CHAPTER 9

Inpatient rehabilitation facility services

RECOMMENDATIONS

9-1 The Congress should eliminate the update to the Medicare payment rate for inpatient rehabilitation facilities in fiscal year 2017.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

9-2 The Secretary should conduct focused medical record review of inpatient rehabilitation facilities that have unusual patterns of case mix and coding.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

9-3 The Secretary should expand the inpatient rehabilitation facility outlier pool to redistribute payments more equitably across cases and providers.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

CHAPTER 9

Inpatient rehabilitation facility services

Chapter summary

Inpatient rehabilitation facilities (IRFs) provide intensive rehabilitation services to patients after an illness, injury, or surgery. Rehabilitation programs at IRFs are supervised by rehabilitation physicians and include services such as physical and occupational therapy, rehabilitation nursing, and speech–language pathology, as well as prosthetic and orthotic devices. In 2014, Medicare spent $7 billion on fee-for-service (FFS) IRF care provided in about 1,180 IRFs nationwide. About 339,000 beneficiaries had almost 376,000 IRF stays. On average, Medicare accounts for about 60 percent of IRFs' discharges.

Assessment of payment adequacy

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

Beneficiaries' access to care—Our analysis of IRF supply and volume of services provided suggests that capacity remains adequate to meet demand.

- ***Capacity and supply of providers***—Between 2013 and 2014, the number of IRFs nationwide grew 1.4 percent, reaching almost 1,180 providers. After declining for several years, the number of hospital-based IRFs and nonprofit IRFs grew slightly during this period, though the rate of growth continued to be outpaced by that of freestanding and for-profit IRFs. The average IRF occupancy rate was 64 percent in 2014. This rate has

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remained relatively unchanged for several years and indicates that capacity is more than adequate to handle current demand for IRF services.

- ***Volume of services***—Between 2013 and 2014, the number of Medicare FFS cases treated in IRFs grew by less than 1 percent to almost 376,000 cases total.

Quality of care—The Commission tracks three broad categories of IRF quality indicators: risk-adjusted facility-level change in motor and cognitive function during the IRF stay, rates of discharge to the community and skilled nursing facilities, and rates of readmission. Between 2013 and 2014, there were small improvements in two measures of functional change and in the rate of discharge to the community. The rates of readmission remained unchanged.

Providers' access to capital—The parent institutions of hospital-based IRFs continue to have good access to capital. The major freestanding IRF chain, which accounted for 41 percent of all freestanding IRFs in 2014 and about a quarter of IRF discharges, also has very good access to capital. We were not able to determine the ability of other freestanding facilities to raise capital.

Medicare payments and providers' costs—In 2014, the aggregate Medicare margin increased almost 1 percentage point to 12.5 percent. The aggregate margin has risen steadily since 2009. Financial performance continued to vary across IRFs, with margins of freestanding IRFs far exceeding those of hospital-based IRFs. Higher margins were largely driven by lower unit costs. The lower costs are due in part to greater economies of scale. But freestanding IRFs are also far more likely than hospital-based units to be for-profit facilities and therefore may be more focused on controlling costs. Further, there are notable differences in hospital-based and freestanding IRFs' mix of cases. Given the difference in financial performance across IRFs, we examined freestanding and hospital-based IRFs' marginal profit to assess whether both types of providers have a financial incentive to expand the number of Medicare beneficiaries they serve. We found that hospital-based IRFs' marginal profit—a measure of providers' financial incentive to expand the number of Medicare beneficiaries they serve—in 2014 was 19.0 percent, while freestanding IRFs' marginal profit was 40.6 percent.

We project that IRFs' aggregate Medicare margin will be 13.9 percent in 2016.

On the basis of these indicators, the Commission believes that IRFs can continue to provide Medicare beneficiaries with access to safe and effective care with no update to the payment rates in fiscal year 2017.

Case mix, coding, and profitability in IRFs

The Commission has found that the mix of case types in IRFs is correlated with profitability. We found that IRFs with the highest margins had a higher share of neurological cases and a lower share of stroke cases. Further, we observed differences in the types of stroke and neurological cases admitted to high- and low-margin IRFs. Stroke cases in the highest margin IRFs were more than two-and-a-half times more likely than those in the lowest margin IRFs to have no paralysis. Likewise, cases with neurological conditions in the highest margin IRFs were almost three times more likely than those in the lowest margin IRFs to have a neuromuscular disorder (such as amyotrophic lateral sclerosis or muscular dystrophy).

In addition, Commission analyses of acute care hospital claims for beneficiaries admitted to IRFs in 2013 found that patients cared for by high-margin IRFs, compared with those in low-margin IRFs, were less severely ill during the preceding acute care hospitalization but appeared to be more functionally disabled upon assessment in the IRF. Patients in high-margin IRFs had, on average, a lower case-mix index in the acute care hospital, as well as a lower level of severity of illness and a shorter length of stay; they also were less likely to have been high-cost outliers in the acute care hospital or to have spent four or more days in the hospital intensive care or coronary care unit. Once patients were admitted to and assessed by the IRF, however, the average patient profile changed, with patients treated in high-margin IRFs appearing to be more disabled than those in low-margin IRFs. This pattern persisted across case types (e.g., stroke).

Though differences in profitability across IRFs are driven in part by differences in underlying costs, the consistent finding that high-margin IRFs have patients who are, on average, less severely ill in the acute care hospital but appear more functionally disabled upon admission to the IRF suggests the possibility that assessment and coding practices may contribute to greater revenues in some IRFs. Providers may differ in their assessment of patients' motor and cognitive function, resulting in payments for some IRFs that are too high relative to the costs incurred in treating their patients. To ensure payment accuracy and help improve program integrity, analyses of IRF coding and reassessment of the inter-rater reliability of the IRF–Patient Assessment Instrument are necessary. Such analyses should start with focused medical record review and comparison of patients across providers, with particular focus on those IRFs that exhibit unusual patterns of case mix and coding. These focused medical reviews could help identify necessary reforms to the IRF payment system.

At the same time, the variation in the mix of case types by IRF profitability warrants further attention. The Commission has found that more costly cases, such as strokes, are disproportionately admitted by lower margin IRFs. Though the variation in margins across IRFs is due in part to differences in efficiency, we cannot rule out the possibility that high-cost cases are less profitable. In the near term, CMS should effect changes to reduce potential misalignments between IRF payments and costs by redistributing payments within the IRF prospective payment system through an expanded high-cost outlier pool. Expanding the outlier pool would increase outlier payments for the most costly cases, thereby ameliorating the financial burden for IRFs that have a relatively high share of these cases. To maintain budget neutrality, the expanded outlier pool should be funded by reducing the base payment amount for all IRF cases. We recognize that, by increasing payments for the most costly cases, Medicare may increase payments for providers who are less efficient as well as for providers who care for patients whose acuity is not well captured by the case-mix system. While this outcome is not desirable, the Commission's concern about the accuracy of Medicare's payments for resource-intensive cases warrants this approach in the near term. Over the longer term, research is needed to assess variation in costs within the IRF case-mix groups and differences in relative profitability across case-mix groups. Identifying and reducing variation within case-mix groups and properly calibrating payments with costs for each group is necessary to avoid overpayments and reduce incentives for providers to admit certain types of cases and avoid others. In the future, CMS may enact payment system reforms that warrant reassessment of IRF outlier payments and adjustments to the outlier policy, including a return to a smaller outlier pool. Ultimately, rebasing IRF payments may be necessary to prevent overpayments and help protect the long-run sustainability of the Medicare program. ■

Background

After illness, injury, or surgery, some patients need intensive, inpatient rehabilitative care, such as physical, occupational, or speech therapy. Such services are sometimes provided in inpatient rehabilitation facilities (IRFs).[1] To qualify as an IRF, a facility must meet Medicare's conditions of participation for acute care hospitals and must be primarily focused on treating conditions that typically require intensive rehabilitation, among other requirements. IRFs can be freestanding facilities or specialized units within acute care hospitals. To qualify for a covered IRF stay, a beneficiary must be able to tolerate and benefit from intensive therapy and must have a condition that requires frequent and face-to-face supervision by a rehabilitation physician. Other patient admission criteria also apply. In 2014, Medicare spent $7.0 billion on IRF care provided in about 1,180 IRFs nationwide. About 339,000 beneficiaries had more than 375,000 IRF stays. On average, Medicare accounts for about 60 percent of IRFs' discharges.

Since January 2002, Medicare has paid IRFs under a per discharge prospective payment system (PPS).[2] Under the IRF PPS, Medicare patients are assigned to case-mix groups (CMGs) based on the patient's primary reason for inpatient rehabilitation, age, and level of motor and cognitive function. Within each of these CMGs, patients are further categorized into one of four tiers based on the presence of specific comorbidities that have been found to increase the cost of care. Each CMG tier has a designated weight that reflects the average relative costliness of cases in the group compared with that of the average Medicare IRF case.[3] The CMG weight is multiplied by a base payment rate and then adjusted to reflect geographic differences in the wages IRFs pay. The payment is further adjusted based on the IRF's share of low-income patients. Additional adjustments are made for IRFs that are teaching facilities and for IRFs located in rural areas. The IRF PPS has outlier payments for patients who are extraordinarily costly.

Medicare facility requirements for IRFs

To qualify as an IRF for Medicare payment, facilities must meet the Medicare IRF classification criteria. The first criterion is that providers must 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 provide—through qualified personnel—rehabilitation, nursing, physical therapy, and occupational therapy and, as needed, speech–language pathology and psychological (including neuropsychological) services, social services, and orthotic and prosthetic devices;
- have a medical director of rehabilitation with training or experience in rehabilitation who provides services in the facility on a full-time basis for freestanding IRFs or at least 20 hours per week for hospital-based IRF 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 the patient's treatment; and
- meet the compliance threshold, which requires that no less than 60 percent of all patients admitted to an IRF have as a primary diagnosis or comorbidity at least 1 of 13 conditions specified by CMS (see text box on the IRF compliance threshold, pp. 242–243).

Medicare coverage criteria for beneficiaries

Medicare applies additional criteria that govern whether IRF services are covered for an individual Medicare beneficiary. In 2010, CMS clarified coverage criteria regarding which patients are appropriate to be treated in an IRF, when therapy must begin, and how and when beneficiaries are evaluated. For an IRF claim to be considered reasonable and necessary, the patient must be reasonably expected to meet the following requirements at admission:

- The patient requires active and ongoing therapy in at least two modalities, one of which must be physical or occupational therapy.
- The patient can actively participate in and benefit from intensive therapy that most typically consists of three hours of therapy a day at least five days a week.

The IRF compliance threshold ("60 percent rule")

The inpatient rehabilitation facility (IRF) compliance threshold requires that no less than 60 percent of all patients (Medicare and other) admitted to an IRF have as a primary diagnosis or comorbidity at least 1 of 13 conditions specified by CMS.[4] The intent of the compliance threshold is to distinguish IRFs from acute care hospitals. If an IRF does not meet the compliance threshold, Medicare pays for all its cases on the basis of the inpatient hospital prospective payment system rather than the IRF prospective payment system (PPS).

Compliance is determined annually at the beginning of each facility's cost reporting period. Determining compliance can be complex. A case is first evaluated for compliance based on the impairment group code (IGC), which describes the primary reason for inpatient rehabilitation.[5] (IGCs are also used to assign cases to case-mix groups for payment purposes.) If compliance cannot be determined based on the IGC, the case is evaluated for compliance based on the patient's International Classification of Diseases, Tenth Revision, Clinical Modification (ICD–10–CM) diagnosis codes. Compliance is evaluated by Medicare's administrative contractors either through review of a random sample of medical records or, more commonly, through the less resource-intensive "presumptive" method, developed by CMS. The presumptive method uses a computer program to compare a facility's Inpatient Rehabilitation Facility–Patient Assessment Instrument (IRF–PAI) assessments for all Medicare patients (fee-for-service and Medicare Advantage) for the year with a list of eligible codes. The diagnosis codes included on the list are ones that CMS believes demonstrate either that the patient meets criteria for the medical conditions that may be counted toward an IRF's compliance percentage or that the patient has a comorbidity that could cause significant decline in function such that the patient would require intensive rehabilitation (Centers for Medicare & Medicaid Services 2014). The presumptive method was designed to approximate medical record review; however, in practice, the method generally overestimates an IRF's compliance percentage.

