CHAPTER 9

Inpatient rehabilitation facility services

RECOMMENDATION

9 The Congress should eliminate the update to the payment rates for inpatient rehabilitation facilities in fiscal year 2012.

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

CHAPTER 9

Inpatient rehabilitation facility services

Chapter summary

Inpatient rehabilitation facilities (IRFs) provide intensive rehabilitation services to patients after an injury, illness, or surgery. These services include physical and occupational therapy, rehabilitation nursing, prosthetic and orthotic services, and speech–language pathology. In 2009, almost 360,000 Medicare fee-for-service (FFS) beneficiaries received care in IRFs. Between 2008 and 2009, Medicare FFS expenditures for IRF services increased slightly from $5.96 billion to $6.07 billion, largely due to an increase in volume and case-mix severity.

Assessment of payment adequacy

Our indicators of Medicare payment adequacy for IRFs, discussed below, are generally positive.

Beneficiaries' access to care—Our measures of access to care suggest that beneficiaries have sufficient access to IRF services.

- ***Capacity and supply of providers***—After declining slightly in 2006 and 2007, the aggregate supply of IRFs stabilized in 2008 and 2009. IRF occupancy rates also remained stable in 2009, after decreasing from 67.8 percent in 2004 to 61.3 percent in 2007. In addition, the rate of decline in the number of rehabilitation beds since 2005 tapered off in 2009. The

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relative stability in provider supply and the number of available rehabilitation beds suggest that capacity remains adequate to meet demand.

- ***Volume of services***—The volume of Medicare FFS beneficiaries treated in IRFs remained stable in 2009. Our assessment of hospital discharge patterns to post-acute care settings suggests that beneficiaries who were not admitted to IRFs as a result of the 2004 CMS compliance threshold were able to obtain rehabilitation care in other settings, such as skilled nursing facilities and home health agencies.

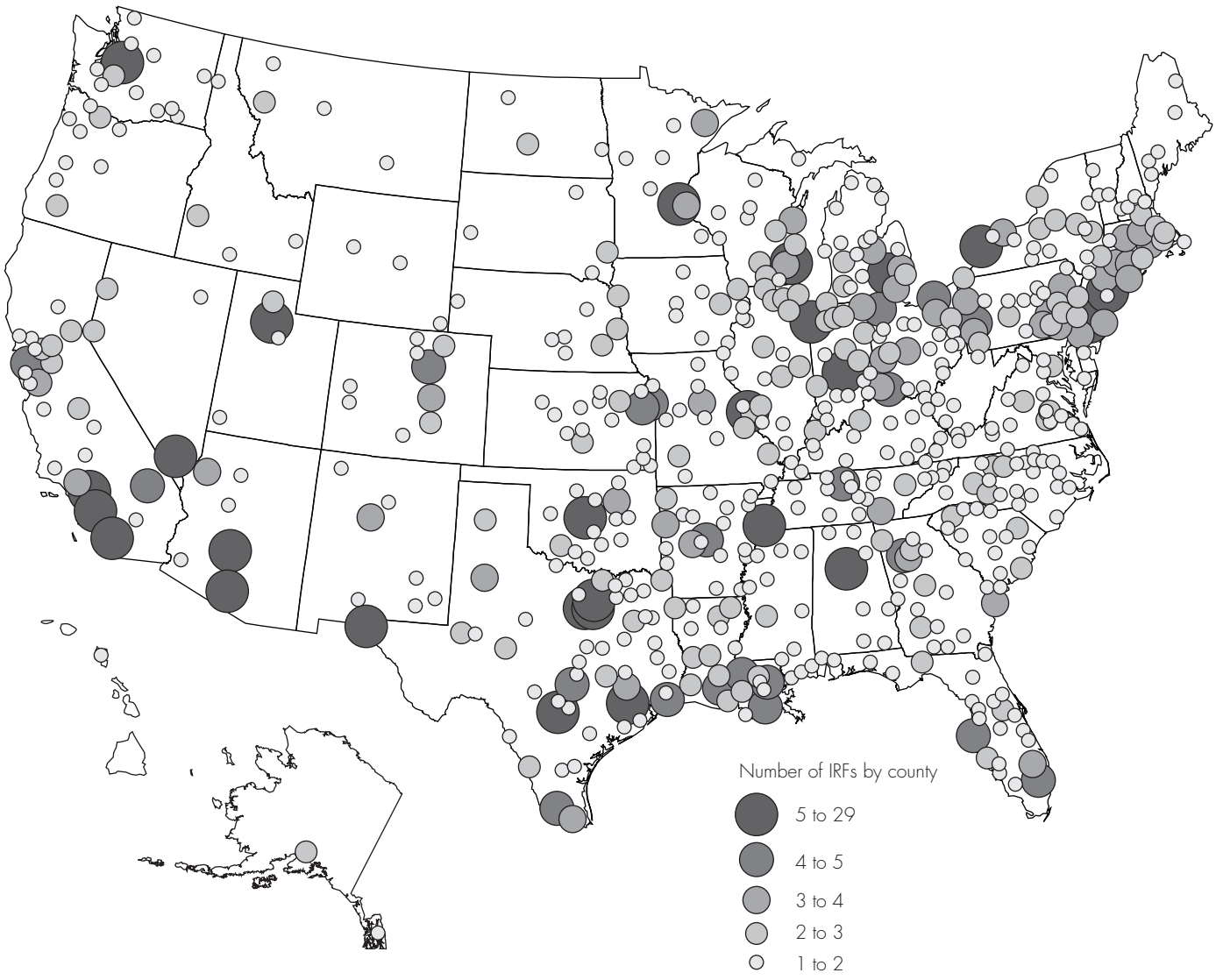
Quality of care—From 2004 through 2010, IRF patients' functional improvement between admission and discharge increased, suggesting improvements in quality. However, changes over time in the mix of the types of patients treated in IRFs make it difficult to draw definitive conclusions about quality trends.

Providers' access to capital—Hospital-based units, through their parent institutions, have adequate access to capital. One major freestanding IRF chain also appears to have adequate access to capital. We are not able to determine the ability of independent freestanding facilities to raise capital.

Medicare payments and providers' costs—Although aggregate costs grew faster than total Medicare payments in 2009 due, in part, to a payment reduction that kept 2009 payments at 2007 levels, the IRF aggregate Medicare margin for 2009 was 8.4 percent. We project that the 2011 Medicare IRF margin will be 8.1 percent. To the extent that IRFs restrain their cost growth in response to fiscal pressure from reductions in market basket updates, the projected 2011 margin could be higher than we have estimated. On the basis of our analyses, we conclude that IRFs in the aggregate could absorb cost increases and continue to provide care to clinically appropriate Medicare cases with a zero update to payments in 2012. We will closely monitor payment update indicators to reassess our update recommendation for the next fiscal year. ■

FIGURE 9–1

Geographic distribution of IRFs, 2009



Note: IRF (inpatient rehabilitation facility).

Source: MedPAC analysis of 2009 Provider of Service files from CMS.

Background

After an illness, injury, or surgery, some patients receive intensive rehabilitation services, such as physical and occupational therapy and rehabilitation nursing in a coordinated, multidisciplinary manner, in an inpatient rehabilitation facility (IRF). To qualify for Medicare coverage, IRF patients require supervision by a rehabilitation physician, the use of an interdisciplinary approach to care, and a clinical need for therapy in at least two disciplines. IRFs may be specialized units within an acute care hospital or specialized freestanding hospitals, which tend to be larger. Approximately 80 percent of IRFs are hospital-based units and the remainder of the industry is freestanding facilities.

In 2009, there were almost 1,200 IRFs in the United States, with at least one located in every state and the District of Columbia. Figure 9-1 shows the geographic

TABLE 9–1

Medicare FFS spending, volume, and utilization for IRFs

	TEFRA	PPS				Average annual change		
	2001	2002	2004	2007	2008	2009	2002–2004	2004–2008	2008–2009
Medicare spending (in billions)	$4.51	$5.65	$6.43	$6.08	$5.96	$6.07	6.7%	–1.9%	1.8%
Number of cases	N/A	401,000	455,000	364,000	356,000	361,000	6.5	–6.0	1.5
Unique patients per 10,000 FFS beneficiaries*	N/A	104.1	113.2	93.2	91.5	92.9	4.3	–5.2	1.5
Payment per case	$9,982	$11,152	$13,275	$16,143	$16,649	$16,568	9.1	5.8	–0.5
ALOS (in days)	14.0	13.3	12.7	13.2	13.3	13.1	–2.3	1.2	–1.5

Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system), N/A (not available), ALOS (average length of stay). With respect to unique FFS patients in a particular year, each IRF FFS patient is counted only once during that year, regardless of whether the patient had multiple IRF admissions in that year. Data on spending are from the Office of the Actuary and the rest of the data on the chart are from the MedPAR. As discussed in the payment per case section on p. 220, total FFS payments from the MedPAR grew by 1.0 percent between 2008 and 2009. We use MedPAR data in calculating payments per case—a 1 percent growth in payments, combined with 1.5 percent growth in cases yields a decline in payments per case.
* The numbers of unique patients per 10,000 FFS beneficiaries are different than reported in the IRF chapter in the March 2010 report due to a change in the methodology for calculating unique beneficiaries. The trends in IRF volume described in the March 2010 report—that volume declined after 2004 and stabilized in 2008—are still consistent with the revised number of unique beneficiaries.

