRFs (see text box).) As a result, from Medicare's perspective, the admission of a patient to one post-acute care setting versus another is difficult to understand and may reflect considerations like the availability of a facility of a given type in a market, relationships among acute and post-acute care providers in a market, or patient selection.

Further, the lack of a common post-acute care patient assessment instrument precludes comparison of the outcomes of these assignments with post-acute care. As noted above, each of the existing instruments contains data elements, measures, and scales that are unique to it; as a result, we cannot compare the outcomes of rehabilitation services provided to a patient in home health care (as indicated on the OASIS assessment) with the outcomes for a patient in an IRF (reflected on the IRF–PAI).

Because of these structural problems, it is not possible to answer fundamental questions such as whether the higher cost of IRF care is warranted by the outcomes or whether patients who previously might have been admitted to an IRF but now are receiving care in a SNF or home health agency are receiving care of different quality or cost.

The Deficit Reduction Act of 2005 addressed this concern by requiring CMS to implement a demonstration project under which the agency would develop and field a uniform post-acute care patient assessment instrument and use it to compare patients and outcomes to assess the potential to rationalize Medicare payments for post-acute care across settings. The patient assessment instrument has been developed, and the demonstration was scheduled to begin in January 2008. The corresponding final report is due in July 2011.

Quality of care

Our indicators of quality of care provided by IRFs show slight improvement from 2004 to 2006. To assess changes, we use a measure commonly tracked by the industry: the difference between discharge and admission scores for the commonly used Functional Independence Measure™ (FIM™), incorporated in the IRF–PAI.

Summary of Section 115 of the Medicare, Medicaid, and SCHIP Extension Act of 2007

In December, the Congress passed, and the President signed into law the Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA). Section 115 of this Act contained a number of provisions related to Medicare's prospective payment system for inpatient rehabilitation facility (IRF) services. Changes to the 75 percent rule were the most significant of the IRF-related provisions. The legislation rolled back the compliance threshold to 60 percent, retroactively effective for cost reporting periods beginning on or after July 1, 2007 (the compliance threshold at that time had been 65 percent, pursuant to the Deficit Reduction Act of 2005). The law also permits IRFs to count patients whose primary diagnoses are not among the 13 criteria conditions, but whose secondary diagnoses are, to count toward the threshold. This policy had been set to expire with full implementation of the 75 percent rule on July 1, 2008. Under the MMSEA legislation, both of these policies became permanent.

The legislation also sets the update to the IRF base payment rates to zero for fiscal years 2008 and 2009, with a delayed implementation date of April 1, 2008. Absent this provision, the statutory update for IRFs is market basket.

Lastly, the MMSEA directs the Secretary of Health and Human Services to study access to IRF care under the 75 percent rule, including an examination of conditions that could be covered under the IRF prospective payment system but that currently are not, and an analysis of alternatives to—or refinements of—the 75 percent rule criteria, specifically looking at patients' functional status, their diagnoses, and comorbidities. The Secretary is required to submit a report on these analyses to the Congress no later than 18 months after the date of enactment of the MMSEA. ■

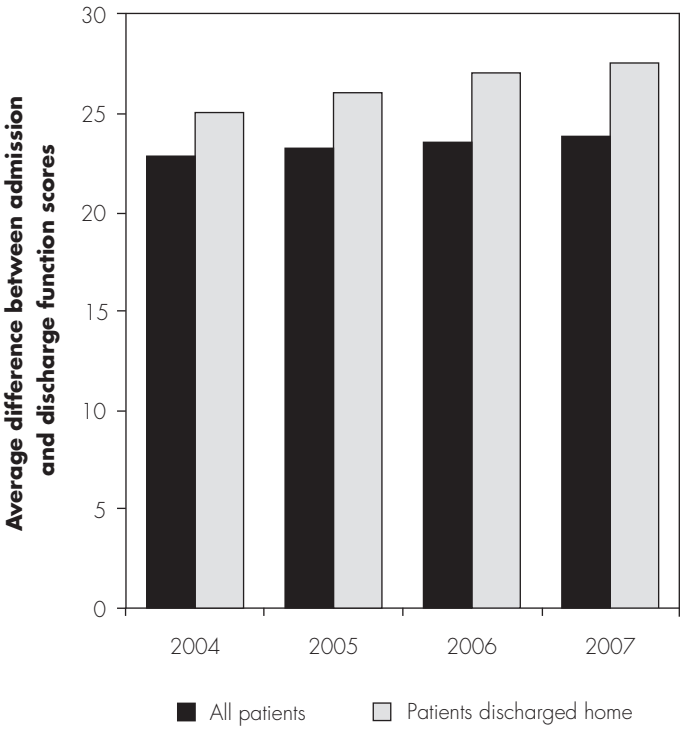
The 18-item FIM™ measures the level of disability in physical and cognitive functioning and the burden of care for patients' caregivers (Deutsch et al. 2005). Scores for each item range from one (complete dependence) to seven (independence). To compare quality on a national basis, we use the average difference in scores at discharge versus admission for Medicare patients—a larger number indicates greater improvement in condition between admission and discharge. We report this measure in two ways. We compare differences for:

- all Medicare patients treated in an IRF, and
- the subset of Medicare patients who were discharged home from an IRF.[14]

Between 2004 and 2007, the quality indicators for all IRF patients and the subset of patients who were discharged home improved (Figure 2F-2, p. 204). All patients increased their functioning from admission to discharge, as measured by their FIM™ scores, from 22.8 in 2004 to 23.8 in 2007, an improvement of a full percentage point. Patients discharged home increased functioning between admission and discharge from 25.0 in 2004 to 27.5 in 2007. Functional improvement for both groups of patients, while still increasing, appears to have slowed somewhat between 2006 and 2007, potentially reflecting the increase in case mix that we observe over this period.

We use a summary score for comparing functional improvement. In the future, the Commission and CMS might want to investigate whether using more detail to compare admission and discharge function scores might provide more information about quality of care. For example, comparing scores by case-mix groups or impairment categories might be another useful way to examine the quality of IRF care. Our initial evaluation of functional improvement by impairment category group revealed no clear patterns (e.g., no systematic relationship between year-to-year improvement by impairment category groups that count toward the 75 percent rule versus those that do not). In the aggregate, the rate of improvement in function reflected in these raw scores is slightly lower in 2007 than in the preceding several years. Over the same time, IRFs' average case mix increased, which may partly explain the lower increase in functional improvement. Beyond the aggregate change, however, it

FIGURE 2F–2 **IRF patients' function has improved**



Note: IRF (inpatient rehabilitation facility).

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS for 2004, 2005, 2006, and January 1 through June 30, 2007.

is difficult to ascertain any meaningful pattern in changes in IRF patients' functional improvement by impairment category. The Commission will continue to examine these data, particularly to assess whether functional improvement varies with the complexity of the cases IRFs treat.

IRFs' access to capital

IRFs appear to continue to have adequate access to capital. Four of five IRFs are hospital-based units that have access to capital through their parent institution. Because acute care hospitals generally have good access to capital (as discussed in Section 2A), we expect that their IRF units do as well. *Modern Healthcare*'s annual survey of hospital construction indicates that construction and planning of new rehabilitation facilities progressed at a robust pace in 2006 (Table 2F-6). Rehabilitation construction projects that were begun or designed in 2006 had fewer additional beds than were represented by these phases in 2005, possibly reflecting industry's anticipation of the future effects of the 75 percent rule.

Freestanding IRFs, however, may face more difficulty accessing capital. One major national chain of IRF providers representing nearly half of all freestanding facilities experienced significant reductions in its cash flow and total capital in 2005 and 2006, and its 2006 capital expenditures are less than a quarter of what they were in 2001. Many of these financials reflect historical one-time changes that are not related to operations. Changes to the company's operational structure, the recent resetting of the compliance threshold to 60 percent, and the fact that the company secured credit agreement terms before the recent credit market turmoil may improve its outlook going forward. A second chain, operating six freestanding facilities, reports positive cash flow, capital, and capital expenditures and has reduced its debt in 2006, but its inconsistent earnings per share over time have prevented this chain from significantly increasing its capital and cash on hand. (Most other freestanding facilities are independent or local chains of only a few providers (proprietary or nonprofit).)