The compliance threshold was originally set at 75 percent of an IRF's cases. But analysis of proprietary data from eRehabData® for a sample of IRFs suggests that, before implementation of the IRF PPS, many facilities fell short of that threshold. Using medical record review, eRehabData estimated that, in 2002, the share of Medicare IRF cases with one of the specified conditions that count toward the compliance percentage was 42 percent. CMS suspended enforcement of the rule in 2002 because of inconsistent enforcement patterns among Medicare's administrative contractors, but it began consistently enforcing compliance in 2004 and enacted revisions to some of the qualifying conditions.[6] The combination of renewed enforcement of the threshold and additional restrictions resulted—as intended—in a substantial decline in the volume of Medicare patients treated in IRFs. As volume declined, occupancy rates, the number of IRF beds, and the number of facilities also fell. Average case-mix severity and cost per case increased as IRFs shifted their mix of cases to more complex conditions that counted toward the threshold. The compliance threshold was permanently capped at 60 percent in 2007 by the Medicare, Medicaid, and SCHIP Extension Act of 2007. Since then, the industry has stabilized.

Using the presumptive method, the Commission estimates that, overall, 75 percent of Medicare IRF cases were compliant in 2013 (Table 9-1). Among the most common conditions in IRFs, the share of compliant cases ranged from 100 percent of stroke cases to 21 percent of cases with cardiac conditions. In a similar analysis, eRehabData used the presumptive method to analyze IRF claims from a subset of IRFs and estimated that 71 percent of the Medicare cases in the sample counted toward the compliance threshold in 2013. But when the medical records associated with those claims were reviewed, eRehabData found that only 60.3 percent of the Medicare IRF cases in the sample could be counted toward the compliance threshold. Thus rates of compliance found under the presumptive method must be viewed in light of the method's overestimation of IRFs' compliance percentage.

Beginning in fiscal year 2016, CMS has removed a large number of ICD–10–CM codes from the list used

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The IRF compliance threshold ("60 percent rule") (cont.)

to qualify for presumptive compliance with the 60 percent rule because the codes alone do not provide sufficient information to indicate that the patient would reasonably require intensive inpatient rehabilitation (Centers for Medicare & Medicaid Services 2014). Examples include nonspecific or miscellaneous diagnosis codes and codes for arthritis conditions that would meet the compliance criteria only if severity and prior treatment criteria are met, which can be determined only through medical review. Using the presumptive method, the Commission applied the new compliance criteria to 2013 IRF–PAI records to estimate the effect on compliance rates, assuming no behavioral changes. Based on this analysis, we project that the share of Medicare cases that are compliant under the new rules will fall to 66 percent (from 75 percent), assuming no behavioral change (Table 9-1). Among the most common conditions in IRFs, cases admitted for rehabilitation following hip or knee replacement will be most affected; under the new rules, we estimate that the share of cases of lower extremity joint replacement that are compliant will fall from 83 percent to 33 percent. As for facility-level compliance percentages, we estimate that, without behavioral change, the average IRF presumptive compliance percentage for Medicare cases will fall to 69 percent (from 77 percent), and almost one-quarter of IRFs will see their presumptive compliance percentages drop below 60 percent (data not shown).

The Commission has supported CMS's effort to tighten the requirements for compliance to ensure that IRF payments are made only to providers that furnish IRF-level services to beneficiaries who need and can tolerate that level of care. We encourage the agency to explore further refinements to the 60 percent rule. ■

TABLE 9–1

Absent behavioral change, the share of IRF cases that count toward the compliance threshold will decline in 2016

Condition	Share of Medicare cases in 2013	Share of cases that count toward presumptive compliance	
		2013	2016*
Stroke	21%	100%	100%
Neurological conditions	12	91	86
Fracture of the lower extremity	12	88	86
Debility	10	28	14
Major joint replacement of the lower extremity	9	83	33
Brain injury	8	99	99
Other orthopedic conditions	7	29	14
Cardiac conditions	5	21	10
Spinal cord injury	5	88	88
All other	10	61	52
Total	100	75	66

Note: IRF (inpatient rehabilitation facility). Medicare cases include cases paid for under both fee-for-service Medicare and Medicare Advantage in calendar year 2013. "Neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Other orthopedic conditions" excludes fractures of the hip, pelvis, and femur, and hip and knee replacements. "All other" includes conditions such as amputations, arthritis, and pain syndrome. The compliance threshold requires that at least 60 percent of all of an IRF's patients have 1 of 13 specified diagnoses or have a comorbidity that could cause significant decline in functional ability such that the patient requires intensive rehabilitation. Case compliance was determined using CMS's presumptive method, which does not require medical record review. The presumptive method generally overestimates the share of cases that are compliant. Case compliance for 2016 was simulated using CMS's new compliance criteria applied to IRF assessment data from 2013, assuming no behavioral change.
*Simulated

Source: Analysis of Inpatient Rehabilitation Facility–Patient Assessment Instruments from CMS.

TABLE 9–2

The number and share of IRF cases with neurological conditions continues to grow

Condition	Percent of IRF Medicare FFS cases				Meets compliance threshold	Percentage point change		
	2004	2009	2013	2014		2004–2009	2009–2013	2013–2014
Stroke	16.6%	20.5%	19.4%	19.5%	yes	3.9	–1.1	0.1
Neurological conditions	5.2	9.0	12.4	13.1	yes	3.8	3.4	0.7
Fracture of the lower extremity	13.1	15.1	12.5	12.2	yes	2.0	–2.6	–0.3
Debility	6.2	9.3	10.2	10.3	no	3.1	0.9	0.0
Brain injury	3.9	7.3	8.2	8.7	yes	3.4	0.8	0.5
Major joint replacement of the lower extremity	24.1	11.7	9.0	7.8	*	–12.4	–2.7	–1.2
Other orthopedic conditions	5.2	6.4	7.7	7.7	no	1.3	1.3	0.0
Cardiac conditions	5.3	4.9	5.4	5.6	no	–0.3	0.4	0.2
Spinal cord injury	4.2	4.4	4.6	4.6	yes	0.2	0.2	0.0
All other	16.3	11.3	10.6	10.6	**	–5.0	–0.7	0.0

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). "Neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Other orthopedic conditions" excludes fractures of the hip, pelvis, and femur, and hip and knee replacements. "All other" includes conditions such as amputations, arthritis, and pain syndrome. The compliance threshold requires that at least 60 percent of all patients have 1 of 13 specified diagnoses or have a comorbidity that could cause significant decline in functional ability such that the patient requires intensive rehabilitation.
*Cases admitted for rehabilitation following major joint replacement of the lower extremity count toward the compliance threshold if joint replacement was bilateral, if the patient had a body mass index of 50 or greater, or if the patient was age 85 or older.
**Case types in the "all other" category that meet the compliance threshold include congenital deformity, amputation, major multiple trauma, burns, and certain arthritis cases.

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

- The patient is sufficiently stable at the time of admission to actively participate in the intensive rehabilitation program.
- 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.

Patterns of use in IRFs

Beginning in 2004, after CMS's renewed enforcement of the compliance threshold and restrictions on some of the qualifying conditions, the total number of IRF cases fell and the mix of cases treated by IRFs shifted markedly. IRFs began to admit a higher share of patients with diagnoses that met the revised compliance threshold, such as stroke, brain injury, and neurological conditions. The growth in neurological cases—including multiple sclerosis, Parkinson's disease, neuromuscular disorders, and polyneuropathy—has been particularly striking. Between 2004 and 2014, the number of IRF cases with neurological conditions grew 93 percent, even as the total number of Medicare IRF cases declined 23 percent. The number of cases with brain injuries (traumatic and nontraumatic combined) rose 69 percent over the same period. (Notably, the number of cases with other orthopedic conditions and debility also rose, though neither is among the 13 conditions that count toward the compliance threshold.[7]) As a result, in 2014, neurological conditions made up 13.1 percent of all IRF cases, compared with 5.2 percent in 2004; brain injuries made up 8.7 percent of all IRF cases, up from 3.9 percent in 2004 (Table 9-2). The most common case type in IRFs in 2014 was stroke, accounting for 19.5 percent of Medicare cases.

The distribution of case types differs by type of IRF (Table 9-3). For example, in 2014, only 15 percent of cases in freestanding for-profit IRFs were admitted for rehabilitation following a stroke, compared with 24 percent of cases in hospital-based nonprofit IRFs. Further, the types of stroke differ. In 2014, almost a quarter of the stroke cases admitted to freestanding for-profit IRFs had no paralysis, compared with 8 percent of stroke cases in hospital-based IRFs (regardless of ownership) (data not shown). Likewise, 20 percent of cases admitted

TABLE 9–3

IRF patient mix differs by provider type, selected conditions, 2014

		Freestanding		Hospital based	
Condition	**All IRFs**	**For profit**	**Nonprofit**	**For profit**	**Nonprofit**
Stroke	19%	15%	23%	19%	24%
Neurological conditions	13	20	7	10	8
Fracture of the lower extremity	12	11	11	16	13

Note: IRF (inpatient rehabilitation facility). "Neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures.

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

to freestanding for-profit IRFs were admitted with neurological conditions, more than double the share in nonprofit IRFs and in hospital-based IRFs (regardless of ownership), with the types of neurological conditions differing markedly. Almost 70 percent of the neurological cases admitted to freestanding for-profit IRFs had neuromuscular disorders, compared with 35 percent of neurological cases in hospital-based nonprofit IRFs (data not shown).

Are Medicare payments adequate in 2016?

To assess whether payments for fiscal year 2016 are adequate to cover the costs providers incur and how much providers' costs are expected to change in the coming year (2017), we examine several indicators of payment adequacy. Specifically, we assess beneficiaries' access to care by examining the capacity and supply of IRFs and changes over time in the volume of services provided, quality of care, providers' access to capital, and the relationship between Medicare payments and providers' costs.

Beneficiaries' access to care: IRF supply and service volume suggest sufficient access

We have no direct indicator of beneficiaries' access to IRF care. Although there are criteria for admission to an IRF, it is not clear when IRF care is necessary or beneficial for a given patient or when another, lower cost post-acute care provider (such as a skilled nursing facility) could provide appropriate care. The absence of IRFs in some areas of the country makes it particularly difficult to assess the need for IRF care since beneficiaries in areas without IRFs presumably receive similar services in other settings. Nevertheless, our analysis of IRF supply and volume of services provided suggests that capacity remains adequate to meet demand.

Number of IRFs and occupancy rates suggest adequate capacity and supply

After declining for several years, the number of IRFs grew 1.4 percent between 2013 and 2014, reaching 1,177 IRFs nationwide (Table 9-4, p. 246); each state and the District of Columbia had at least 1 IRF. In general, IRFs are concentrated in highly populated states that have large Medicare populations. More than two-thirds of beneficiaries live in a county that has at least one IRF. 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 (though not all provide inpatient care). Given the number and distribution of these other rehabilitation therapy providers, it is unlikely that many areas exist where IRFs are the only provider of rehabilitation therapy services available to Medicare beneficiaries.