Source: MedPAC analysis of MedPAR data from CMS and data on aggregate Medicare spending for IRF services from the CMS Office of the Actuary.

distribution of IRFs. In 2009, the five states with the largest number of IRFs were (in descending order) Texas, California, Pennsylvania, New York, and Ohio—all states among the largest in general and in the Medicare population. The seven locations with the fewest IRFs (in ascending order) were Hawaii, Maryland, Vermont, Delaware, Alaska, Wyoming, and the District of Columbia. IRFs are not the sole provider of rehabilitation services in communities; skilled nursing facilities (SNFs), home health agencies, comprehensive outpatient rehabilitation facilities, and independent therapy providers also furnish rehabilitation services. Given the number and distribution of these other types of rehabilitation therapy providers, it is unlikely that many areas exist where IRFs are the only rehabilitation therapy provider available to Medicare beneficiaries.

There were approximately 360,000 Medicare fee-for-service (FFS) cases in IRFs in 2009 (Table 9-1). Relatively few Medicare beneficiaries use IRF services because IRF patients must be able to tolerate and benefit from intensive rehabilitation therapy, which typically consists of three hours of therapy per day for at least five days per week. Nevertheless, Medicare is the principal payer for IRF services, accounting for about 60 percent of total IRF discharges in 2009. In 2009, almost all IRF patients (95.2 percent) were admitted to an IRF from an acute care hospital. A small percentage of patients, 2.5 percent, were admitted from a community setting, and the rest were admitted from another health care facility, such as a SNF or another rehabilitation provider. Patients admitted to an IRF directly from the community must pay the Part A inpatient hospital deductible, which is $1,132 in 2011. With respect to patient demographics, most IRF patients in the first 6 months of 2010 were white and female (see text box on pp. 218–219).

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. Pursuant to the Balanced Budget Act of 1997, IRFs began to be paid in 2002 under a prospective payment system (PPS) based on per discharge rates that vary according to rehabilitation needs, area

wages, and certain facility characteristics. As of 2004, all IRFs are paid under the IRF PPS.

Among other classification criteria, IRFs are required to meet a "compliance threshold," which mandates that IRFs must serve a certain proportion of patients with specific diagnoses that CMS has identified as typically requiring intensive inpatient rehabilitation. The intent of the compliance threshold is to distinguish IRFs from acute care hospitals. From 1984 through 2004, the compliance threshold required that 75 percent of an IRF's cases have 1 of 10 diagnoses. In 2002, CMS suspended enforcement of the rule due to inconsistent enforcement patterns among Medicare's fiscal intermediaries. In 2004, CMS revamped the compliance threshold policy and enforcement, first by increasing the number of conditions that count toward the threshold to 13 (by redefining the arthritis conditions that counted);[1] second, by clarifying that only a subset of patients with major joint replacement—a condition that was commonly treated in IRFs—would count toward the compliance threshold; and third, by rigorously and consistently enforcing IRFs' compliance with the threshold. The combination of not allowing most major joint replacement patients to count toward the threshold and renewed enforcement resulted in a substantial decline in the volume of Medicare patients treated in IRFs after 2004. As volume declined, occupancy rates and the number of rehabilitation beds fell as well. Case mix increased, however, as the IRF patient population shifted from less severe hip and knee patients to more severe patients who counted toward the threshold. Growth in cost per case increased as well—a function of greater patient severity and IRFs' fixed costs being spread across fewer patients. The compliance threshold, originally set at 75 percent, was permanently capped at 60 percent in 2007 by the Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA). The industry supported capping the threshold at 60 percent and since then has begun to stabilize in its response to the compliance threshold. In addition, IRFs are largely meeting the compliance threshold criteria.

Aggregate expenditures on IRF services in the Medicare FFS program grew after implementation of the PPS in 2002. In 2002, these expenditures totaled nearly $5.7 billion, and this figure grew at an annual rate of 6.7 percent to about $6.4 billion in 2004 (Table 9-1). Between 2005 and 2008, however, aggregate FFS expenditures for IRFs fell as more beneficiaries enrolled in Medicare Advantage plans and as facilities adjusted to meet the compliance threshold that CMS reinstated in 2004. FFS expenditures also fell when CMS reduced IRF payments by 1.9 percent in 2006 and by 2.6 percent in 2007 to adjust for changes in IRF coding practices that CMS analyses determined did not reflect real changes in IRF patients' acuity. In 2009, aggregate FFS expenditures for IRF services increased to $6.07 billion, likely due to a 1.5 percent increase in volume from 2008 and a 2.3 percent increase in case-mix severity.

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

- have a preadmission screening process to determine that each prospective patient is likely to benefit significantly from an intensive inpatient rehabilitation program;
- ensure that the patient receives close medical supervision and furnish—through qualified personnel—rehabilitation nursing, physical therapy and occupational therapy, and, as needed, speech–language pathology, social services, psychological (including neuropsychological) services, and orthotic and prosthetic services;
- have a medical director of rehabilitation, with training or experience in rehabilitating patients, who provides services in the facility on a full-time basis for freestanding facilities or at least 20 hours per week for hospital-based rehabilitation units;
- use a coordinated interdisciplinary team approach led by a rehabilitation physician that includes a rehabilitation nurse, a social worker or case manager, and a licensed therapist from each therapy discipline involved in treating the patient;
- meet the compliance threshold, which specifies that no fewer than 60 percent of all patients admitted to the IRF must have at least 1 of 13 conditions, specified by CMS, as a primary diagnosis or comorbidity;[2] and
- initiate therapy within 36 hours from midnight of the day of admission for all patients, including those admitted over the weekend.

Separate from these criteria, Medicare has additional coverage criteria that govern whether IRF services are covered for an individual Medicare beneficiary based on the patient's medical and rehabilitation needs.[3]

TABLE 9–2

Supply of IRFs remains stable in 2009

	TEFRA	PPS			Average annual percent change		
Type of IRF	2001	2002	2005	2008	2009	2002–2005	2005–2008	2008–2009
All IRFs	1,144	1,181	1,235	1,202	1,196	1.5%	–0.9%	–0.5%
Urban	986	1,004	1,027	1,001	992	0.8	–0.9	–0.9
Rural	158	177	208	201	204	5.5	–1.1	1.5
Freestanding	212	214	217	221	225	0.5	0.6	1.8
Hospital based	932	967	1,018	981	971	1.7	–1.2	–1.0
Nonprofit	724	751	768	738	732	0.7	–1.3	–0.8
For profit	270	274	305	291	295	3.6	–1.6	1.4
Government	150	156	162	173	169	1.3	2.2	–2.3

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system). For all years, the rural–urban breakdown is by Core-Based Statistical Area definition.

Source: MedPAC analysis of 2009 Provider of Services files from CMS.

Are Medicare payments adequate in 2011?

To address whether payments for fiscal year 2011 are adequate to cover the costs that efficient providers incur and how much payments should change in fiscal year 2012, we examine several indicators of payment adequacy. Specifically, we assess beneficiaries' access to care by examining the supply and capacity of IRF providers and changes over time in the volume of services provided, quality of care, provider access to capital, and the aggregate relationship between Medicare's payments and IRF providers' costs. Overall, our analysis this year found that the Medicare payment adequacy indicators for IRFs are relatively positive.

Beneficiaries' access to care: IRF supply and volume are stable

We have no direct indicator of beneficiaries' access to care because there are no surveys specific to this population. However, our analyses of facility supply, occupancy rates, total number of IRF beds, and volume of services suggest that beneficiaries' access to IRF care is sufficient.

Capacity and supply: Number of IRFs, occupancy rates, and number of rehabilitation beds are stable

The supply of IRFs has increased slightly since the beginning of the PPS in 2002 (Table 9-2). The number of IRFs grew by an annual average rate of 1.5 percent between 2002 and 2005 and peaked at 1,235 facilities in 2005. The supply of IRFs has been declining since 2005 and decreased by 6 facilities between 2008 and 2009—the net result of a loss of 10 hospital-based units and an increase of 4 freestanding facilities. While changes in the number of IRFs vary by category, with some increasing and some decreasing, the overall picture suggests that the supply of IRFs has stabilized under the PPS.

Occupancy rates provide another view of IRFs' capacity to serve patients, and they indicate that capacity is adequate to handle current demand and can likely accommodate future increases (Table 9-3). Occupancy rates fell from 2002 through 2007 and the decline accelerated in 2004 due to renewed enforcement of the compliance threshold. In 2008, overall occupancy rates began to increase and continued to increase in 2009 by almost 1 percent. In 2009, occupancy rates were higher for freestanding IRFs (67.3 percent) than for hospital-based IRFs (60.2 percent)

TABLE 9–3

IRF occupancy rates remain stable in 2009

						Percentage point change		
Occupancy rates	**2002**	**2004**	**2006**	**2008**	**2009**	**2002–2004**	**2004–2008**	**2008–2009**
All IRFs	68.7%	67.8%	61.9%	62.2%	62.8%	–0.9%	–5.7%	0.7%
Hospital based	65.4	65.7	60.4	59.9	60.2	0.3	–5.8	0.3
Freestanding	74.3	71.9	64.7	66.1	67.3	–2.5	–5.7	1.2
Urban	69.6	69.0	63.1	63.5	64.0	–0.6	–5.5	0.5
Rural	58.5	56.3	50.6	49.4	50.9	–2.3	–6.9	1.6
Number of beds								
1 to 10	54.3	55.2	49.5	52.0	49.8	0.9	–3.2	–2.2
11 to 21	63.8	63.2	58.8	57.5	57.6	–0.7	–5.7	0.1
22 to 59	67.0	68.1	61.5	61.3	62.5	1.1	–6.8	1.2
60 or more	74.0	71.1	65.4	66.8	67.3	–2.9	–4.3	0.4

Note: IRF (inpatient rehabilitation facility). Occupancy rate calculated based on total patient days divided by bed days available during the hospitals' cost reporting period.