TABLE 2F–6 **Rehabilitation hospital construction projects, 2005–2006**

	2005						2006					
	Completed		Broke ground		Designed		Completed		Broke ground		Designed	
Project	Projects	Beds	Projects	Beds	Projects	Beds	Projects	Beds	Projects	Beds	Projects	Beds
Entire hospitals	12	328	10	966	21	953	12	493	14	722	24	970
Expansions	13	350	18	364	16	804	13	170	10	140	14	517
Renovations	23	256	14	233	34	329	24	217	21	239	28	354
Total	48	934	42	1,563	71	2,086	49	880	45	1,101	66	1,841

Source: Romano 2007, Zigmund 2006.

Payments and costs

The last component of our update framework examines changes in payments and costs. We also calculate an aggregate Medicare margin for IRFs.

With the introduction of the IRF PPS in 2002, payments per case rose rapidly and growth in cost per case remained low in both 2002 and 2003 (Figure 2F-3). The new enforcement of the 75 percent rule resulted in growth in costs per case accelerating between 2004 and 2006 as case-mix index increased and the volume of cases declined. The 10 percent average annual increase in costs from 2004 to 2006 is consistent with the 5 percent average annual increase in case-mix index and the 10 percent annual decline in patient volume over this time, which reduces the ability of IRFs to benefit from economies of scale. The fact that IRFs appear to be reducing bed capacity at a slower rate than discharges likely further exacerbates their ability to constrain costs.

Medicare margins, 2000–2006

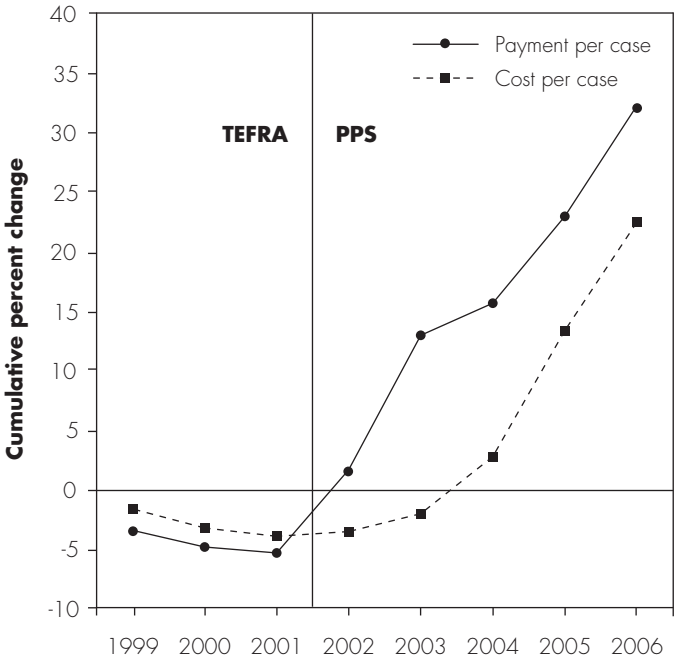
From 2002 (the beginning of the IRF PPS) to 2003, aggregate Medicare margins increased rapidly, from 11 percent to almost 18 percent, and then declined slightly to just over 16 percent in 2004 (Table 2F-7, p. 206). All groups had rapid increases in margins from 2002 to 2003. We estimate that aggregate Medicare margins for 2006 are 12.4 percent, which represents a 0.8 percentage point decrease from 2005. The IRFs at the 25th percentile have a margin of –4.6 percent and those at the 75th percentile have a margin of 19.7 percent in 2006, slightly lower at both points than last year's margins (data not shown). Proprietary IRFs have margins roughly 60 percent higher than nonprofits' margins (16.6 percent compared with 10.7 percent). Freestanding IRFs and proprietary IRFs, which had the highest margins in 2004 (greater than 20 percent), continued to exhibit the best financial performance in 2006, with margins of 17.9 percent and 16.6 percent, respectively. The margin for hospital-based IRFs increased slightly in 2006, rising to 9.5 percent, likely due to the introduction of a teaching adjustment to the payment system in 2006.

Medicare margins for 2008

To project the Medicare margin for 2008, the policy year, we incorporate policy changes that went into effect in 2006 and 2007 as well as policies scheduled to be in effect in 2009, which allows us to consider whether current payments will be adequate under all applicable provisions of current law. The policies include:

FIGURE 2F–3

IRFs' payments per case have risen faster than costs, 1999–2006



Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system). Data are from consistent two-year cohorts of IRFs.