In 2014, about 79 percent of IRFs were distinct units in acute care hospitals; the remaining 21 percent were freestanding facilities. However, because hospital-based units tend to have fewer beds, they accounted for only 52 percent of Medicare discharges from IRFs. Overall, 29 percent of IRFs were for-profit entities. Freestanding IRFs were far more likely to be for-profit than hospital-based IRFs (69 percent vs. 18 percent, respectively). About 50

TABLE 9–4

The number of for-profit and freestanding IRFs continues to grow

Type of IRF	Share of Medicare FFS discharges	2004	2006	2008	2010	2012	2013	2014	Average annual change 2004–2006	Average annual change 2006–2013	Average annual change 2013–2014
All IRFs	100%	1,221	1,225	1,202	1,179	1,166	1,161	1,177	0.2%	–0.9%	1.4%
Urban	93	1,024	1,018	1,001	981	973	977	1,013	–0.3	–0.7	3.7
Rural	7	197	207	201	198	193	184	164	2.5	–1.9	–10.9
Freestanding	48	217	217	221	233	239	243	251	0.0	1.9	3.3
Hospital based	52	1,004	1,008	981	946	927	918	926	0.2	–1.5	0.9
Nonprofit	43	768	758	738	729	698	677	681	–0.7	–1.9	0.6
For profit	50	292	299	291	294	307	322	338	1.2	1.2	5.0
Government	7	161	168	173	156	157	155	149	2.2	–1.3	–3.9

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). The number of facilities are for the calendar year. The large decline in the number of rural IRFs between 2013 and 2014 is due primarily to changes in the core-based statistical areas (CBSAs), as defined by the Office of Management and Budget, which determine whether geographic areas are considered urban or rural. Because of these changes, 19 IRFs that were previously considered rural are now designated urban. Controlling for these changes, the number of rural IRFs declined by 2 percent.

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

percent of Medicare IRF discharges in 2014 were from for-profit facilities. Over time, the number of hospital-based and nonprofit IRFs has declined, while the number of freestanding and for-profit IRFs has increased. Between 2004 and 2014, the number of hospital-based IRFs fell by 8 percent, while the number of freestanding IRFs rose by 16 percent.

Between 2013 and 2014, the number of rural IRFs fell by 11 percent. However, the drop was due primarily to changes in the core-based statistical areas (CBSAs), as defined by the Office of Management and Budget, which determine whether geographic areas are considered urban or rural (Centers for Medicare & Medicaid Services 2015). Because of these changes, 19 IRFs that were previously considered rural were designated urban in 2014. At the same time, two IRFs that previously were considered urban were designated rural. Seven rural IRFs closed in 2014, while five new IRFs opened in rural areas. Without the changes in the CBSA definitions, the number of rural IRFs between 2013 and 2014 fell 2 percent.

In 2014, 19 IRFs closed; most were hospital-based units. At the same time, 35 new IRFs opened, three-quarters of which were hospital-based units. Acute care hospitals may find that IRF units help reduce inpatient lengths of stay. Previous Commission analyses have found that hospitals with IRF units have higher inpatient Medicare margins than hospitals without such units (Medicare Payment Advisory Commission 2015).

In 2014, the average IRF occupancy rate was 64 percent. This rate has remained relatively unchanged for several years and indicates that capacity is more than adequate to meet demand for IRF services. Because average occupancy rates were higher in larger IRFs, freestanding IRFs and IRFs in urban areas had somewhat higher average occupancy rates than did their hospital-based and rural counterparts (which tend to have fewer beds).

IRF volume holding steady

The number of Medicare fee-for-service (FFS) IRF cases grew rapidly throughout the 1990s and the early years of the IRF PPS, reaching a peak of about 495,000 in 2004 (Table 9-5). After CMS renewed its enforcement of the compliance threshold in 2004, IRF volume declined substantially, falling almost 8 percent per year from 2004 to 2008. At that point, volume began to increase slowly. Between 2013 and 2014, volume grew by less than 1 percent to 376,000 cases.

TABLE 9–5 **The number of IRF cases per FFS beneficiary is holding steady**

	2004	2006	2008	2010	2012	2013	2014	Average annual change 2004–2008	Average annual change 2008–2013	Average annual change 2013–2014
Number of cases	495,349	404,633	356,312	359,307	373,284	373,118	375,590	–7.9 %	0.9%	0.7%
Cases per 10,000 FFS beneficiaries	135.6	111.9	100.4	99.7	100.1	99.7	99.9	–7.2	–0.1	0.2
Payment per case	$13,290	$15,380	$16,646	$17,085	$17,995	$18,258	$18,632	5.8	1.9	2.0
ALOS (in days)	12.7	13.0	13.3	13.1	12.9	12.9	12.8	1.3	–0.7	–0.4
Users	449,362	369,269	323,897	325,506	339,087	337,704	338,887	–7.9	0.8	0.4

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service), ALOS (average length of stay).

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

From 2008 to 2014, the number of IRF cases per 10,000 FFS beneficiaries held steady at around 100. Relatively few Medicare beneficiaries use IRF services because, to qualify for Medicare coverage, IRF patients must be able both to tolerate and benefit from intensive rehabilitation therapy, which is typically interpreted to mean at least three hours of therapy a day for at least five days a week. Still, compared with all Medicare beneficiaries, those admitted to IRFs in 2014 were disproportionately over age 85. Almost a quarter of IRFs' Medicare cases were for beneficiaries age 85 or older. The use rate of IRFs among Medicare's FFS population continues to be more than twice that of the Medicare Advantage population (see text box, pp. 248–249).

Quality of care: Little change between 2013 and 2014

The Commission tracks three broad categories of IRF quality indicators: risk-adjusted facility-level change in functional and cognitive status during the IRF stay, rates of discharge to the community and to SNFs, and rates of readmission. Between 2013 and 2014, the rates of readmission remained unchanged. There were slight improvements in the rate of discharge to the community and in two measures of functional change.

Risk-adjusted rates of potentially avoidable rehospitalization, discharge to community, and discharge to SNF

Avoidable rehospitalizations expose beneficiaries to hospital-acquired infections and increase the number of transitions between settings, which are disruptive to patients and can result in medical errors (such as medication errors). In addition, they unnecessarily increase spending for the Medicare program. There has been relatively little research on rehospitalization of IRF patients in aggregate, though some studies have focused on one or more rehabilitation impairment categories (Dejong et al. 2009, Galloway et al. 2013, Ottenbacher et al. 2014, Schneider et al. 2013, Schneider et al. 2012). However, research regarding rehospitalization of SNF and nursing home patients has identified several contributing factors that may be within a post-acute care facility's control. These factors include staffing level, skill mix, and frequency of staff turnover; drug management; and adherence to transitional care protocols, such as discharge counseling, medication reconciliation, patient education regarding self-care, and communication among providers, staff, and patient's family (Grabowski et al. 2008, Kane et al. 2003, Konetzka et al. 2008a, Konetzka et al. 2008b, Lau et al. 2005, Mustard and Mayer 1997).

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

Patients who reside in areas with inpatient rehabilitation facilities (IRFs) typically have alternatives for rehabilitation care, including skilled nursing facilities and home health agencies. Alternative post-acute care settings are generally less costly but typically offer less intensive rehabilitation and medical services. For many patients, any number of settings could provide appropriate care for their conditions. Because Medicare Advantage (MA) plans have incentives to manage care for beneficiaries in a cost-efficient manner, we examined how the population characteristics and use rates of the higher cost IRF services in the MA population compared with use in the fee-for-service (FFS) population.

Medicare requires IRFs to submit patient assessment data for both FFS and MA patients. We examined 2014 data from the IRF–Patient Assessment Instrument and found that the use rate of IRFs among the FFS population in 2014 was more than double the rate of MA patients (Table 9-6). On average, MA enrollees who used IRFs were slightly younger than FFS IRF users (73.7 years of age vs. 75.3 years, respectively) and had similar functional status at admission, as measured by average Functional Independence Measure™ motor and cognitive scores. MA enrollees who used IRFs were more likely than FFS beneficiaries to be admitted to hospital-based IRFs (61 percent vs. 52 percent, respectively).

On average, as measured by the IRF case-mix weight, MA IRF patients were more complex than their FFS counterparts, and their average length of stay was a day longer. At the same time, MA IRF patients were slightly more likely to be discharged home and less likely to be discharged to a SNF.

(continued next page)

TABLE 9–6 **FFS beneficiaries have higher IRF use rate, lower severity than MA enrollees, 2014**

	FFS patients	MA patients
Cases per 1,000 beneficiaries	10.2	3.7
Share:		
Admitted to hospital-based IRF	52.0%	61.0%
Admitted from acute unit of same facility	37.8	42.3
Case-mix weight	1.32	1.40
Average:		
LOS (in days)	12.8	13.8
Age	75.3	73.7
FIM™ motor score at admission	28.9	28.5
FIM™ cognitive score at admission	22.3	21.9
Share:		
Discharged home	72.6%	74.5%
Discharged home with home health	49.8	49.6
Discharged to SNF	12.5	9.5

Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility), MA (Medicare Advantage), LOS (length of stay), FIM™ (Functional Independence Measure™), SNF (skilled nursing facility). The motor FIM measures the level of disability in motor functioning at IRF admission on a 91-point scale. The cognitive FIM measures the level of cognitive impairment at IRF admission on a 35-point scale. Higher FIM scores indicate higher levels of function. Discharge destinations do not total 100 percent because patients in the "discharged home" category also appear in the "discharged home with home health" category. Some discharge destinations are not shown.

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

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

The mix of case types among MA IRF cases was different from that among FFS IRF cases (Table 9-7). A much larger share of MA IRF patients were admitted for rehabilitation after a stroke—35 percent versus 19 percent for FFS IRF patients. FFS IRF patients were more likely than MA patients to be admitted for rehabilitation for neurological conditions (13 percent vs. 9 percent, respectively), fractures of the lower extremity (12 percent vs. 9 percent, respectively) and debility (10 percent vs. 6 percent, respectively).

The disparity in use rates suggests that MA plans are more selective in the types of cases they authorize to receive care in IRFs, with more complex rehabilitation cases such as strokes and spinal cord injuries being more likely to use IRFs. However, a few caveats must be noted. First, this analysis did not control for the availability of IRFs in areas with high MA market penetration. In addition, the IRF use rate could be affected by potential differences in the need for rehabilitation services in the MA population. Finally, we cannot rule out the possibility that reporting bias affects our results. Though CMS requires IRFs to submit patient assessment data for MA patients, it is not known whether all IRFs do so for all their MA patients. ■

TABLE 9–7 **Mix of case types among FFS IRF cases differs from that of MA IRF cases, 2014**

	Share of all cases	
Type of case	**FFS patients**	**MA patients**
Stroke	19%	35%
Neurological conditions	13	9
Fracture of the lower extremity	12	9
Debility	10	6
Brain injury	9	10
Major joint replacement of the lower extremity	8	7
Other orthopedic	8	4
Cardiac conditions	6	4
Spinal cord injury	5	7
Amputation	3	4
All other	8	6

Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility), MA (Medicare Advantage). "Neurological conditions" includes multiple sclerosis, Parkinson's disease, neuromuscular disorders, and polyneuropathy. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Other orthopedic conditions" excludes fractures of the hip, pelvis, and femur, and hip and knee replacements. "All other" includes conditions such as arthritis and pain syndrome. Columns may not sum to 100 percent due to rounding.

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

The Commission's rates of rehospitalization during the IRF stay and during the 30 days after discharge are risk adjusted and reflect those readmissions that are potentially avoidable with adequate care in the IRF setting (Kramer et al. 2015).[8] The measure of readmission in the 30 days after discharge reflects how well facilities prepare beneficiaries and their caregivers for safe and appropriate transitions to the home or the next health care setting.