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

and higher for IRFs in urban areas than in rural areas (64.0 percent and 50.9 percent, respectively). Occupancy rates in most states ranged from 50 percent to 80 percent.

The total number of rehabilitation beds nationwide is another measure of IRF capacity. After increasing between 2002 and 2003, the number of IRF beds declined after 2004 as the industry adjusted to a decrease in cases due to renewed enforcement of the compliance threshold (Table 9-4). Between 2004 and 2008, the number of beds declined by an average of 1.1 percent each year. In 2009, the overall number of IRF beds decreased again but by a smaller amount (0.3 percent), as a 2.6 percent increase in the number of beds in freestanding facilities was offset by a 2.0 percent decrease in the number of hospital-based IRF beds.

TABLE 9–4

Number of IRF beds stabilizes

						Average annual percent change		
Type of bed	**2002**	**2004**	**2006**	**2008**	**2009**	**2002–2004**	**2004–2008**	**2008–2009**
All IRFs	36,582	37,495	36,718	35,879	35,757	1.2%	–1.1%	–0.3%
Hospital based	23,075	23,844	23,858	22,787	22,325	1.7	–1.1	–2.0
Freestanding	13,507	13,650	12,861	13,092	13,432	0.5	–1.0	2.6

Note: IRF (inpatient rehabilitation facility). Counts exclude data from Maryland, non-U.S. hospitals, and outliers. Number of beds is calculated by taking the total number of available bed days for all patients (not specific to Medicare) divided by the total number of days in the cost reporting period.

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

TABLE 9–5

Compliance rate of Medicare IRF cases levels off after 2007

	2004	2005	2006	2007	2008	2009	2010
Estimated compliance rate of Medicare IRF cases	45.2%	55.3%	60.1%	61.8%	61.3%	62.7%	61.5%

Note: IRF (inpatient rehabilitation facility). The data for 2010 are limited to discharges that occurred between January and October 2010. The compliance rate is the aggregate percent of IRF cases that fall into 1 of 13 CMS specified diagnoses. As of July 2007, 60 percent of a facility's cases must fall into one of these diagnoses for the facility to be paid as an IRF.

Source: MedPAC analysis of 2004 to 2010 data from eRehabData®.

Volume of services: Volume of FFS patients in IRFs remained stable in 2009

The volume of Medicare FFS IRF patients remained stable in 2009 (Table 9-1, p. 206). We measure volume as the number of FFS cases and the number of FFS IRF patients per 10,000 FFS beneficiaries. The latter measure removes the effect of increased enrollment in Medicare Advantage and allows us to examine the prevalence of IRF use among Medicare FFS enrollees. Both the number of cases and the number of unique patients per 10,000 FFS beneficiaries grew between 2002 and 2004, with the number of cases averaging an annual increase of 6.5 percent. However, volume declined substantially after 2004 as providers adjusted to renewed enforcement of the compliance threshold. From 2004 through 2008, the number of cases declined by an average of 6 percent each year; during that same period, the number of unique FFS patients per 10,000 FFS beneficiaries declined by an annual average of 5.2 percent. In 2008, the volume decline began to level off, coinciding with actions taken by the Congress in late 2007 to permanently cap the compliance threshold at 60 percent. In 2009, volume remained relatively stable, with the number of cases and unique patients per 10,000 FFS beneficiaries increasing by 1.5 percent. The number of beneficiaries with more than one IRF stay in a year also increased between 2008 and 2009. In 2008, approximately 28,700 FFS patients had more than one IRF stay and those patients accounted for 61,000 IRF cases. In 2009, those figures increased to about 30,100 FFS patients with more than one IRF stay, accounting for 64,300 cases.

The mix of the types of patients treated by IRFs has changed since 2004, as IRFs admitted a higher percentage of patients with diagnoses that met the revised compliance threshold. The percentage of IRF cases with 1 of the 13 specified conditions has increased over time, according to our analysis of proprietary data for a sample of IRFs (Table 9-5).[4] In the first three years of renewed enforcement of the revised compliance threshold (2004–2006), the aggregate percentage of Medicare cases meeting the threshold increased rapidly from 45.2 percent to 60.1 percent. However, when MMSEA capped the compliance threshold permanently at 60 percent in 2007, the rate of increase in the compliance rate began to level off and the rate remained between 61 percent and 63 percent from 2007 through 2010.

The average case mix increased in severity both for IRF patients who met the compliance threshold and for those who did not. However, the cases that did not count toward the compliance threshold (noncompliant cases) were less complex than those that did (compliant cases), according to our analysis of proprietary data from eRehabData.com for a sample of IRFs. In that analysis, all of the cases treated by IRFs between 2004 and 2010 were measured by the IRF PPS relative payment weights. In 2004, the average relative payment weight for compliant cases was about 1.28, compared with about 0.90 for noncompliant cases. In 2010, the average relative payment weight for compliant cases was 1.39, compared with 1.09 for noncompliant cases.

As IRFs have adjusted their patient admission patterns to meet the revised compliance threshold, the average case-mix severity of the IRF patient population has increased over time. From the first half of 2007 to the first half of 2008, case-mix severity of Medicare FFS patients increased by 1.9 percent; from the first half of 2008 to the first half of 2009, it increased by 2.3 percent.[5] From 2004 through 2008, as the average case-mix severity of IRF patients increased, average length of stay increased gradually (Table 9-1). In 2009, average length of stay declined slightly even though patient severity still

TABLE 9–6

IRF patient mix has changed, 2004–2010

Type of case	Percent of IRF Medicare FFS cases				Percentage point change, 2004–2010
	2004	2006	2008	2010*	
Stroke	16.6%	20.3%	20.4%	20.5%	3.9
Fracture of the lower extremity	13.1	16.1	16.0	14.4	1.3
Major joint replacement of the lower extremity	24.0	17.8	13.1	11.2	–12.8
Debility	6.1	6.2	9.1	9.9	3.8
Neurological disorders	5.2	7.0	8.0	9.7	4.5
Brain injury	3.9	6.0	7.0	7.3	3.4
Other orthopedic conditions	5.1	5.2	6.0	6.5	1.4
Cardiac conditions	5.3	4.0	4.6	5.0	–0.3
Spinal cord injury	4.2	4.6	4.3	4.3	0.1
Other	16.4	12.8	11.3	11.3	–5.1

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). "Other" includes conditions such as amputations, major multiple trauma, and pain syndrome. Numbers may not sum to 100 percent due to rounding.
*Data are for the first six months of 2010.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS for 2004–2009, and January 1 through June 30, 2010.

increased by 2.3 percent. The slight decline in average length of stay in 2009 may reflect IRFs' increasing experience with managing their current patient mix. In 2010, case-mix weights increased by 0.4 percent, while the compliance rate decreased between 2009 and 2010 from 62.7 percent to 61.5 percent. This decline occurs because the 2010 case-mix weight increase was driven by the severity of the noncompliant cases. Between those two years, the relative payment weight of noncompliant cases increased from 1.07 to 1.09, while the relative payment weight of compliant cases remained the same.[6]

The change in case mix over time is also reflected in the shifting pattern of diagnoses upon admission among IRF FFS cases since 2004 (Table 9-6). The share of major joint replacements of the lower extremity fell by 12.8 percentage points between 2004 and the first half of 2010, consistent with the more limited definition of threshold compliant joint replacement services adopted by CMS in 2004. During the same period, the percentage of IRF patients with conditions included in the compliance threshold—such as stroke, brain injury, and neurological disorders—increased. Between 2009 and the first half of 2010, the share of stroke and brain injury cases remained the same, while the share of neurological disorder cases increased by 0.7 percentage point. The share of debility cases also increased over time, growing by 3.8 percentage points since 2004. The growth in debility cases is more surprising, because debility is not among the 13 conditions included in the compliance threshold.

Hospital-based and freestanding IRFs have relatively similar patient populations, according to our analysis of Medicare cost report data. Both hospital-based and freestanding IRFs decreased their share of lower extremity joint replacement patients in response to the compliance threshold and increased their share of stroke patients, although hospital-based IRFs treated a larger share of stroke patients in 2009 (21.6 percent and 16.5 percent, respectively). In 2009, the top five conditions were the same for hospital-based and freestanding IRFs. These conditions—stroke, neurological disorders, fracture of the lower extremity, major joint replacement of the lower extremity, and miscellaneous conditions, which can include debility—constitute 63 percent of all patients in freestanding facilities and close to 67 percent of all patients in hospital-based facilities. Between 2004 and 2009, freestanding IRFs increased their share of patients with neurological disorders by 6.4 percentage points compared with an increase of 1.7 percentage points among hospital-based IRFs.