Source: MedPAC analysis of Medicare cost report data from CMS.

- for fiscal year 2007, a market basket update of 3.3 percent, a 0.1 percent increase for change in the outlier policy, and a 2.6 percent decrease in payments to account for coding improvement, for a net increase of 0.8 percent (CMS 2006);
- for the first half of fiscal year 2008, a market basket update of 3.2 percent and a 0.7 percent decrease for change in the outlier policy (CMS 2007), and for the second half of fiscal year 2008, rates were reduced to fiscal year 2007 levels pursuant to the Medicare, Medicaid, and SCHIP Extension Act of 2007, for a net average increase of 1.7 percent for fiscal year 2008; and
- for 2007 to 2009, the effect of the 75 percent rule, including the Medicare, Medicaid, and SCHIP Extension Act of 2007's rollback and permanent freeze of the compliance threshold at 60 percent.

The policy we initially anticipated to have the most significant impact on the projected margin over this period

TABLE 2F–7

IRFs' Medicare margins, by type

	TEFRA		PPS				
Type of IRF	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
All IRFs	1.3%	1.5%	11.0%	17.8%	16.2%	13.2%	12.4%
Urban	1.3	1.5	11.6	18.5	16.8	13.7	13.0
Rural	0.9	1.1	5.0	10.4	10.5	9.2	7.8
Freestanding	1.2	1.5	18.5	23.0	24.3	20.5	17.9
Hospital based	1.3	1.4	6.4	14.9	12.0	9.4	9.5
Nonprofit	1.5	1.6	6.8	14.5	12.7	10.0	10.7
For profit	0.9	1.3	18.8	24.3	24.1	19.5	16.6
Government	1.1	1.4	2.4	10.2	9.1	8.2	6.2

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system). Government-owned providers operate in a different context from other providers, so their margins are not necessarily comparable.

Source: MedPAC analysis of cost report data from CMS.

was the phase-in of the revised 75 percent rule, which in 2009 would have required that 75 percent of cases in IRFs comply with the rule. However, with the 75 percent rule set permanently at 60 percent, we believe IRFs will not need to reduce admissions further to comply with this rule. Therefore, taking account of the recent legislation and other IRF policy changes that have taken place, we project that Medicare margins will drop from 12.4 percent in 2006 to 8.4 percent in 2008.

How should Medicare payments change in 2009?

Historically, the statutory payment update for IRFs is the market basket. However, the Medicare, Medicaid, and SCHIP Extension Act of 2007 reduced the IRF payment update to zero for fiscal years 2008 and 2009. The following is our recommendation for an update to IRF payments in 2009.

Update recommendation

IRFs should be able to accommodate cost changes in fiscal year 2009 with no update to their payment rates.

RECOMMENDATION 2F

The update to the payment rates for inpatient rehabilitation facility services should be eliminated for fiscal year 2009.

RATIONALE 2F

The evidence from the indicators we have examined suggests a mixed picture. The supply of IRFs is generally stable, with increases in the number of rural IRFs offset by somewhat larger reductions in the number of urban facilities. The overall number of IRF beds has declined slightly. The volume of cases declined at a rapid rate from the high of nearly 500,000 cases in 2004 to just over 400,000 cases in 2006. All these metrics are consistent with expectations of events under the 75 percent rule, and we do not believe these changes in utilization of IRF services pose a problem with access to rehabilitation services. Beneficiaries who need rehabilitation care but who no longer count toward IRFs' compliance with the 75 percent rule appear to be able to receive care in other settings. Given that we did not see any indications of access problems during the transition to the full compliance threshold of 75 percent, we believe the recent legislation freezing the compliance threshold at 60 percent will provide for ample access because IRFs will not be required to reduce their admissions any further to retain their IRF status. The quality of IRF care continues to improve, even in light of increases in IRFs' case mix.