Between 2011 and 2013, the national average rate of risk-adjusted potentially avoidable readmissions during the IRF stay declined, from 2.9 percent to 2.5 percent (Table 9-8, p. 250). (Lower rates are better.) That rate remained unchanged in 2014. A similar pattern was observed in the rate of risk-adjusted potentially avoidable readmissions within 30 days after discharge from an IRF: the national average declined between 2011 and 2013 (from 5.0 percent to 4.5 percent) and remained unchanged in 2014.

TABLE 9–8

Improvements in risk-adjusted rates of discharge to the community and potentially avoidable rehospitalizations

Measure	2011	2012	2013	2014
Potentially avoidable rehospitalizations during IRF stay	2.9%	2.6%	2.5%	2.5%
Discharged to a SNF	6.9	6.7	6.8	6.9
Discharged to the community	73.9	75.1	75.7	76.1
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	5.0	4.6	4.5	4.5

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility). High rates of discharge to the community indicate better quality. High rates of rehospitalization and discharge to SNF indicate worse quality. Rates are the average of facility rates and calculated for all facilities with 25 or more stays.

Source: Analysis of Inpatient Rehabilitation Facility–Patient Assessment Instruments from CMS.

We also examined rates of discharge to the community and to SNFs. We found that between 2013 and 2014, the national average risk-adjusted community discharge rate increased slightly from 75.7 percent to 76.1 percent. (Higher rates are better.)[9] The national average risk-adjusted rate of discharge to SNFs was essentially unchanged.

Risk-adjusted gains in motor function and cognition

To qualify for coverage of IRF care, beneficiaries must require, be able to participate in, and benefit from intensive rehabilitation therapy. To observe the extent to which IRFs help improve the motor function and cognition of the beneficiaries they treat, we use a risk-adjusted measure of gains in these areas. Our measures reflect the extent to which patients' motor skills and cognition improved during the IRF stay, given their level of function at admission and how much improvement they would be expected to make. Some patients, such as a relatively healthy 68-year-old recovering from an elective hip replacement, are likely to improve across several activities of daily living during their IRF stay. Other patients, such as an 85-year-old suffering from debility following a prolonged acute care hospital stay, may be expected to make only modest improvements during the IRF stay.

Functional status at admission and discharge is measured using the motor and cognitive scores on the Inpatient Rehabilitation Facility–Patient Assessment Instrument (IRF–PAI). The IRF–PAI incorporates the 18-item Functional Independence Measure™ (FIM™) scale to assess the level of disability in motor and cognitive functioning and the burden of care for a patient's caregivers (Deutsch et al. 2005). Scores for each of the 18 FIM items can be summed to calculate a motor score (based on 13 FIM items) and a cognitive score (based on 5 FIM items). The motor score at discharge can range from 13 to 91, while the cognitive score can range from

TABLE 9–9

Mean risk-adjusted functional outcomes in IRFs rose between 2011 and 2014

	Risk-adjusted gain in function			
Measure	2011	2012	2013	2014
Motor FIM™ gain	22.2	22.7	23.1	23.5
Cognitive FIM™ gain	3.6	3.7	3.8	3.9

Note: IRF (inpatient rehabilitation facility), FIM™ (Functional Independence Measure™). The motor FIM measures the level of disability in motor functioning on a 91-point scale. The cognitive FIM measures the level of cognitive impairment on a 35-point scale. FIM gain is calculated as the FIM score at discharge minus the FIM score at admission. Mean FIM gain averages the change of all facilities with 25 or more stays.

Source: Analysis of Inpatient Rehabilitation Facility–Patient Assessment Instruments from CMS.

TABLE 9–10 **Performance on risk-adjusted quality measures varied across IRFs in 2014**

Measure	Risk-adjusted rate		
	Mean	25th percentile	75th percentile
Motor FIM™ gain	23.5	20.8	25.9
Cognitive FIM™ gain	3.9	3.0	4.7
Potentially avoidable rehospitalizations during IRF stay	2.5%	1.6%	3.3%
Discharged to a SNF	6.9	4.4	9.0
Discharged to the community	76.1	72.9	79.4
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	4.5	3.2	5.6

Note: IRF (inpatient rehabilitation facility), FIM™ (Functional Independence Measure™), SNF (skilled nursing facility). The motor FIM measures the level of disability in motor functioning on a 91-point scale. The cognitive FIM measures the level of cognitive impairment on a 35-point scale. FIM gain is calculated as the FIM score at discharge minus the FIM score at admission. Higher FIM gains indicate more improvement. High rates of discharge to the community indicate better quality. High rates of rehospitalization and discharge to SNF indicate worse quality. Mean rates are calculated for all facilities with 25 or more stays.

Source: Analysis of Inpatient Rehabilitation Facility–Patient Assessment Instruments from CMS.

5 to 35, with higher scores indicating more functional independence. To measure observed improvement in motor function and cognition, we subtracted the respective FIM scores at admission from the FIM scores at discharge to calculate FIM motor and cognitive gains (Kramer et al. 2015). A larger number indicates more improvement in functional independence and cognition between admission and discharge. Each risk-adjusted rate was calculated by comparing a facility's observed rate with its expected rate and multiplying this ratio by the national rate.

In 2014, the mean gain (positive change) in the motor FIM score during an IRF stay was 23.5, while the mean gain in the cognitive FIM score was 3.9 (Table 9-9). (Bigger gains are better.) The average risk-adjusted gain in IRF patients' motor and cognitive FIM scores increased from 2011 to 2014. However, changes in motor function and cognition must be interpreted with caution. Because payment is based in part on patients' functional status at admission—with higher payments associated with lower functional status—providers have a financial incentive to improve their documentation and coding to more fully account for each patient's rehabilitation needs. While improvements in documentation and coding can appropriately improve measurement of patients' motor and cognitive function, resulting changes in reported FIM scores may not reflect real change in patients' level of disability. If IRFs improve their documentation and coding at admission more than at discharge, FIM gains may increase over time but may not reflect real improvements in patients' motor and cognitive gains. As a result, reported gains in motor and cognitive function may be overstated.

Variation in quality measures across providers

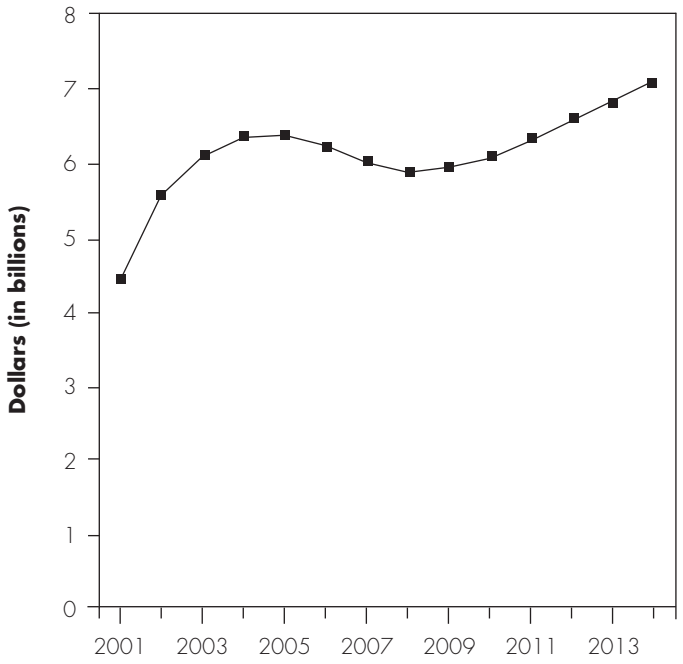
The measures we examined varied across providers (Table 9-10). We found one-quarter of IRFs had a risk-adjusted rate of discharge to a SNF higher than 9.0 percent, whereas the best performing quarter of providers had rates of 4.4 percent or less. (A lower rate of discharge to a SNF is better.) Risk-adjusted rates of discharge to the community varied less: One-quarter of IRFs had a community discharge rate lower than 72.9 percent, while the best performing quarter of providers had rates of 79.4 percent or more. (A higher rate of discharge to the community is better.) Variation was also seen in rehospitalization rates: The worst performing quartile had risk-adjusted rates of potentially avoidable readmissions during the IRF stay that were at or above 3.3 percent, whereas the best quarter had rates at or below 1.6 percent. (A lower rate of readmissions is better.)

Providers' access to capital: IRFs appear to have adequate access to capital

More than three-quarters of IRF providers are hospital-based units that would access any necessary capital through their parent institutions. Overall, as detailed in

FIGURE 9–1

Program spending for IRF services has grown steadily since 2009



Note: IRF (inpatient rehabilitation facility).

Source: CMS, Office of the Actuary, 2015.

the hospital chapter, hospitals' access to capital remained strong in 2014 and 2015 because of continued low interest rates and hospitals' overall high level of profitability. The three major bond ratings agencies report that the financial outlook for nonprofit hospitals has improved from 2014 to 2015, citing improved financial measures such as number of days cash on hand, the ratio of revenues to expenses, and the ratio of cash to debt (Fitch Ratings 2015a, Moody's Investors Service 2015a, Standard & Poor's Ratings Services 2015). The agencies cite improvements in all-payer volumes due to pent-up demand, the aging population, and the general expansion of insurance coverage. The ratings agencies have all upgraded more hospital bonds than they have downgraded in 2015 for the first time since 2006 (Fitch Ratings 2015a, Moody's Investors Service 2015b, Standard & Poor's Ratings Services 2015). The level of bond offerings may remain below the historic highs seen earlier in the decade ($30+ billion) because nonprofit hospitals are focused on less expensive capital investments, such as outpatient and ambulatory capacity and information technology, as opposed to more costly inpatient capacity (Fitch Ratings 2015b). However, of the roughly 25 new hospital-based IRFs that entered the market in 2014, about two-thirds were nonprofit.

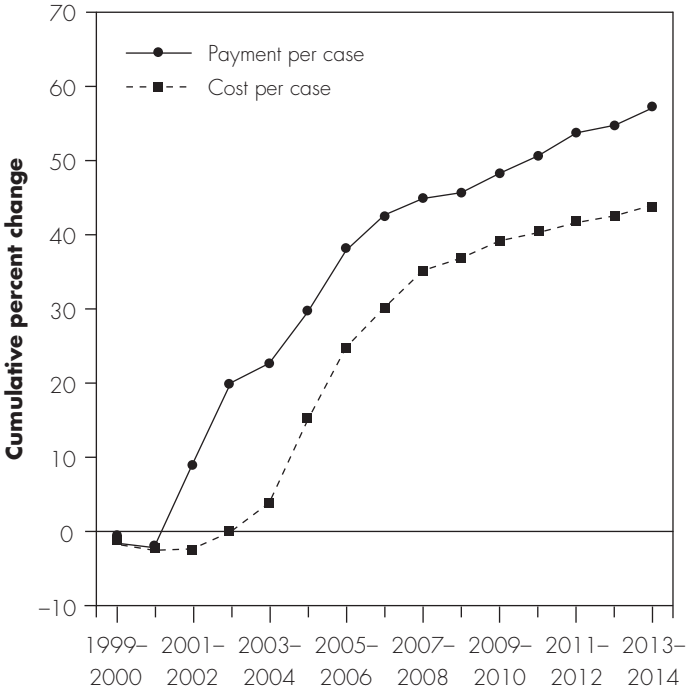
As for freestanding IRFs, market analysts we spoke to continue to rate access to capital for the industry's largest chain, which owned 41 percent of all freestanding IRFs in 2014 and accounted for 25 percent of all Medicare discharges from IRFs, as good. Continued acquisition of other post-acute care providers and expansion of capacity through construction of new IRFs reflect good access to capital for this chain. Most other freestanding IRFs are independent or are local chains with a small number of facilities. The extent to which these providers can access capital is less clear.

Medicare payments and providers' costs: Medicare margins remained high in 2014

In 2014, the aggregate Medicare margin increased almost 1 percentage point to 12.5 percent. The aggregate margin

FIGURE 9–2

IRFs' payments per case have increased cumulatively more than costs, 1999–2014



Note: IRF (inpatient rehabilitation facility). Percent changes are calculated based on consistent two-year cohorts.