TABLE 9–7

Share of hospital discharges to IRFs continues to decline for hip and knee replacements but remains stable for stroke

Condition	Discharge destination	Percent of hospital discharges						Percentage point change in share of hospital discharges	
		2004	2005	2006	2007	2008	2009	2004–2008	2008–2009
Major joint replacement/ hip and knee replacement	IRF	28%	24%	20%	16%	14%	13%	–14%	–1%
	SNF/swing bed	33	34	35	36	36	37	3	1
	Home health	21	25	27	29	30	31	9	1
	All other settings	18	18	18	19	19	18	1	–1
Stroke	IRF	18	18	19	19	19	19	1	0
	SNF/swing bed	27	26	26	26	25	25	–2	0
	Home health	11	11	12	12	12	12	1	0
	All other settings	45	44	44	44	44	44	–1	0

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility). 'All other settings' include outpatient care, other inpatient facilities, and home. Discharge destination totals for each condition may not equal 100 percent due to rounding.

Source: MedPAC analysis of 2004 through 2009 hospital inpatient Medicare claims data from CMS.

The decline in IRF FFS volume coinciding with renewed enforcement of the compliance threshold has raised questions about the impact of the compliance threshold on beneficiaries' access to care. If patients who need intensive rehabilitation services are able to obtain appropriate care in other settings, the reduction in IRF patient volume over the last few years may not constitute an access problem. Because we cannot identify beneficiaries who would have received care in an IRF if not for the compliance threshold, we analyzed changes in post-hospital discharge destinations for patients likely to need rehabilitation from 2004 through 2009. We found that among stroke cases, the share of hospital patients discharged to IRFs and other settings remained largely unchanged (Table 9-7). In contrast, for hip and knee replacement cases, a condition for which CMS has limited the types of cases that count toward the compliance threshold, the relative share of hospital patients discharged to IRFs declined by more than half between 2004 and 2009. Over the same period, however, the share of patients with hip and knee replacements discharged to SNFs and home health agencies increased, filling in for the drop in discharges going to IRFs and suggesting that these beneficiaries were able to obtain rehabilitation care in other settings. CMS also recently addressed the impact of the compliance threshold on beneficiaries' access to care in a report to the Congress mandated by MMSEA on the classification criteria for IRFs (Gage et al. 2010). The report, prepared for CMS by RTI, analyzed IRF patient mix and compliance with the compliance threshold. The report notes that these data do not indicate whether patients were not admitted to IRFs because of the compliance threshold and states that more data are needed about the use of alternative sites of IRF care to determine whether the compliance threshold limits access.

It is difficult to assess whether the rehabilitation care that patients receive is comparable across different post-acute settings in terms of quality, outcomes, and costliness. The RTI report for CMS also analyzed peer-reviewed research on the effectiveness of IRFs compared with other post-acute care settings and concluded from the studies reviewed that:

- Generally, stroke patients treated in IRFs have greater improvement and shorter stays than stroke patients treated in SNFs.
- Findings comparing outcomes for lower extremity joint replacement patients and hip fracture patients in IRFs and SNFs are not consistent across studies.
- Research comparing outcomes in IRFs with outcomes in other post-acute care settings is limited because the studies do not adequately control for selection bias.

TABLE 9–8

IRF patients' functional gain continues to increase

	2004	2006	2008	2009	2010
All IRF patients					
FIM™ at admission	68.0	63.6	61.2	60.0	59.8
FIM™ at discharge	90.4	87.1	85.5	84.8	85.5
FIM™ gain	22.4	23.5	24.2	24.8	25.7
IRF patients discharged home					
FIM™ at admission	71.9	68.0	65.7	64.6	64.1
FIM™ at discharge	97.1	94.9	93.8	93.3	93.5
FIM™ gain	25.3	26.9	28.1	28.7	29.4

Note: IRF (inpatient rehabilitation facility), FIM™ (Functional Independence Measure™). FIM™ scores measure a patient's level of physical and cognitive functioning and range from 18 to 126, with a higher score indicating more functional independence. FIM™ gain may not equal FIM™ at discharge minus FIM™ at admission due to rounding. Data are for January 1 through June 30 of each year.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

- Studies comparing per patient Medicare costs for IRF care with costs for other post-acute care are limited because they rely on setting-specific assessment forms that have different measures of functional impairment and severity.
- Standardized data from the Continuity Assessment Record and Evaluation (CARE) tool (the uniform post-acute care assessment tool being tested through the Medicare Post-Acute Care Payment Reform demonstration) can help CMS compare outcomes for rehabilitation care across settings. The final report on the demonstration is due in July 2011 (Gage et al. 2010).

Quality of care: Indicators show improvement, but case-mix changes hinder drawing inferences about quality trends

Our indicators of quality of care provided by IRFs show some improvement from 2004 through 2010, although changes in IRF patient mix over the same time period make it difficult to determine whether the observed trend represents a true improvement in quality. To assess quality, we use a measure commonly tracked by the IRF industry: the difference between admission and discharge scores for the Functional Independence Measure™ (FIM™), which is incorporated in the IRF–Patient Assessment Instrument (IRF–PAI). The 18-item FIM measures the level of disability in physical and cognitive functioning and the burden of care for a patient's caregivers (Deutsch et al. 2005). The total FIM score can range from 18 to 126, with a higher number meaning more functional independence.[7]

To measure quality improvement, we use the average FIM score at discharge minus the average FIM score at admission (commonly referred to as FIM gain). A larger number indicates more gain in functional independence between admission and discharge. We report this measure in two ways: we compare differences for all FFS Medicare patients treated in an IRF and for a subset of Medicare patients who were discharged home from an IRF. Between 2004 and 2010, FIM gain between IRF admission and discharge increased for all Medicare FFS patients and for the subset of patients who were discharged home (Table 9-8). Between 2004 and 2010, FIM gain increased 3.3 points for all FFS patients, from 22.4 to 25.7; among FFS patients discharged home, FIM gain increased 4.1 points, from 25.3 to 29.4.

The increases in FIM gain do not take into account underlying changes in patient case mix. For these FIM gains to accurately measure IRF quality over time, the functional status of patients at admission must be similar throughout the comparison period. In recent years, patients' functional scores at admission have been lower than those in earlier years, reinforcing our observation that IRF patient severity has increased over time. Patients

with a lower functional score at admission, by definition, have more potential to improve their FIM score over the course of their IRF stay. Consequently, it is unclear whether the higher FIM gain we observe over time is due to an improvement in quality or due to IRFs admitting a more impaired group of patients with more potential for improvement. We are analyzing risk-adjusted functional gain and other potential quality measures, which we anticipate will help us measure trends in IRF quality more accurately in the future.

The Patient Protection and Affordable Care Act of 2010 (PPACA) requires IRFs to submit data on quality measures beginning in fiscal year (FY) 2014 or receive a penalty of 2 percentage points off their payment update. By FY 2013, the Secretary of Health and Human Services must publish the quality measures that IRFs will be required to submit. IRFs currently are not required to report any quality measures, but they are required to submit a patient assessment instrument, the IRF–PAI, for every FFS and Medicare Advantage patient. There is a quality section on the IRF–PAI, but it is optional and IRFs are not required to complete that section to receive payment from Medicare. In 2005, RTI published a report to CMS on a project analyzing the development of quality indicators for IRFs. The technical expert panel created for this project suggested that "change in functional status" and "rate of discharge to the community" should be used as two main IRF outcome measures. RTI pilot-tested a revised IRF–PAI with additional data elements to assess which IRF–PAI elements should be used in risk-adjustment models for these two outcome measures. The resulting report recommends a number of revisions to the IRF–PAI, such as including a premorbid FIM score for each FIM item, retaining two of the three existing pain measurement items and adding a new pain item, and replacing the current depression measurement item with the Yale depression screen. To date, these changes have not been implemented.

There are a number of important issues to resolve in establishing the IRF pay-for-reporting system: (1) which measures—process measures, outcome measures, or a combination of both—should be included in the pay-for-reporting system and how those measures should be defined; (2) how the measures should be risk-adjusted to adequately account for differences in patient characteristics; and (3) which data collection instrument should be used to obtain and report the data used to calculate the quality measures. In November 2010, the Commission convened a technical panel of IRF researchers, clinicians, medical directors, and other stakeholders to discuss general guidance for CMS on selecting which measures to include, the pros and cons of including certain measures under the IRF pay-for-reporting system, considerations to take into account when risk-adjusting quality measures, and how the quality data can be collected. Following is a summary of the main points from the panel discussion. Overall, participants agreed that process and outcome measures are both important for analyzing IRF quality of care. Participants strongly believed that risk adjustment is necessary. They also largely agreed that the IRF–PAI is the best tool for CMS to use to collect the quality data.

General guidance

Panelists offered a number of general suggestions for CMS regarding the selection of quality measures. Many panelists were concerned about the unintended effects of the selected quality measures for the pay-for-reporting system (and for a possible pay-for-performance system in the future), and they cautioned CMS to consider the indirect consequences of the performance measures that are selected. Participants were largely concerned that access to IRF care could be limited if facilities changed their admission patterns to select patients they expected would perform well on the performance measures. Some panelists suggested that the concern about access to care could be lessened by developing condition-specific quality measures or through risk adjustment that accounted for patients' status at admission. Panelists also noted that the concern about unintended consequences and the importance of risk adjustment would be greater under a pay-for-performance system than under a pay-for-reporting system.