Access to capital is good for most IRFs. Although we expect IRF margins to continue to fall from the high levels we observed through 2006, we anticipate IRFs' Medicare margins in 2008 (estimated under 2009 payment policies) will be 8.4 percent. Under the new compliance threshold of 60 percent, IRFs will no longer be required to make changes to their cost structures as a result of this rule. We believe these factors suggest that IRFs could absorb cost increases and continue to provide care to clinically appropriate Medicare cases with no update to payments in 2009. We will continuously monitor indicators of the adequacy of IRF payments at this level within our update framework and will be able to reassess our recommendation for the IRF payment update in the next fiscal year.

IMPLICATIONS 2F

Spending

- This recommendation has no effect on federal program spending relative to current law in that it mirrors the update specified in the Medicare, Medicaid, and SCHIP Extension Act of 2007.

Beneficiary and provider

- We do not expect that this recommendation will have adverse impacts on Medicare beneficiaries with respect to their access to care or their out-of-pocket spending. This recommendation is not expected to affect providers' ability to provide care to Medicare beneficiaries. ■

Endnotes

1 The 13 conditions are stroke, brain injury, amputation, spinal cord injury, fracture of the femur, neurological disorders, multiple trauma, congenital deformity, burns, certain osteoarthritis conditions, certain rheumatoid arthritis conditions, and specific joint replacement conditions. These conditions may count toward an IRF's compliance with the 75 percent rule if they are being actively treated in conjunction with the condition that is the primary cause for admission. For more information on how Medicare's payment system for IRFs operates, see MedPAC's Payment Basics document at http://www.medpac.gov/documents/MedPAC_Payment_Basics_07_IRF.pdf.

2 While the Medicare, Medicaid, and SCHIP Extension Act of 2007 rolled back and permanently set the compliance threshold at 60 percent, we continue to refer to the policy as "the 75 percent rule" in this chapter, as it governed IRFs' admissions practices, and their associated costs and payments, through the period of time reflected in the analyses we report here.

3 The Health Care Financing Administration, renamed CMS, is the agency that administers Medicare.

4 We would expect new IRF units opened by critical access hospitals to be compliant with the 75 percent rule at the outset of their operations and thus would not have to make the kinds of adjustments to their admissions practices as have more established IRFs that previously operated under the more lax enforcement of the rule. As a result, their margins should not be as heavily affected by volume declines in subsequent years.

5 Declassified IRFs that are units in critical access hospitals are paid 101 percent of their costs.

6 The 2005 and 2006 estimates reflect the CMS Office of the Actuary's significant downward revisions of IRF spending estimates for these years.

7 Members of the rehabilitation community also point to the activities of CMS's recovery audit contractors (RACs) operating in New York, California, and Florida as an additional cause of the reduction in IRF admissions through 2006. The RACs, established under Section 306 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, were charged with identifying and recouping overpayments in FFS Medicare. They have been criticized as being overly aggressive in complying with their mandate with respect to IRFs.

8 The compliance threshold was 60 percent from July 1, 2005, through June 30, 2007. The threshold increased to 65 percent on July 1, 2007, and was scheduled to go to the full 75 percent effective July 1, 2008. The Congress eliminated the IRF payment rate update for 2009 in the Medicare, Medicaid, and SCHIP Extension Act of 2007.

9 The first year that "discharge to IRF" was available on hospital inpatient claims was 2002, but our analysis of these data suggests that hospitals did not consistently use this discharge destination code in that year.

10 In 2006, the cases previously coded under DRG–209 were split into two new DRGs: DRG–544 and DRG–545.

11 We saw similar declines among DRGs that were unlikely to generate cases that would meet the criteria of the 75 percent rule, such as heart failure and shock (DRG–27), medical back problems (DRG–243), and simple pneumonia (DRG–89). Such cases represented a relatively small share of IRF admissions, and discharges to IRFs represented a very small share of total hospital discharges for these DRGs.

12 Adjusted for this decline in FFS enrollment, IRF admissions of patients with major lower extremity joint replacements decreased by 25 percent between 2004 and 2006.

13 Interestingly, Pour et al. (2007) highlight preoperative rehabilitation as a major factor influencing the outcome of total hip arthroplasty.

14 CMS changed the instructions for assessing functioning at discharge, effective April 1, 2004. Before this date, recording of patients' scores reflected their lowest functioning in the three days before discharge. Afterward, patients' scores reflected functioning at discharge. Our comparisons are for each half-year period from June 1, 2004, through June 30, 2007.

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