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

has risen steadily since 2009. Financial performance continued to vary across IRFs, with margins of freestanding IRFs far exceeding those of hospital-based IRFs. Higher margins were largely driven by lower unit costs. The lower costs may stem from greater economies of scale. But freestanding IRFs are also far more likely than hospital-based units to be for profit and therefore may be more focused on controlling costs. Further, there are notable differences in hospital-based and freestanding IRFs' mix of cases. Given the difference in financial performance across IRFs, we examined freestanding and hospital-based IRFs' marginal profit to assess whether both types of providers have a financial incentive to expand the number of Medicare beneficiaries they serve. We found that in 2014, hospital-based IRFs' marginal profit was 19.0 percent, while freestanding IRFs' marginal profit was 40.6 percent. These rates suggest that IRFs with available beds continue to have an incentive to admit Medicare patients to cover their variable costs—a positive indicator of patient access, even in IRFs with lower margins.

Trends in spending and cost growth

The Office of the Actuary projects that Medicare FFS spending for IRF services in fiscal year 2014 was $7.1 billion (Figure 9-1). Program spending has been growing, on average, 3 percent per year since 2008, reversing a trend that began in 2004. Beginning that year, renewed enforcement of the compliance threshold and restrictions of some of the qualifying conditions resulted in a substantial reduction in the number of Medicare patients treated in IRFs. (This reduction was consistent with the underlying reason for the compliance threshold—to direct only the most clinically appropriate cases to this intensive, costly post-acute care setting.) Between 2005 and 2008, program spending for IRF services fell 8 percent.[10] The decline in volume slowed in 2008 and reversed in 2009, after the Congress permanently capped the compliance threshold at 60 percent. Medicare spending for IRF services began to grow again at that point.

As the IRF patient population shifted to patients with more severe conditions who counted toward the compliance threshold, case-mix severity and cost per case increased. However, from 1999 to 2014, the cumulative increase in payments per case outpaced the increases in costs per case (Figure 9-2). Payments per case grew 57 percent during this period, while costs per case rose 44 percent. Between 2013 and 2014, payments per case increased 2.3 percent, while costs per case increased 1.4 percent.

TABLE 9–11

IRFs with fewer beds have much higher standardized costs per case, 2014

Type of IRF	Mean adjusted cost per discharge
All IRFs	$15,330
Hospital based	16,325
Freestanding	11,883
Nonprofit	16,565
For profit	13,044
Government	16,317
Urban	15,034
Rural	17,036
Number of beds	
1 to 10	18,875
11 to 24	15,606
25 to 64	14,867
65 or more	12,164

Note: IRF (inpatient rehabilitation facility). Cost per discharge is standardized for differences in area wages, mix of cases, and prevalence of high-cost outliers, short-stay outliers, and transfer cases. Government-owned facilities operate in a different financial context from other facilities, so their costs are not necessarily comparable. Standardized costs per discharge reported in the Commission's 2014 March report were not adjusted for high-cost outliers and therefore are not comparable with the standardized costs reported here.

Source: MedPAC analysis of Medicare cost report and Medicare Provider Analysis and Review data from CMS.

Differences in standardized costs suggest economies of scale

Adjusting IRF costs per discharge for differences in wages, case mix, high-cost outliers, and short-stay cases permits a standardized comparison of costs across types of IRFs nationwide. The mean standardized cost per discharge for all IRFs in 2014 was $15,330 (Table 9-11).[11] Costs were inversely related to the size of the IRF. IRFs with 10 or fewer beds had a mean standardized cost per discharge that was 55 percent higher than that of IRFs with 65 or more beds ($18,875 vs. $12,164, respectively). Still, even controlling for number of beds, hospital-based IRFs had higher standardized costs (data not shown). Commission analyses suggest the possibility that assessment and coding practices contribute to profitability in IRFs. Providers may differ in their assessment of patients' motor and cognitive function. To the extent that this occurs, some providers may have an average case mix that is higher than warranted. Because case mix is

TABLE 9–12 **Low standardized costs lead to high margins for both hospital-based and freestanding IRFs, 2014**

Characteristic	Quartile: Lowest cost	Quartile: Highest cost
Median cost per discharge		
All	$10,583	$18,888
Hospital based	10,992	18,881
Freestanding	10,437	19,833
Median Medicare margin		
All	26.1%	–21.3%
Hospital based	19.5	–21.3
Freestanding	31.1	–21.7
Median		
Number of beds	42	18
Occupancy rate	70%	50%
Case-mix index	1.29	1.21
Share of facilities that are:		
Hospital based	43%	95%
Freestanding	57	5
Nonprofit	30	65
For profit	66	18
Government	4	17
Urban	94	70
Rural	6	30

Note: IRF (inpatient rehabilitation facility). Cost per discharge is standardized for differences in area wages, mix of cases, and prevalence of high-cost outliers, short-stay outliers, and transfer cases. Government-owned facilities operate in a different financial context from other facilities, so their costs are not necessarily comparable.

Source: MedPAC analysis of Medicare cost report and Medicare Provider Analysis and Review data from CMS.

one factor the Commission uses to standardize facilities' costs, our estimate of these costs also will be affected by differences in patient assessment and coding practices. Facilities with an average case mix that is higher than warranted will have lower standardized costs than they otherwise would.

We stratified IRFs into quartiles of standardized costs to compare the characteristics of facilities with the lowest and highest costs in 2014 (Table 9-12). IRFs in the lowest cost quartile had a median standardized cost per discharge that was 44 percent less than that of IRFs in the highest cost quartile ($10,583 vs. $18,888, respectively). The difference in Medicare margins between low-cost and high-cost IRFs was very large. IRFs in the lowest cost quartile had a median Medicare margin of 26.1 percent compared with –21.3 percent for IRFs in the highest cost quartile.

IRFs with the lowest costs tended to be larger. The median number of beds was 42 compared with 18 in the highest cost quartile. IRFs with the lowest costs also had a higher median occupancy rate than IRFs in the highest cost quartile (70 percent vs. 50 percent, respectively). These results suggest that low-cost IRFs benefit from economies of scale. Low-cost facilities were disproportionately freestanding and for profit. Still, 43 percent of the IRFs in the lowest cost quartile were hospital based, and 30 percent of the IRFs in this group were nonprofit. By contrast, in the highest cost quartile, 95 percent were hospital based and almost two-thirds were nonprofit.

Margins vary widely

Between 2013 and 2014, the aggregate IRF Medicare margin rose from 11.6 percent to 12.5 percent, including the effects of the budget sequester (Table 9-13). From 2009 to 2014, the aggregate margin rose steadily after a period of declining, although healthy, margins.

Financial performance in 2014 varied across IRFs. Medicare margins in freestanding IRFs far exceeded those of hospital-based facilities. In 2014, the aggregate margin for freestanding IRFs (which accounted for 48 percent of Medicare discharges from IRFs) was 25.3 percent, while hospital-based IRFs (accounting for 52 percent of Medicare IRF stays) had an aggregate margin of 1.0 percent. Higher unit costs were the primary driver of differences in financial performance between hospital-based and freestanding IRFs. Hospital-based IRFs had an average standardized cost per discharge that was 37 percent higher than that of freestanding IRFs ($16,325 vs. $11,883, respectively) (Table 9-11, p. 253). Previous Commission analysis of underlying cost components found that hospital-based IRFs had higher costs across all cost categories, with the biggest difference in routine costs.

Nevertheless, one-fourth of hospital-based IRFs had Medicare margins greater than 11 percent, indicating that many hospitals can manage their IRF units profitably. Further, despite the comparatively low average margin in hospital-based IRFs, evidence suggests that these units make a positive financial contribution to their parent

TABLE 9–13

IRF Medicare margins increased in 2014

Type of IRF	Share of Medicare discharges, 2014	Margins							
		2004	2006	2008	2010	2011	2012	2013	2014
All IRFs	100%	16.7%	12.4%	9.3%	8.7%	9.7%	11.2%	11.6%	12.5%
Urban	93	17.0	12.6	9.5	9.0	10.2	11.6	12.0	13.0
Rural	7	13.2	10.1	6.9	4.7	4.8	6.5	6.5	6.4
Freestanding	48	24.7	17.5	18.2	21.4	23.1	23.9	24.4	25.3
Hospital based	52	12.2	9.6	3.8	–0.5	–0.6	0.8	0.2	1.0
Nonprofit	43	12.8	10.6	5.2	2.1	2.6	2.4	1.4	2.1
For profit	50	24.4	16.3	16.9	19.6	20.7	23.1	23.6	24.3
Government	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of beds									
1 to 10	2	3.7	–3.5	–4.9	–10.1	–7.2	–6.7	–10.7	–10.7
11 to 24	22	10.5	7.3	1.2	–3.3	–3.4	–1.0	–0.5	–0.5
25 to 64	47	18.3	13.7	10.1	10.6	11.5	12.4	13.1	14.4
65 or more	28	21.5	17.2	17.2	17.5	19.0	20.8	20.2	21.0

Note: IRF (inpatient rehabilitation facility), N/A (not applicable). Government-owned facilities operate in a different financial context from other facilities, so their margins are not necessarily comparable. Their margins are not presented separately here, although they are included in the margins for other groups (e.g., "all IRFs"), where applicable.

Source: MedPAC analysis of cost report data from CMS.

hospitals. Commission analysis found that in 2013, the aggregate Medicare margin for inpatient hospitals with IRF units was a percentage point higher than that of hospitals without IRF units.

Margins varied by ownership, with for-profit IRFs having a higher aggregate Medicare margin than nonprofit IRFs (24.3 percent vs. 2.1 percent, respectively). Among freestanding IRFs, nonprofit facilities (which accounted for 7 percent of all IRF discharges) had an aggregate margin of 11.7 percent (data not shown). By comparison, freestanding for-profit IRFs (which accounted for 41 percent of all IRF discharges) had an aggregate margin of 28.4 percent. Likewise, among hospital-based IRFs, the aggregate margin for nonprofit units (which accounted for 36 percent of all IRF discharges) was 0.1 percent, while that margin for for-profit units (9 percent of all IRF discharges) was 7.9 percent. Between 2013 and 2014, total (all-payer) margins across all lines of business for freestanding IRFs remained almost static, rising from 10.5 percent to 10.6 percent.[12]

Several factors may account for the disparity in margins between hospital-based and freestanding IRFs. First, hospital-based IRFs are typically small units operating within a much larger financial entity (the host hospital) and may be less stringent in their cost control (since any efficiencies gained can have only a small impact on the hospital's overall profitability). At the same time, freestanding IRFs are far more likely than hospital-based IRFs to be for-profit and therefore may be more focused on controlling costs to maximize returns to investors. Commission analysis of cost growth for consistent two-year cohorts of freestanding IRFs found that the cumulative increase in costs per case for nonprofit IRFs has far outstripped that for for-profit IRFs: From 1999 to 2014, costs per case for freestanding nonprofit IRFs grew 45 percent, while costs per case for freestanding for-profit IRFs grew 18 percent. In addition, hospital-based IRFs likely achieve fewer economies of scale than their freestanding counterparts since they tend to be smaller and have fewer total cases. In 2014, 66 percent of hospital-based IRFs had fewer than 25 beds, compared with 7 percent

of freestanding IRFs. Only 3 percent of hospital-based IRFs had 65 or more beds compared with 35 percent of freestanding IRFs. Further, occupancy rates were lower in hospital-based IRFs than in their freestanding counterparts (59 percent vs. 68 percent, respectively). As a result, hospital-based IRFs had, on average, about 400 cases each (all-payer) in 2014 compared with almost 1,150, on average, for each freestanding IRF.