With respect to the selection of quality measures, participants advised that the quality measures be malleable and able to change as the rehabilitation and medical care provided in IRFs evolve. Some panelists suggested that the measures reflect a patient-centric focus or that CMS select measures that apply to other settings that provide rehabilitation. Participants also emphasized the importance of clearly defining the quality measures and how the quality data should be collected and reported to ensure consistency across facilities in the data reporting. Panelists stated that they would like representatives from IRFs to have input and ongoing communication with CMS on the selection of data elements to ensure that the data elements that are collected are meaningful measures for facilities. One participant recommended collecting data on fewer

quality measures that are the most informative, rather than collecting data on many measures that may not be as useful in measuring the overall quality of care in IRFs.

Process measures

Participants discussed a number of potential process measures during the meeting. The discussion largely focused on how process measures could be defined and considerations to take into account when defining them.

Medication management Panelists discussed capturing standard practices around medication management and medication reconciliation through a process measure. Panelists suggested broad, conceptual process measures, such as reviewing a patient's medications upon admission, conducting medication reconciliation, appropriate use and monitoring of medications, and appropriate prescribing of medications during the IRF stay. Some panelists also noted that medication management can be measured with a patient satisfaction survey, such as by asking patients whether their medications were explained to them in a way they could understand.

Another suggestion was to focus on the management of insulin for diabetics. Panelists stated that insulin management is important for those patients to be able to benefit from rehabilitation, and it could be assessed by measuring blood sugar levels for diabetic patients or by measuring whether and how often insulin was provided to them. Panelists also noted that data collection on medication management could be used for risk adjustment. For example, adequate pain management is necessary for some patients to be able to complete their rehabilitation exercises.

Pain management Participants discussed the common practice of regularly measuring patients' levels of pain during rehabilitation so that the pain does not interfere with their ability to complete prescribed rehabilitation exercises. In addition, exercises will be changed as needed so that they do not cause additional pain. Panelists noted that collecting detailed data on pain management could be burdensome to IRF staff; however, they suggested that a realistic process measure could be whether pain assessments are being conducted. A limitation of this measure is that it does not capture how the facilities use the information from the pain assessments. Panelists preferred measuring pain management through the measure of pain assessments rather than through the presence of pain, because presence of pain may not apply to all patients and patients could have pain for many reasons.

Falls Panelists discussed the nature of falls in the IRF setting. Falling is part of the rehabilitation process and for some patients, teaching them how to fall is part of their therapy. Panelists discussed a number of potential process measures for falls. One suggestion was to measure only falls that resulted in injury. It was noted that this measure could encourage IRFs to restrain patients' activities during exercise in order to minimize their risk of falling; however, this incentive could be offset by also including gain in functional status as a measure, since trying to achieve functional gain encourages rehabilitation activity. Another suggestion was to measure facilities' procedural responses to falls. For example, in one facility a root cause analysis is conducted after every fall and a plan of care is developed for the patient. In another facility, staff conduct a postfall huddle to analyze the factors that contributed to the fall.

Treatment and measurement of cognitive functioning and depression Panelists considered whether a measure of cognitive function should be included as a quality measure. In general, panelists expressed concerns about the ability to accurately measure cognitive functioning and the usefulness of this type of measure. Panelists reported that there is a lack of tests that can accurately measure cognitive functioning and that the FIM instrument is not a reliable tool for measuring cognitive status. In addition, cognitive status is not likely an area that IRFs can improve during the two weeks that patients typically spend in an IRF. One suggestion was to try to assess cognitive status by measuring a patient's ability to participate and engage in the rehabilitation activities.

Panelists also considered including measures of depression. One panelist noted that many patients are profoundly depressed given their clinical condition, particularly patients who have lost some of their functional capacity; however, these patients' feelings may be expected reactions to their situation rather than depression. Other participants stated that many IRFs are already screening for depression and initiating treatment as part of regular clinical practice. Panelists disagreed about whether depression treatment during the IRF stay can be effective given the relatively short length of time that patients typically stay in an IRF. One suggestion for a process measure for depression is to determine whether patients were screened for depression and whether treatment strategies were identified or treatment was initiated.

Pressure ulcers Participants also discussed including a process measure for pressure ulcers. Some panelists noted that there is value in including pressure ulcers as a process measure because IRF staff are generally aware of them and know how to treat them, and pressure ulcers can be used as a proxy for adequate nurse staffing. However, panelists cautioned that developing an accurate measure for pressure ulcers is difficult. For example, some facilities track whether new pressure ulcers develop during the IRF stay or whether existing pressure ulcers from the acute care stay worsened during the IRF stay. However, pressure ulcers can merge or split as they heal, complicating the ability to assess the number of new ulcers and how well they heal.

Patient satisfaction Participants noted that measuring patient satisfaction would be consistent with a focus on patient-centered care. Participants discussed the possibility of measuring patient satisfaction through satisfaction with the discharge process, satisfaction with the plan of care, and patients' knowledge of how to manage their medications at discharge. Panelists stated that patient satisfaction measures also need to be risk-adjusted.

Care transitions and discharge planning Some participants emphasized the importance of giving patients the information they need to be able to manage their care after discharge. In one participant's facility, patients are given a "passport" that includes information on how they can manage their care. Ideally, this information would be tailored to the setting to which the patient is being discharged and would include information such as a medication list, a list of resources and contact information, and any precautions the patient should be taking. One panel member suggested that the impact of the discharge planning process could be measured through patient satisfaction measures or through an outcome measure, such as the rate of acute care readmissions for patients who were initially discharged to the community.

Outcome measures

In general, participants were supportive of including outcome measures to assess quality of care in IRFs. However, there was confusion about how outcome measures would fit into an IRF pay-for-reporting system if measures such as change in functional status, discharge to the community, and hospital readmissions can be calculated from data that are currently available on the IRF–PAI or Medicare claims. Despite this concern, participants discussed the value of and considerations with certain outcome measures.

Change in functional status Participants recognized the importance of measuring change in a patient's functional status; however, they noted a number of limitations with the FIM gain measure. First, FIM scores may not be scored consistently across facilities. Another panelist noted that the FIM instrument is not sensitive to functional changes that clinicians see or to major improvements in quality of life. In addition, the FIM instrument consists of two scales—a motor scale and a cognitive scale—and a participant noted that research has demonstrated that the two scales are not equivalent. Further, panelists expressed concern about the reliability of the cognitive items in the FIM. Rather than using the entire FIM scale, some researchers are moving toward measuring FIM gain either separately for the motor and cognitive scores or on the questions that focus on patients' self-care and mobility. Last, panelists noted that including FIM as a quality measure gives facilities the incentive to score patients with a low FIM score at admission and to closely document changes in function to score a higher FIM score at discharge in order to increase the FIM gain.

Discharge to the community Participants discussed some considerations with the discharge-to-community measure. Panelists noted that whether a patient can be discharged back to the community depends partly on the patient's needs and living situation. For example, some patients may not be able to be discharged home if they need caregiver support but do not have a caregiver at home. Participants also discussed the trade-offs between efficiency and keeping patients in the IRF long enough for them to regain enough function to return to the community. Some facilities may be able to keep patients in the IRF longer in order to increase their functionality to a point where they are able to return home, even though the longer stay requires more of the facilities' resources. On the other hand, facilities need to have enough capacity to accept new patients, and this need could discourage longer stays. Another panel member noted that IRFs may not receive complete information on a patient's status and medications, and this lack of information could affect a facility's ability to successfully discharge to the community.

Hospital readmissions and admissions to nursing facilities Panel members were generally supportive of measuring readmissions to acute care hospitals and admissions to nursing facilities; however, they discussed a number of

considerations with measuring readmissions. Participants mentioned the difficulty in determining whether a readmission back to acute care is due to the care received at the acute care hospital or at the IRF. Participants noted that some readmissions that occur shortly after a patient is admitted to the IRF may be more reflective of the care received in the acute care hospital than in the IRF and cautioned that the reasons for those readmissions should be examined as well. However, other panelists stated that at some point the IRF takes ownership of the patient. Before that point, the acute care hospital could be held responsible for discharging an unstable patient, but it is the IRF's responsibility to review a patient's data before admission to determine whether the patient is stable enough for treatment.

Panelists varied in their opinions on the length of time after admission to an IRF that a readmission to an acute care hospital should be considered the responsibility of the IRF. The average length of stay in an IRF for Medicare patients is 13 days, and some participants thought that readmissions occurring after the first 36 hours of a stay should be considered an IRF's responsibility because therapy must begin within the first 36 hours after admission. Another suggestion was to consider readmissions after the first 48 hours to be the IRFs' responsibility because that time frame would allow therapy staff to begin treatment and to determine whether it was too intense for the patient. Other panelists preferred 72 hours postadmission as the point when readmissions would be considered the IRFs' responsibility. Participants who preferred this time frame noted that underlying conditions that are not immediately noticed could be present in patients and that readmissions within 72 hours most likely reflect an underlying health problem or the acute care hospital's transition plan. Panelists did not discuss at length how long after discharge from an IRF readmissions to an acute care hospital should be considered reflective of the care received at the IRF; however, one participant suggested that acute care readmissions be limited to two weeks postdischarge. This participant argued that readmissions that occur more than two weeks after discharge from an IRF could be related to the nature of a patient's health condition rather than to the care provided at the IRF.

Panelists also discussed including admissions to SNFs after patients were discharged to the community as a measure of whether patients who were initially discharged to the community were able to remain there. Participants noted that some patients are admitted to the IRF from a SNF or a long-term care facility with the intention of being discharged back to that facility. Panel members also cautioned that it can be difficult to predict which patients will be able to remain in the community. Some participants expressed interest in receiving data from CMS on whether patients are admitted to acute care hospitals, SNFs, or other settings within 90 days after discharge. This information could help IRFs evaluate and improve their discharge process.

Measuring the durability of IRF care through outcome measures Participants discussed the value of including measures that assess the long-term impact of rehabilitation care received in an IRF. One participant noted that it may be difficult to assess this factor for IRFs unless a facility is responsible for the care management of patients after they leave the facility. Other participants noted that there is a precedent for measuring long-term outcomes. Facilities that are accredited by the Commission on Accreditation of Rehabilitation Facilities must collect follow-up data on patients after they have left the IRF. Facilities can select which outcomes to measure and which patients to follow up. In addition, another participant noted that measuring outcomes long after the IRF stay gives facilities an incentive to improve the discharge planning process and to work closely with nursing facilities to place patients back in their communities. Participants did not identify the optimal time frame to measure durability (i.e., 30 days or 90 days postdischarge); however, one participant noted that durability appears to level off six months postdischarge from an IRF.

Risk adjustment

Panelists repeatedly emphasized the importance of risk-adjusting all quality measures. One suggestion was to stratify the quality measures by diagnosis or diagnostic group. Doing so would permit including condition-specific risk adjusters in the model for a given diagnostic group. Examples of possible risk adjusters that participants discussed were comorbidities such as HIV and drug use; cognitive function, which remains an important risk adjuster even though it is difficult to measure; and patients' ability to function independently before the onset of the acute episode that resulted in their admission to the IRF, which is currently not being reported. Participants also noted that the CARE tool that is being pilot-tested by CMS may contain some data elements that CMS could consider using in developing risk adjusters.

Comparison of inpatient rehabilitation facility fee-for-service and Medicare Advantage patients

Beginning in fiscal year 2010, inpatient rehabilitation facilities (IRFs) are required to complete and submit data to CMS from IRF patient assessment instrument forms for Medicare Advantage (MA) patients. We analyzed six months of these data, from January through June 2010, and compared the results for MA patients with those for Medicare fee-for-service (FFS) patients. These data are preliminary and not case-mix adjusted. The use rate of IRFs among the FFS population is more than double the rate for the MA population (Table 9-9), which suggests that the MA population could be receiving rehabilitation services in other settings, such as skilled nursing facilities (SNFs), home health agencies, or outpatient therapy. The use rate could also be affected by the need for rehabilitation services in the MA population. On average, MA patients have longer stays in IRFs and greater severity of illness than FFS IRF patients. MA patients stayed an average of 13.8 days in an IRF compared with 13.1 days for FFS patients, and the case-mix weight for MA patients on average was 1.34 compared with 1.29 for FFS patients.

Most FFS and MA IRF patients are discharged home. A slightly higher percentage of MA patients are discharged home than FFS patients (72 percent and 68 percent, respectively), and a slightly higher percentage of MA patients than FFS patients are discharged home with home health services (53 percent and 51 percent, respectively). Although the percentages of patients discharged to most other settings were similar for both MA and FFS patients, a higher percentage of FFS patients were discharged to a SNF. Almost 11 percent of FFS patients were discharged to a SNF compared with 8 percent of MA patients. In most regards, the patient demographics of the MA and FFS population are similar; however, a higher percentage of MA patients are African American and Hispanic.

TABLE 9–9 **Characteristics of Medicare FFS and MA IRF patients, January to June 2010**

	Medicare FFS patients	MA patients
Total number of patients	172,462	24,296
Use rate	0.48%	0.22%
Average length of stay	13.1	13.8
Case-mix weight	1.29	1.34
Discharged home	68%	72%
Discharged home with home health	51%	53%
Race		
White	81%	75%
African American	10	13
Hispanic	5	7
Percent female	59%	55%

Note: FFS (fee-for-service), MA (Medicare Advantage), IRF (inpatient rehabilitation facility). Use rate is calculated as the number of FFS or MA patients divided by all FFS or MA patients. Discharge destinations do not total 100 percent. Patients in the discharged home category may also appear in the discharged home with home health category. Not all discharge destinations are represented in the table. Data are for January 1 through June 30, 2010.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS, January–June, 2010. Sources for the denominators for the use rates are the 2010 Trustees report and the June 2010 Medicare Advantage enrollment file from CMS.

(continued next page)

Comparison of inpatient rehabilitation facility fee-for-service and Medicare Advantage patients (cont.)

A higher percentage of MA IRF users than FFS IRF users are stroke, brain injury, or spinal cord patients (Table 9-10). The greatest difference between the two populations is among stroke patients, who account for 31.4 percent of MA patients compared with 20.5 percent of FFS patients. This higher percentage could be driving the higher average case-mix weight for all MA patients. In addition, MA patients with stroke, debility, neurological conditions, and spinal cord injuries have longer stays than FFS patients with these conditions, and, with the exception of stroke patients, MA patients with these conditions have higher case-mix weights. ■

TABLE 9–10

Patient mix of Medicare FFS and MA IRF patients, January to June 2010

	Medicare FFS IRF patients			MA IRF patients		
Type of case	Percent of all FFS patients	ALOS	Case-mix weight	Percent of all MA patients	ALOS	Case-mix weight
Stroke	20.5%	15.7	1.57	31.4%	16.0	1.56
Fracture of the lower extremity	14.4	13.4	1.24	12.4	13.1	1.23
Major joint replacement of the lower extremity	11.2	9.7	0.85	10.4	9.7	0.86
Debility	9.9	11.9	1.21	6.7	12.6	1.24
Neurological disorders	9.7	13.3	1.33	7.6	14.1	1.36
Brain injury/nontraumatic	4.4	13.2	1.41	4.7	13.7	1.39
Brain injury/traumatic	2.8	14.5	1.49	3.6	14.1	1.48
Other orthopedic conditions	6.5	11.9	1.11	4.4	11.8	1.09
Cardiac conditions	5.0	11.2	1.13	3.8	11.1	1.15
Spinal cord/nontraumatic	3.6	14.6	1.41	4.3	16.0	1.48
Spinal cord/traumatic	0.7	19.1	2.07	1.0	19.2	2.17

Note: FFS (fee-for-service), MA (Medicare Advantage), IRF (inpatient rehabilitation facility), ALOS (average length of stay). Not all types of cases are included. Data are for January 1 through June 30, 2010.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS, January to June 2010.

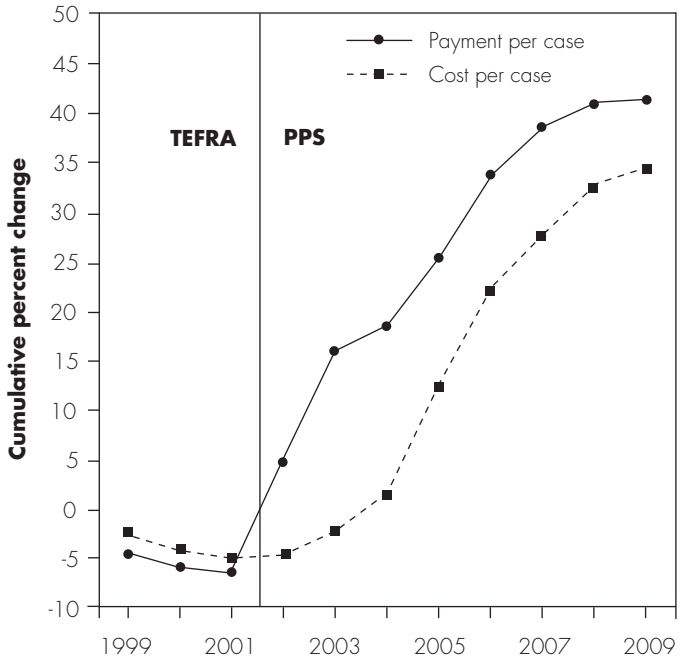
Data collection

Overall, panel members supported consistency across facilities in the collection of quality data, with minimal burden to providers. Participants in general supported using the IRF–PAI as the data collection instrument for the quality data. Panelists noted that collecting the quality data through the IRF–PAI would lessen the reporting burden on facilities because workflow systems are already in place in facilities to fill out and submit IRF–PAIs. Another participant suggested that adding the quality data to the IRF–PAI could increase the attention facilities give to the quality data and could enable them to analyze the quality data themselves before receiving any reports from CMS.

In summary, panel members discussed the definitions and considerations for a number of process and outcome measures. Risk adjustment was a main issue, with participants repeatedly mentioning the importance of adequate risk adjustment. The IRF–PAI was suggested as the data collection instrument for quality data, although some participants noted that industry-wide use of the CARE tool could facilitate data collection as well.

FIGURE 9–2

IRFs' payments per case have risen faster than costs, 1999–2009



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. Costs are not adjusted for changes in case mix.

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

In general, the Commission supports pay-for-performance systems rather than pay for reporting. The Commission holds that the Medicare program should develop a limited number of quality measures for pay-for-performance systems in each sector that focus on outcomes where possible and patient safety and patient experience where applicable. The panelists raised a number of important issues with respect to quality measures for IRF patients and risk adjustment. Staff will take panel members' discussion into consideration and will continue to explore quality measurement and risk adjustment in the IRF sector in the near future.

Providers' access to capital: IRFs' access to capital appears to be adequate

Eighty percent of IRFs are hospital-based units that have access to capital through their parent institution. As described in Chapter 3 of this report, inpatient hospitals' access to capital appears adequate, as evidenced by a high level of hospital bond issuances and hospital construction and a steady level of hospital consolidations.