In general, hospital-based IRFs have a much larger share of cases with extraordinarily high costs. In 2014, 12 percent of hospital-based IRF cases qualified for high-cost outlier payments, compared with just 3 percent of freestanding IRF cases. Indeed, 84 percent of IRF outlier payments were made to hospital-based facilities. Though these payments diminish per case losses, they do not completely cover per case costs. It is not clear whether the large number of outlier cases in hospital-based IRFs stems from differences in efficiency, unmeasured case complexity, or both.

Finally, there are notable differences in hospital-based and freestanding IRFs' mix of cases. A larger share of hospital-based IRFs' patients than those of freestanding IRFs were admitted with stroke as the primary reason for rehabilitation (23 percent vs. 16 percent, respectively). Compared with freestanding IRFs, hospital-based IRFs also admitted a larger share of patients needing rehabilitation after fracture of a lower extremity (14 percent vs. 11 percent, respectively). Freestanding IRFs admitted larger shares than hospital-based IRFs of cases with neurological conditions (18 percent vs. 8 percent, respectively) and other orthopedic conditions (10 percent vs. 6 percent, respectively). Notably, the impairment groups of neurological conditions and other orthopedic conditions encompass a broader range of conditions than do many of the other impairment groups. This clinical heterogeneity may allow favorable selection of patients within these groups based on their likely costs of care. Cases with neurological conditions also count toward the compliance threshold, so IRFs with higher shares of these cases may be able to more easily meet the requirements of the 60 percent rule while keeping down costs. Further, some case types may be more profitable than others, resulting in higher margins for facilities that admit large shares of these cases. At the same time, providers may differ in their assessment and coding of patients' motor and cognitive function, resulting in payments for some IRFs that are too high relative to the costs incurred in treating their patients. (Likewise, payments for some IRFs may be too low.)

Given the difference in financial performance across IRFs, it is useful to consider whether IRFs generally have a financial incentive to expand the number of Medicare beneficiaries they serve. In considering whether to treat a patient, a provider compares the additional revenue it will receive (i.e., the Medicare payment) with its marginal costs—that is, the costs that vary with volume. If Medicare's per case payment is larger than the marginal cost of treating an additional beneficiary, a provider has a financial incentive to increase its volume of Medicare patients. On the other hand, if marginal payments do not cover the marginal costs, the provider may have a disincentive to admit Medicare beneficiaries. To operationalize this concept, we compare payments for Medicare services with marginal costs, which is approximated as:

Marginal profit = (payments for Medicare services – (total Medicare costs – fixed building and equipment costs)) / Medicare payments

The result is a lower bound on the marginal profit because we ignore any potential labor costs that are fixed. For IRFs with available data, we find that Medicare payments exceed marginal costs by a substantial amount—19.0 percent for hospital-based IRFs and 40.6 percent for freestanding IRFs—suggesting that IRFs with available beds have an incentive to admit Medicare patients. The aggregate marginal profit for all IRFs combined was 30.4 percent. This is a positive indicator of patient access, even in IRFs with lower margins.

How should Medicare payments change in 2017?

To estimate 2016 payments, costs, and margins with 2014 data, the Commission considers policy changes effective in 2015 and 2016, including those in the Patient Protection and Affordable Care Act of 2010 (PPACA). Those changes that affect our estimate of the 2016 margin include:

- a market basket increase of 2.9 percent for fiscal year 2015, offset by PPACA-required reductions totaling 0.7 percentage point, for a net update of 2.2 percent;
- a market basket increase of 2.4 percent for fiscal year 2016, offset by PPACA-required reductions totaling 0.7 percentage point, for a net update of 1.7 percent;

- changes to the high-cost outlier fixed loss amount in 2015 and 2016, which will increase payments; and
- the application of the federal budget sequester, which will decrease payments.

Given historical trends, we expect cost growth to be below market basket levels. Though the sequester will decrease payments, we expect growth in payments to exceed cost growth. Based on these assumptions, we project a margin of 13.9 percent in 2016.

On the basis of our review of payment adequacy for IRFs, the Commission recommends that the Congress eliminate the update to the IRF payment rate in 2017.

RECOMMENDATION 9-1

The Congress should eliminate the update to the Medicare payment rate for inpatient rehabilitation facilities in fiscal year 2017.

RATIONALE 9-1

Our indicators of Medicare payment adequacy for IRFs are positive. Relatively stable volume, low occupancy rates, and availability of other rehabilitation alternatives suggest that capacity remains adequate to meet demand. Quality trends are stable. Medicare margins for 2014 were positive. We conclude that IRFs should be able to accommodate cost changes in fiscal year 2017 with the base payment rate held at 2016 levels. Therefore, the 2017 IRF base payment rate should be the same as the 2016 rate.

IMPLICATIONS 9-1

Spending

- The payment update for IRFs in fiscal year 2017 consists of a forecasted 2.7 percent market basket update, a forecasted –0.5 percent productivity adjustment of the market basket update, and a –0.75 percent market basket reduction per PPACA.[13] This recommendation would decrease federal program spending relative to the statutory update by between $50 million and $250 million in 2017 and by less than $1 billion over five years.

Beneficiary and provider:

- We do not expect this recommendation to have adverse effects 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 we expect a minimal effect on relatively efficient providers' willingness and ability to care for Medicare beneficiaries.

Case mix, patient characteristics, and profitability in IRFs

The high margin for IRFs in 2014 (12.5 percent) indicates that, in aggregate, Medicare payments substantially exceed the costs of caring for beneficiaries. But margins differ considerably across IRFs. Since 2009, the aggregate margin for hospital-based IRFs—which account for 52 percent of IRF discharges—has been at or below 1 percent, while the aggregate margin for freestanding IRFs has been 20 percent or more. Further, since 2006, the disparity between hospital-based and freestanding IRFs' margins has been widening. The growing disparity is in large part due to differences in cost growth. Since 2006, costs per case in hospital-based IRFs have grown, on average, 3.9 percent per year, while those in freestanding IRFs have grown, on average, less than 1.0 percent per year.[14] By contrast, over the same period, payments per case in hospital-based IRFs have grown, on average, 2.5 percent per year, while those in freestanding IRFs have grown 2.3 percent per year.

Freestanding IRFs likely have lower costs—and higher margins—than hospital-based IRFs in part because they are more cost-efficient in the provision of care. Hospital-based IRFs may achieve fewer economies of scale because they are smaller and have lower occupancy rates, resulting in fewer total cases over which to spread costs. If the disparity in margins across IRFs were due solely to differences in costs, rebasing Medicare payment rates to a level that supports the efficient provider might be necessary to prevent overpayments and to help protect the long-run sustainability of the program. The Commission has recommended this approach in other settings when payments have substantially exceeded costs (Medicare Payment Advisory Commission 2012, Medicare Payment Advisory Commission 2011).

However, Commission analysis of the relationship between IRFs' mix of cases, patient characteristics, and financial performance suggests the possibility that patient selection and assessment and coding practices may contribute to differences in profitability across providers. (See text box, pp. 258–260, for a description of our methodology.) When we compared patient characteristics (in the IRF and during patients' preceding acute care

Examining the relationship between inpatient rehabilitation facilities' mix of cases, patient characteristics, and financial performance

To look more closely at the relationship between providers' mix of cases, patient characteristics, and financial performance, the Commission analyzed inpatient rehabilitation facility (IRF) patient assessment data, administrative data, and cost reports, as well as administrative data from IRF patients' immediately preceding acute care hospital stays. We matched fee-for-service IRF claims and assessment data from 2013 to claims for IRF patients' preceding acute care hospital services. About 87 percent of IRF claims in 2013 could be linked to an acute care hospital discharge within 30 days before the IRF admission date. The vast majority of these post-acute IRF cases (96 percent) had an acute care hospital discharge within three days of the IRF admission. IRF cases that did not have an acute care hospital discharge within 30 days before the IRF admission were excluded from the analysis. Excluding IRF cases that were not recently discharged from an acute care hospital was important because post-acute cases in IRFs may differ from cases that are admitted from the community, and freestanding IRFs typically have a higher share of cases admitted from the community than hospital-based IRFs do.

To control for differences in the mix of case types across IRFs, we examined patient characteristics

(continued next page)

TABLE 9–14 **Examining the relationship between IRFs' mix of cases, patient characteristics, and financial performance: Characteristics of the margin quintiles, 2013**

	Margin quintile group				
	1 (Lowest margin)	2	3	4	5 (Highest margin)
Mean margin	–36.6%	–10.3%	2.2%	14.2%	31.1%
Median standardized cost per discharge	$19,560	$16,736	$14,871	$13,156	$10,812
Average CMI	1.28	1.28	1.27	1.31	1.35
Share of facilities in quintile that are:					
Hospital based	97%	93%	90%	80%	36%
Freestanding	3	7	10	20	64
Nonprofit	60	72	66	59	27
For profit	21	17	23	29	68
Government	19	11	10	12	5
1 to 10 beds	24	12	9	4	3
11 to 24 beds	49	56	53	40	21
25 to 64 beds	24	26	33	44	49
65+ beds	4	6	5	11	27

Note: IRF (inpatient rehabilitation facility), CMI (case-mix index). IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Cost per discharge is standardized for differences in area wages, mix of cases, and prevalence of high-cost outliers, short-stay outliers, and transfer cases. Average CMI was calculated using the IRF case-mix group weights.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

Examining the relationship between inpatient rehabilitation facilities' mix of cases, patient characteristics, and financial performance (cont.)

in the IRF and in the preceding acute care hospital stay by patients' type of condition, as coded by the IRF at IRF admission. IRFs assign each patient to an impairment group that indicates the primary reason for inpatient rehabilitation. These impairment groups can be collapsed into 21 rehabilitation impairment categories (e.g., stroke, traumatic brain injury, and neurological condition). We looked at IRF patient characteristics both by impairment group and by the collapsed rehabilitation impairment categories.

Our approach allowed us to compare patient characteristics as coded in the acute care hospital with those coded in the IRF. Ideally, we would evaluate IRFs' patient characteristics by comparing IRF patient assessment data with complete patient assessment information recorded for the beneficiary during the preceding acute care hospital stay. However, because acute care hospitals do not submit patient assessment data to CMS, no such data exist. Nevertheless, though acute care hospital claims data do not provide information about a patient's motor function and provide only limited information about a patient's cognition, they can tell us about patients' diagnoses, severity of illness, and relative resource requirements during the hospital stay preceding admission to the IRF. For each impairment group, we examined patients' average case-mix index in the acute care hospital (a measure of resource intensity in the hospital), as well as the average severity of illness using the all-patient refined diagnosis-related groups. We also looked at the average length of stay in the hospital, the average length of stay in an intensive care or coronary care unit, and whether patients had been high-cost outliers in the hospital. Data from IRF–Patient Assessment Instrument (IRF–PAI) provided information about patients at admission to the IRF, as assessed and coded by the IRF. We examined patients' average age and the average length of stay in the IRF. We also examined patients' average case-mix index in the IRF and average level of motor and cognitive function, using the motor and cognitive scores as measured at IRF admission. The IRF–PAI uses the Functional Independence Measure™ (FIM™) scale to assess the level of disability in motor and cognitive functioning, measured as the burden of care for a patient's caregivers. Scores for each of the 18 FIM items can be summed to calculate a motor score (based on 13 FIM items) and a cognitive score (based on 5 FIM items). The motor score is on a 91-point scale, while the cognitive score is on a 35-point scale, with higher scores indicating more functional independence. Admission FIM scores are collected during the first three days of a patient's IRF stay and should reflect a patient's lowest measure of disability (if differences in function occur in different environments or at different times of the day).