As for freestanding IRFs, an analysis of a major national chain found that the chain continues to experience positive revenue growth and is able to access capital markets. This chain has high overall margins and, although highly leveraged, was able to improve its earnings and access the improved credit markets to refinance some of its debt. Most other freestanding facilities are independent or local chains of only a few providers (for profit or nonprofit). The extent to which these providers have access to capital is less clear.

Medicare payments and providers' costs: Overall, IRFs' payments have grown faster than costs since implementation of the PPS

Overall, payments per case have grown faster than costs per case since implementation of the PPS in 2002, even though costs per case have grown faster than payments since 2004 (Figure 9-2). Costs per case grew rapidly between 2004 and 2006, as case-mix severity increased and the volume of cases declined due to the revisions to and renewed enforcement of the compliance threshold, resulting in fixed costs being spread over a smaller volume of cases. Cost growth slowed after 2006 to an average of 5.1 percent per year as patient volume steadied.

The average Medicare FFS payment per case declined by 0.5 percent between 2008 and 2009, after increasing between 2004 and 2008 (Table 9-1, p. 206). The decline in the average payment per case is due to two policies: a zero payment update in 2009, as required by MMSEA, and CMS's adjustment of the 2009 outlier threshold. In addition to the zero update in 2009, MMSEA also required no update for the second half of 2008; therefore, payments for 2009 in effect were held at 2007 levels. Despite the lack of a payment update, payments for 2009 (not including outlier payments) increased from 2008 by almost 2.0 percent. The increase in payments (not including outlier payments) is likely due to an increase in case-mix severity, which rose by 2.3 percent between 2008 and 2009, and an increase in the total number of FFS cases.

CMS's adjustment of the outlier threshold in 2009 was intended to lower outlier payments and was a result of 2008 outlier payments exceeding the target amount set for outliers. This adjustment decreased total outlier payments in 2009 by almost 20 percent. As a share of total IRF payments between 2008 and 2009, outlier payments

declined from 4.1 percent to 3.2 percent. The increase in case-mix severity and lower outlier payments resulted in an increase in total IRF payments between 2008 and 2009. However, because the number of cases rose faster than total payments, the average payment per case dropped in 2009.

Standardized IRF costs reflect economies of scale

Adjusting IRF costs per discharge for differences in wages, case mix, and outlier payments permits a standardized comparison of costs across different types of IRFs. The mean adjusted cost per discharge for all IRFs in 2009 was almost $14,800 (Table 9-11). On average, freestanding IRFs had about 21 percent lower adjusted costs per discharge than hospital-based IRFs, and urban IRFs had approximately 16 percent lower costs per discharge than rural IRFs. Average adjusted costs per discharge also decline as the number of beds in a facility increases. In 2009, costs per discharge were lower by $5,360 (30 percent) for facilities with more than 60 beds than for facilities in the 1- to 10-bed range. The differences in adjusted costs by number of beds suggest that larger facilities have economies of scale that result in lower costs per discharge. The costs by number of beds also explain some of the difference in adjusted costs between freestanding and hospital-based facilities. Almost three-quarters of IRFs with more than 60 beds are freestanding, while 99 percent of IRFs with 1 to 10 beds are hospital based.

We stratified IRFs into quartiles of standardized costs to compare the characteristics of facilities in the bottom, middle two, and top quartiles (Table 9-12, p. 222). In 2009, the mix of hospital-based and freestanding IRFs changed across quartiles, with the bottom quartile (i.e., lowest standardized costs) having the highest percentage of freestanding IRFs and the middle two and top quartiles consisting of nearly all hospital-based facilities. The inverse relationship between costs and number of beds is also apparent in the quartile data. In the bottom cost quartile, the median number of beds was 37 compared with the top cost quartile's median of 18 beds. Occupancy rates also decreased with the higher cost quartiles, with the average occupancy rate for IRFs in the bottom cost quartile at almost 70 percent and the rate in the top quartile at 50 percent. Case mix does not vary much across quartiles, suggesting that it is not case mix but number of beds and occupancy rates that are more indicative of lower costs per discharge. The median Medicare margins reflect the differences in adjusted costs. The median margin for IRFs in the bottom quartile of standardized costs was 23 percent compared with –24.3 percent for IRFs in the top quartile. IRFs in the middle two quartiles had median margins of almost 1 percent.

TABLE 9–11

Mean adjusted costs per discharge are lower for freestanding IRFs and larger facilities, 2009

Type of IRF	Mean adjusted cost per discharge
All IRFs	$14,791
Hospital based	15,406
Freestanding	12,211
Urban	14,345
Rural	17,015
Beds	
1–10	17,592
11–21	15,543
22–59	14,211
60+	12,232

Note: IRF (inpatient rehabilitation facility). Cost per discharge is standardized for the wage index, case mix, and outliers.

Source: MedPAC analysis of 2009 standard analytical file and Medicare cost report data from CMS.

In each sector, the Commission works to identify efficient providers based on a combination of lower cost and higher quality. Although we cannot identify efficient IRF providers without risk-adjusted quality measures, we can note that economies of scale are a characteristic of lower cost IRF providers. While smaller IRFs may manage costs to the best of their abilities, larger facilities with higher occupancy rates benefit from being able to spread their fixed costs across a larger volume.

IRF Medicare margins declined in 2009 but remain healthy

IRF Medicare margins on average remained substantially positive in 2009. During the first two years of the IRF PPS, margins rose rapidly, reaching 17.7 percent in 2003 with all IRF provider types experiencing solid gains (Table 9-13, p. 223). After this rapid buildup, margins have declined moderately each year but remained at a healthy

TABLE 9–12

Higher number of beds and occupancy rates are characteristics of IRFs in the bottom quartile of standardized costs, 2009

Characteristic	Low cost quartile	Middle two quartiles	High cost quartile
Number of IRFs	279	560	279
Hospital based	52.0%	88.6%	93.9%
Freestanding	48.0	11.4	6.1
Urban	93.9%	86.3%	66.7%
Rural	6.1	13.8	33.3
Median:			
Medicare margin	23.0%	0.8%	–24.3%
Number of beds	37	21	18
Occupancy rate	69%	62%	50%
Case-mix index	1.21	1.21	1.19

Note: IRF (inpatient rehabilitation facility). Costs per discharge are standardized for the wage index, case mix, and outliers.

Source: MedPAC analysis of 2009 standard analytical file and Medicare cost report data from CMS.

8.4 percent in 2009. The decline in margins over this period was mostly due to large drops in patient volume and fixed costs being spread over fewer patients. The drop in margins from 2007 to 2009, however, was due to a zero update to the base rates for half of 2008 and for all of 2009 that resulted in Medicare payment rates remaining at 2007 levels.

As in other Medicare sectors, margins vary substantially across providers. Freestanding and for-profit IRFs—which had the highest Medicare margins in 2004 (greater than 20 percent)—continued to exhibit the best financial performance. Although IRF payments were not updated in 2009, freestanding and for-profit IRFs were able to control cost growth and have margins of 20.1 percent and 19.1 percent, respectively. (Freestanding and for-profit IRFs are dominated by one provider chain that accounts for about 50 percent of freestanding and for-profit revenues and 20 percent of revenues for the industry.) In comparison, hospital-based and nonprofit IRFs had lower margins, at 0.5 percent and 2.3 percent, respectively. Because rural facilities receive an 18.4 percent adjustment factor added to their payments, margins in 2009 were close for urban and rural facilities—8.5 percent and 6.6 percent, respectively.

The difference between the 20.1 percent margins for freestanding facilities and the 0.5 percent margins for hospital-based units in 2009 is likely due to volume and the ability to constrain cost growth. Hospital-based units in general have lower occupancy rates than freestanding facilities and also tend to be smaller facilities—almost half of hospital-based IRFs (46 percent) are facilities with 11 to 21 beds, whereas 50 percent of freestanding IRFs are facilities with 60 beds or more. In addition, hospital-based IRFs' cost per case adjusted for case mix and wage index grew by close to 2 percent between 2008 and 2009, while freestanding IRFs were able to decrease adjusted cost per case by 4 percent over the same period.

Our analysis of cost report data from CMS indicates that total margins (all payers) for freestanding IRFs also are healthy and have been since 2002. Total margins peaked in 2002 at 12.3 percent and remained in double digits through 2005. In 2006, total margins dropped to 9.2 percent and dipped again to 7.2 percent in 2008. Total margins for freestanding facilities increased to 7.6 percent in 2009. It should be noted that the total margins reflect the margins for IRF services and for other service lines that freestanding IRF companies may also have.[8] For example, in 2009, about 23 percent of freestanding IRF companies also had an outpatient unit, close to 12 percent

TABLE 9–13

IRFs' Medicare margins vary by type and remain healthy overall

	TEFRA	PPS						
Type of IRF	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
All IRFs	1.5%	10.9%	17.7%	16.6%	13.3%	12.4%	11.9%	9.6%	8.4%
Urban	1.5	11.3	18.2	16.9	13.5	12.6	12.0	9.8	8.5
Rural	1.1	5.9	12.5	13.9	12.0	10.6	10.2	7.9	6.6
Freestanding	1.5	18.5	22.9	24.7	20.7	17.4	18.5	18.2	20.1
Hospital based	1.5	6.1	14.7	12.1	9.3	9.7	8.1	4.4	0.5
Nonprofit	1.6	6.5	14.5	12.6	10.2	10.6	9.6	5.6	2.3
For profit	1.2	18.7	23.9	24.6	19.8	16.3	16.9	17.0	19.1
Government	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beds									
1–10	0.0	1.6	3.7	3.4	–2.5	–3.6	–2.6	–4.1	–10.7
11–21	0.9	3.3	11.2	9.6	6.0	7.0	5.3	0.9	–2.4
22–59	1.6	10.1	17.8	16.0	13.3	12.3	11.2	8.7	6.3
60+	1.7	16.4	22.2	22.5	19.0	17.5	18.0	17.2	18.3

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

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

also operated a SNF, almost 13 percent also offered home health services, and almost 1 percent also offered hospice.