We aggregated patient data for each IRF and sorted IRFs into five equal-sized groups, or quintiles, based on their margins. We found that the providers in our margin groups had very different characteristics. In 2013, IRFs in the highest margin quintile had a mean margin of 31.1 percent, while IRFs in the lowest margin quintile had a mean margin of –36.6 percent (Table 9-14). Those margins were driven in large part by differences in cost: The median standardized cost per discharge for the lowest margin quintile was almost twice that for the highest margin quintile ($19,560 vs. $10,812, respectively). The aggregate average IRF case-mix index (based on the case-mix group assigned in the IRF) was higher in higher margin IRFs. (All else being equal,

(continued next page)

hospital stays), we found that the mix of case types in IRFs was associated with provider profitability. In addition, we found that patients cared for by high-margin IRFs, compared with those in low-margin IRFs, were less severely ill in the acute care hospital but were assessed and coded as more functionally disabled upon admission to the IRF.

High-margin IRFs have a different mix of cases

As shown in Figure 9-3 (p. 261), the mix of case types in IRFs was associated with financial performance. The share of stroke cases appeared to be inversely correlated with the Medicare margin. In 2013, 27 percent of the lowest margin IRFs' cases were admitted for stroke, compared with 16

Examining the relationship between inpatient rehabilitation facilities' mix of cases, patient characteristics, and financial performance (cont.)

a higher case-mix index results in a higher payment.) Hospital-based IRFs made up 97 percent of the providers in the lowest margin quintile and 36 percent of the providers in the highest margin quintile. Fewer than 30 percent of the providers in the four lowest margin quintiles were for profit, compared with 68 percent in the highest margin quintile. Facility size was strongly correlated with margin. Three-quarters of the IRFs in the lowest margin quintile had fewer than 25 beds, compared with 24 percent of the IRFs in the highest margin quintile.

We also compared quality of care across providers by looking at average performance on selected risk-adjusted quality measures for each of the margin quintiles. On rates of potentially avoidable readmissions (during the IRF stay and within 30 days after discharge from the IRF), lower margin IRFs performed better than the highest margin IRFs (Table 9-15). The average rate of risk-adjusted potentially avoidable readmissions during the IRF stay was 2.4 percent for the lowest margin IRFs, compared with 2.8 percent for the highest margin IRFs. (Lower rates are better.) The average rate of risk-adjusted potentially avoidable readmissions within 30 days after IRF discharge was 4.2 percent for the lowest margin IRFs, compared with 4.9 percent for the highest margin IRFs. On rates of discharge to skilled nursing facilities, higher margin IRFs performed better than lower margin IRFs. There was little difference across the margin quintiles in rates of discharge to the community. ■

TABLE 9–15

Performance on selected risk-adjusted quality measures, by margin quintile, 2013

	Margin quintile group				
Risk-adjusted measure	**1 (Lowest margin)**	**2**	**3**	**4**	**5 (Highest margin)**
Potentially avoidable rehospitalizations during IRF stay	2.4%	2.5%	2.3%	2.4%	2.8%
Discharged to a SNF	6.9	7.3	7.3	6.6	6.0
Discharged to the community	76.3	75.7	75.7	75.9	75.6
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	4.2	4.2	4.4	4.7	4.9

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility). IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). High rates of discharge to the community indicate better quality. High rates of rehospitalization and discharge to a SNF indicate worse quality. Rates are the average of facility rates in each quintile.

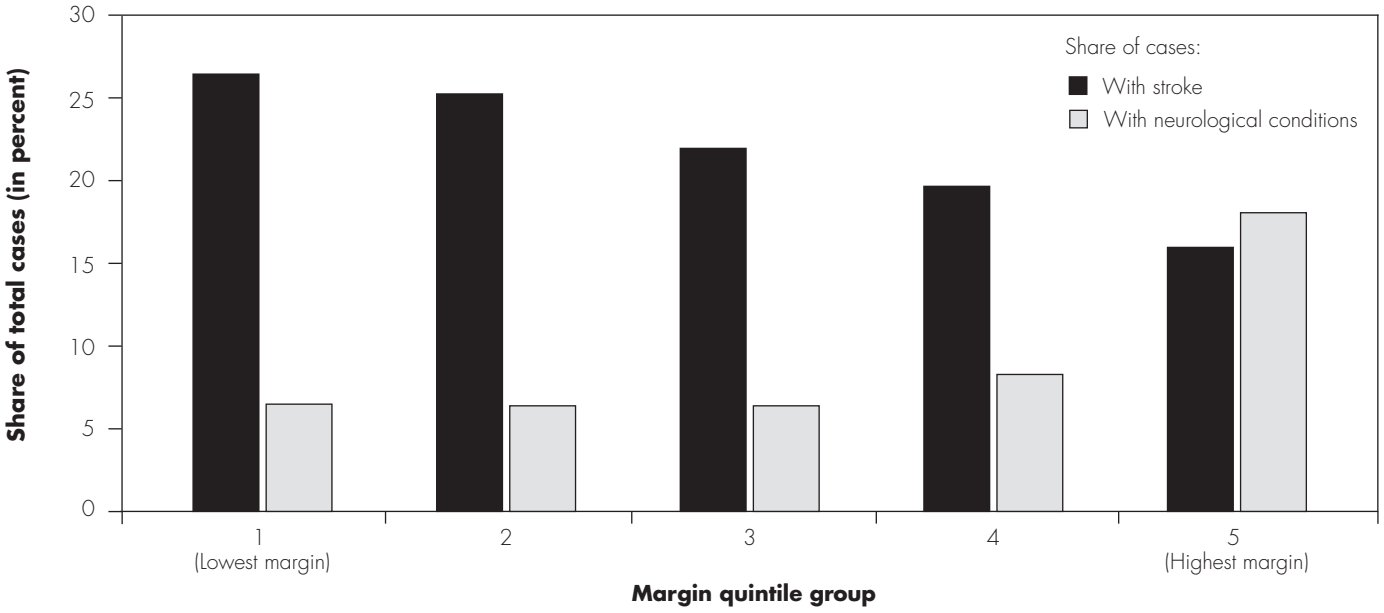
Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

percent of the highest margin IRFs' cases. At the same time, IRFs with the highest margins had a much higher share of cases with neurological conditions. About 18 percent of the highest margin IRFs' cases were admitted with neurological conditions, compared with about 7 percent of the cases in other IRFs.[15] There was little difference across the margin groups in the shares of cases with lower extremity fractures, debility, and hip and knee replacement.

We also noted marked differences in the types of stroke cases and neurological conditions admitted to high-margin and low-margin IRFs. In the highest margin IRFs, stroke cases with no paralysis were far more common than in other IRFs (Figure 9-4, p. 262). Such cases made up 22

FIGURE 9–3

IRFs with the highest margins had more cases with neurological conditions, fewer cases with stroke, 2013



Note: IRF (inpatient rehabilitation facility). IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Neurological conditions include multiple sclerosis, Parkinson's disease, neuromuscular disorders, and polyneuropathy. Cases that did not have an acute care hospital discharge within 30 days of admission to the IRF were excluded from this analysis.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

percent of all stroke cases in the highest margin IRFs, compared with 8 percent for IRFs in the lowest margin quintile.

Likewise, the highest margin IRFs admitted many more neurological cases with neuromuscular disorders than did other IRFs (Figure 9-5, p. 262). Seventy-two percent of the neurological cases admitted to IRFs in the highest margin quintile were patients with neuromuscular disorders, compared with 25 percent in the lowest margin IRFs.[16] Indeed, patients with neuromuscular disorders accounted for 13 percent of all cases in the highest margin IRFs but less than 3 percent of all cases, on average, in other IRFs.

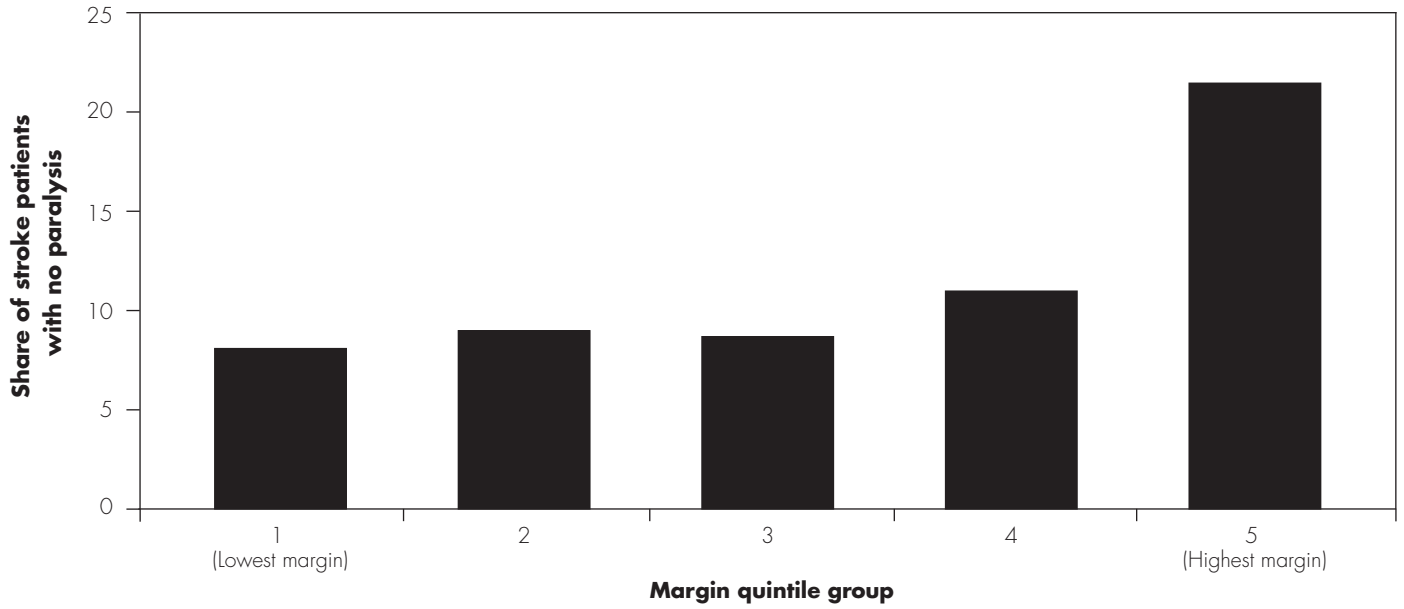
Coding practices may contribute to IRF profitability

We also compared the characteristics of IRF patients across the margin groups. Overall, when we compared patients in high-margin and low-margin IRFs, we found that patients in high-margin IRFs were less severely ill and resource-intensive during the acute care hospitalization that preceded the IRF stay. Once patients were admitted to and assessed by the IRF, however, the average patient profile changed, with patients treated in high-margin IRFs appearing to be more functionally disabled than those treated in low-margin IRFs.

To control for differences in the mix of case types across IRFs, we examined patient characteristics in the IRF and in the preceding acute care hospital stay by the impairment group indicating the reason for inpatient rehabilitation, as coded in the IRF.[17] When we examined the characteristics of stroke cases, we found that patients in high-margin IRFs were less severely ill during their preceding acute care hospital stay than patients in low-margin IRFs (Table 9-16, p. 263). Stroke patients in high-margin IRFs were slightly less likely to have been of high severity (all-patient refined–diagnosis related group (APR–DRG) level 3 or 4) in the acute care hospital. Fewer stroke patients in high-margin IRFs had spent time in an acute care hospital intensive care unit (ICU) or coronary care unit (CCU), and those who did had shorter ICU or CCU stays. Stroke cases in high-margin IRFs also had a lower average acute care hospital case mix and were somewhat less likely to have been high-cost outlier cases in the hospital.