Medicare margins for 2011

To project the aggregate Medicare margin for 2011, we model the policy changes that went into effect in 2010 and 2011. These policies include:

- increasing payment rates by 2.25 percent for FY 2010, the net result of a 2.5 percent market basket update and a 0.25 percent market basket reduction per PPACA (see text box, p. 225); and
- increasing payment rates for FY 2011 by 2.16 percent, the net result of a 2.5 percent market basket update, a 0.25 percent market basket reduction per PPACA, and an estimated 0.09 percent payment decrease due to decreasing outlier payments.[9]

In recent years, the policy that we anticipated to have the most significant impact on projected margins was the phase-in of the compliance threshold. However, with the threshold now permanently capped at 60 percent, we believe IRFs will no longer need to reduce admissions to remain compliant. Occupancy rates for IRFs started to increase in 2008 to 62.2 percent and continued to increase in 2009 to 62.8 percent. Total patient volume also increased from 356,000 cases in 2008 to 361,000 cases in 2009. Taking account of the recent legislation and other IRF policy changes, we project that aggregate Medicare margins in 2011 will remain close to 2009 margins, declining slightly from 8.4 percent in 2009 to about 8.1 percent in 2011. The projected slight decrease in the margin is largely the result of the PPACA provisions that reduce the market basket update for 2010 and 2011 by 0.25 percent. The margin projection for 2011 assumes that costs will increase by the market basket and does not assume increased cost control efforts by IRFs in response to the market basket reductions or the economy. To the extent that IRFs restrain their cost growth in response to economic pressures, the projected 2011 margin could be higher than we have estimated.

How should Medicare payments change in 2012?

In summary, our indicators of Medicare payment adequacy for IRFs are positive. Supply and capacity are stable and adequate to meet demand. With the compliance threshold permanently set at 60 percent, the decline in volume since 2004 tapered off and volume remained stable in 2009. We have seen an increase in functional gain, which suggests improved quality; however, we cannot draw a definite conclusion without risk adjustment. Access to credit appears adequate for hospital-based and freestanding IRFs. Finally, we project that the 2011 aggregate Medicare margin will be approximately 8.1 percent, down slightly from the 8.4 percent margin in 2009. On the basis of our assessment of the indicators of payment adequacy, we conclude that IRFs should be able to accommodate cost changes in fiscal year 2012 with payments held at 2011 levels.

RECOMMENDATION 9

The Congress should eliminate the update to the payment rates for inpatient rehabilitation facilities in fiscal year 2012.

RATIONALE 9

Our indicators of Medicare payment adequacy are positive. Capacity remains adequate to meet demand. Although IRFs' efforts to meet the compliance threshold since 2004 had a significant impact on IRF volume, this decline was consistent with the underlying reason for the compliance threshold—to direct the most clinically appropriate types of cases to this intensive, costly setting. With the compliance threshold permanently set at 60 percent, the decline in Medicare FFS IRF use tapered off in 2009. Our projected 2011 aggregate Medicare margin is about 8.1 percent, down slightly from an estimated 8.4 percent in 2009. To the extent that IRFs restrain their cost growth in response to fiscal pressure from PPACA's market basket reductions and productivity adjustment or the economic downturn, the projected 2011 margin could be higher than we have estimated. On the basis of these analyses, we believe that IRFs could absorb cost increases and continue to provide care to clinically appropriate Medicare cases with no update to payments in 2012. We will closely monitor our payment update indicators and will be able to reassess our recommendation for the IRF payment update in the next fiscal year.

IMPLICATIONS 9

Spending

- The payment update for IRFs in FY 2012 consists of a forecasted 2.7 percent market basket update for rehabilitation, psychiatric, and long-term care hospitals; a forecasted 1.3 percent productivity adjustment off the market basket update; and a 0.1 percent market basket reduction per PPACA.[10] This recommendation would decrease federal program spending relative to current law by between $50 million and $250 million in 2012 and by less than $1 billion over five years.

Beneficiary and provider

- We do not expect this recommendation to have adverse impacts on Medicare beneficiaries with respect to access to care or out-of-pocket spending. This recommendation may increase the financial pressure on some providers, but overall a minimal effect on providers' willingness and ability to care for Medicare beneficiaries is expected. ■

Inpatient rehabilitation facility provisions in the Patient Protection and Affordable Care Act of 2010

The Patient Protection and Affordable Care Act of 2010 included a number of provisions specific to inpatient rehabilitation facilities (IRFs), including:

- ***Quality reporting***. IRFs are required to submit data on quality measures and CMS is currently proposing to start collecting the data in fiscal year 2013. Facilities that do not submit the quality measure data will receive a 2 percentage point penalty off their payment update. By fiscal year 2013, the Secretary of Health and Human Services must publish the quality measures that IRFs will be required to submit. The quality measures must be endorsed by a consensus organization such as the National Quality Forum; however, the Secretary can select unendorsed measures as long as "due consideration" was given to endorsed measures.
- ***Productivity adjustment.*** IRFs' payment updates will be reduced by a productivity adjustment starting in fiscal year 2012. The productivity adjustment can result in a negative payment update.
- ***Market basket reductions.*** IRFs will receive market basket reductions from fiscal years 2010 through 2019. The market basket reductions are as follows: 0.25 percentage point for fiscal years 2010 and 2011; 0.1 percentage point for fiscal years 2012 and 2013; 0.3 percentage point for fiscal year 2014; 0.2 percentage point for fiscal years 2015 and 2016; and 0.75 percentage point for fiscal years 2017, 2018, and 2019.
- ***Bundling pilot and continuing care hospital pilot.*** During the pilot that tests bundled payments for post-acute care services, the Secretary must separately pilot the continuing care hospital model. A continuing care hospital is an entity that provides medical and rehabilitation services in IRFs, long-term acute care hospitals, and skilled nursing facilities located in a hospital. The bundle applies to the full stay in the continuing care hospital plus 30 days postdischarge. ■

Endnotes

1 The 13 conditions are stroke; spinal cord injury; congenital deformity; amputation; major multiple trauma; hip fracture; brain injury; neurological disorders (e.g., multiple sclerosis, Parkinson's disease); burns; three arthritis conditions for which appropriate, aggressive, and sustained outpatient therapy has failed; and hip or knee replacement when bilateral, body mass index ≥ 50, or age 85 or older. These conditions may count toward an IRF meeting the compliance threshold if they are being actively treated in conjunction with the condition that is the primary cause for admission. For more information on Medicare's IRF payment system, see the Commission's payment basics document at http://www.medpac.gov/documents/MedPAC_Payment_Basics_10_IRF.pdf.

2 This rule does not take the place of Medicare's general medical necessity requirements.

3 Requirements that must be met for a beneficiary's IRF admission to be considered reasonable and necessary are: (1) The patient requires therapy in at least two disciplines, one of which must be physical or occupational therapy. (2) The patient generally requires and can reasonably be expected to benefit from intensive rehabilitation therapy that most typically consists of three hours of therapy per day at least five days per week. (3) An IRF admission for the purpose of assessing whether a patient is appropriate for IRF care is no longer covered and therapy must begin within 36 hours from midnight of the day of admission. (4) The patient is sufficiently medically stable at the time of the IRF admission to be able to actively participate in intensive therapy. (5) The patient requires supervision by a rehabilitation physician. This requirement is satisfied by physician face-to-face visits with a patient at least three days a week. (6) The patient requires an interdisciplinary approach to care.

4 The proprietary data come from eRehabdata.com, which has data on a subset of IRFs that subscribe to their inpatient rehabilitation outcomes system. eRehabdata.com has developed a protocol to assess whether a case satisfies the compliance threshold.

5 Source: MedPAC analysis of the Inpatient Rehabilitation Facility–Patient Assessment Instrument.

6 Source: MedPAC analysis of 2004 to 2010 data from eRehabData®.

7 Scores for each of the 18 FIM items range from 1 (complete dependence) to 7 (independence). The scores on the 18 measures are summed to calculate a total score.

8 Total margins for hospital-based units also reflect the total margins for the entire hospital rather than for the IRF unit. For that reason, we do not present total margins for hospital-based units, as they do not reflect the total margin on IRF services.

9 In the fiscal year 2011 IRF final rule, CMS projected that actual outlier payments in fiscal year 2010 would be 3.1 percent of total payments. Consequently, CMS adjusted the outlier threshold for fiscal year 2011 to achieve the standard target of outlier payments equaling 3.0 percent of total payments for fiscal year 2011. This adjustment is projected to result in a 0.09 percent decrease in total IRF payments in 2011 relative to 2010.

10 This market basket forecast and productivity adjustment was made in the fourth quarter of 2010. CMS will use the most recent forecast available when setting updates, which may differ from the number we report here.

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