FIGURE 9–4

Stroke cases in the highest margin IRFs were more likely to have no paralysis, 2013

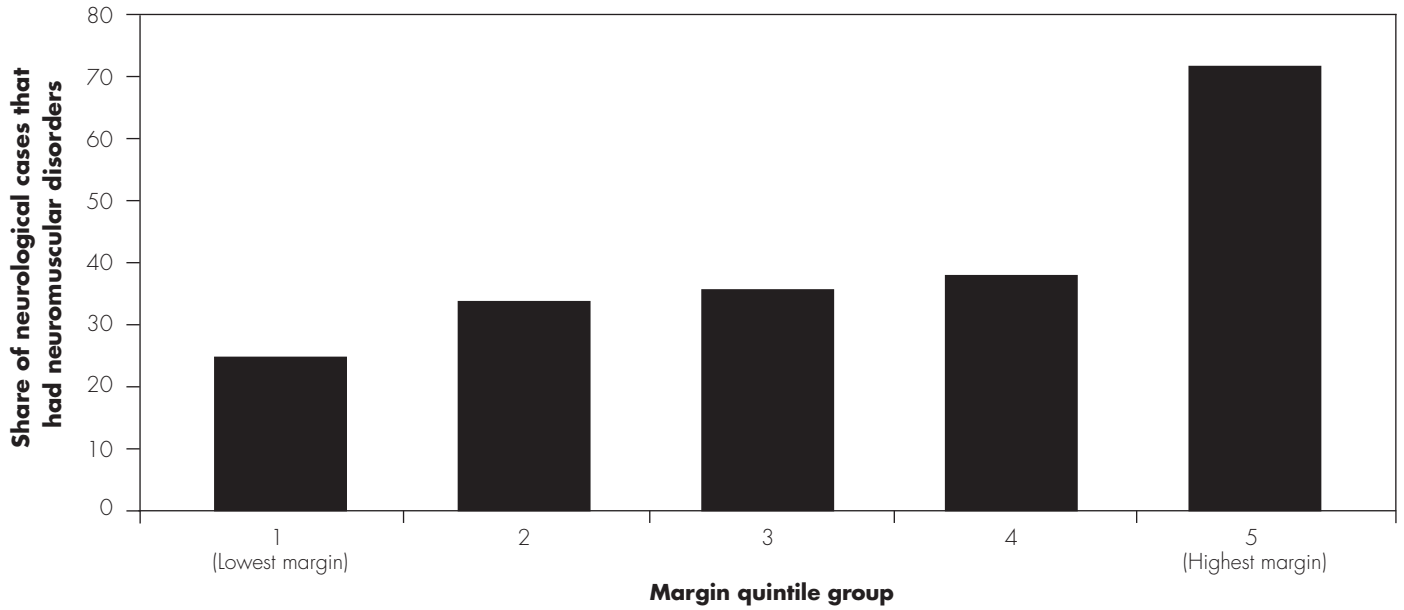


Note: IRF (inpatient rehabilitation facility). IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Cases that did not have an acute care hospital discharge within 30 days of admission to the IRF were excluded from this analysis.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

FIGURE 9–5

Neurological cases in the highest margin IRFs were more likely to have neuromuscular disorders, 2013



Note: IRF (inpatient rehabilitation facility). IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Neurological conditions include multiple sclerosis, Parkinson's disease, neuromuscular disorders, and polyneuropathy. Neuromuscular disorders include amyotrophic lateral sclerosis and muscular dystrophy. Cases that did not have an acute care hospital discharge within 30 days of admission to the IRF were excluded from this analysis.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

TABLE 9–16

Stroke cases in high-margin IRFs were less severely ill during acute care hospital stay, but appeared more disabled once admitted to the IRF, 2013

Characteristics of stroke cases	Margin quintile group 1 (Lowest margin)	2	3	4	5 (Highest margin)
Average age	75.4	75.3	75.5	75.6	75.0
During the preceding ACH stay:					
ALOS (in days)	6.0	6.0	5.9	6.1	5.9
Share of cases that were severity level 3 or 4	51%	49%	49%	50%	47%
Share of cases with ICU/CCU ALOS >4 days	36%	34%	33%	36%	22%
Share of cases that were high-cost outliers	6%	4%	4%	4%	3%
Average CMI	1.85	1.85	1.81	1.77	1.67
During the IRF stay					
ALOS (in days)	15.5	15.2	15.0	15.4	15.4
Average FIM™ motor score at admission	29.9	29.6	29.7	27.7	25.6
FIM™ cognition score at admission	19.4	19.3	19.4	18.8	17.6
Average CMI	1.50	1.51	1.51	1.58	1.67

Note: IRF (inpatient rehabilitation facility), ACH (acute care hospital), ALOS (average length of stay), ICU/CCU (intensive care unit/coronary care unit), CMI (case-mix index), FIM™ (Functional Independence Measure™). Average CMI during the preceding acute care hospital stay was calculated using the diagnosis-related group weights used in the acute care hospital payment system. Average CMI during the IRF stay was calculated using the case-mix group weights used in the IRF payment system. The motor FIM measures the level of disability in motor functioning at IRF admission on a 91-point scale. The cognitive FIM measures the level of cognitive impairment at IRF admission on a 35-point scale. Higher FIM scores indicate higher levels of function. IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Stroke cases included all those assigned to stroke case-mix groups in the IRF. Stroke cases that did not have an acute care hospital discharge within 30 days of admission to the IRF were excluded from this analysis.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

Once stroke cases were admitted to and assessed in the IRF, however, those treated in high-margin IRFs appeared to be more disabled than stroke cases treated in low-margin IRFs, though they had, on average, similar IRF lengths of stay (Table 9-16). The average motor FIM score at admission for stroke patients was 25.6 for IRFs in the highest margin quintile compared with 29.9 for stroke patients in the lowest margin quintile. (Lower scores indicate worse motor function). Because Medicare's payments to IRFs for stroke cases are based predominantly on patients' motor scores, the difference in the average motor FIM score between the highest margin and lowest margin IRFs represents a substantial difference in payment.[18] All else being equal, Medicare pays 15 percent more for a stroke patient with a motor score of 25.6 than for a stroke patient with a motor score of 29.9.[19]

When we controlled for the type of stroke, we continued to see a pattern of significantly lower average motor scores (indicating greater disability) in high-margin IRFs despite lower levels of severity in the acute care hospital. The difference in average motor FIM scores between high-margin and low-margin IRFs was particularly wide for stroke cases with no paralysis: Cases in the highest margin IRFs had a motor FIM score that was 18 percent lower, on average, than cases in the lowest margin IRFs. Indeed, nonparalyzed stroke patients in the highest margin IRFs had an average motor FIM score (29.0) that was almost the same as the average motor score of paralyzed stroke patients in the lowest margin IRFs (29.2) (Table 9-17, p. 264). This finding is surprising because stroke patients with paralysis typically have worse motor function than stroke patients without paralysis. All else being equal, Medicare's payment for these two types of stroke patients with a motor FIM score of 29.0 would be the same—even though stroke patients with no paralysis have an IRF length of stay that is, on average, more than two days shorter than that of stroke patients with paralysis.

TABLE 9–17

Nonparalyzed stroke patients in the highest margin IRFs had the same average motor FIM™ score as stroke patients with paralysis in the lowest margin IRFs, 2013

Type of stroke case	Motor FIM score, by margin quintile group: 1 (Lowest margin)	5 (Highest margin)
With paralysis	29.2	24.6
Without paralysis	35.3	29.0

Note: IRF (inpatient rehabilitation facility), FIM™ (Functional Independence Measure™). Average motor impairment scores were calculated using the motor FIM coded by the IRF. The motor FIM measures the level of disability in motor functioning at IRF admission on a 91-point scale. Higher FIM scores indicate higher levels of function. Results for Quintiles 2, 3, and 4 are not shown. IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Stroke cases with paralysis include patients with left body involvement, right body involvement, and bilateral involvement. Stroke cases without paralysis included all those assigned to impairment group code 1.4. Cases that did not have an acute care hospital discharge within 30 days of admission to the IRF were excluded from this analysis.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

The pattern was evident across the case types we examined. For example, patients with neuromuscular disorders in high-margin IRFs were less severely ill and resource intensive during the acute care hospitalization that preceded the IRF stay compared with patients with neuromuscular disorders in low-margin IRFs (Table 9-18). In high-margin IRFs, the share of neuromuscular disorder cases that were APR–DRG severity of illness level 3 or 4 in the acute care hospital was lower, as was the share that spent four or more days in an acute care hospital ICU or CCU. Neuromuscular disorder cases in the highest margin IRFs were about half as likely as those in the lowest margin IRFs to have been high-cost outliers in the acute care hospital. Their average acute care hospital case-mix index was 33 percent lower. But, as with other types of cases, once neuromuscular disorder cases were admitted to and assessed by the IRF, those treated in high-margin IRFs appeared to be more disabled than those treated in low-margin IRFs, with lower motor and cognitive FIM scores.

Some of the difference in motor function of neuromuscular disorder cases in high-margin versus low-margin IRFs could have been due to differences in the age of patients. Neuromuscular disorder cases in the lowest margin IRFs were, on average, more than four years younger than those in the highest margin IRFs. At the same time, neuromuscular disorder cases in the lowest margin IRFs had much longer acute care hospital lengths of stay (13.3 days vs. 9.7 days, respectively), so they could have been further along in their recovery when they were admitted to the IRF, compared with cases in the highest margin IRFs. If that were the case, however, one might expect that neuromuscular disorder patients in the lowest margin IRFs would have shorter IRF stays, on average, than their counterparts in the highest margin IRFs. However, we found that neuromuscular disorder cases in the lowest margin IRFs had stays that were almost one day longer, on average, than those in the highest margin IRFs.

We also looked separately at the characteristics of IRF patients with debility, hip fracture, and hip and knee replacement. As with stroke and neuromuscular disorder cases, patients with debility who were cared for by high-margin IRFs were less severely ill during the acute care hospitalization that preceded the IRF stay but, once admitted to the IRF, appeared to be more disabled than those treated in low-margin IRFs. By contrast, across the margin quintiles, IRF patients with hip fracture and those with hip and knee replacement were more similar in the acute care hospital. There were few differences in the share of joint cases that were high-severity, the share that spent time in an acute care hospital ICU or CCU, and the share that were acute care hospital cost outliers. The average acute care hospital case mix for these cases was slightly lower for high-margin IRFs. Nevertheless, once admitted to the IRF, joint cases in high-margin IRFs had lower average motor and cognitive FIM scores, indicating greater disability. The average motor FIM score for hip fracture cases was 18 percent lower in the highest margin IRFs than in the lowest margin IRFs.

Ensuring the reliability of IRF patient assessment and coding

The consistent finding that high-margin IRFs have patients who are, on average, less severely ill in the acute care hospital but more functionally disabled upon admission to the IRF suggests the possibility that coding practices contribute to greater profitability in some IRFs, especially given the comparatively low level of costs and cost growth in high-margin facilities. Providers may differ in their assessment of patients' motor and cognitive function, resulting in payments for some IRFs that are too high relative to the costs incurred in treating their patients.

TABLE 9–18

Neuromuscular disorder cases in high-margin IRFs were less severely ill during acute care hospital stay, but appeared more disabled once admitted to the IRF, 2013

Characteristics of neuromuscular disorder cases	Margin quintile group 1 (Lowest margin)	2	3	4	5 (Highest margin)
Average age	71.7	73.5	72.9	75.7	76.1
During the preceding ACH stay:					
ALOS (in days)	13.3	12.2	13.1	10.8	9.7
Share of cases that were severity level 3 or 4	79%	82%	80%	77%	72%
Share of cases with ICU/CCU ALOS > 4 days	56%	56%	55%	50%	44%
Share of cases that were high-cost outliers	25%	21%	23%	15%	11%
Average CMI	3.62	3.08	3.52	2.61	2.43
During the IRF stay:					
ALOS (in days)	13.3	12.1	12.9	12.6	12.4
Average FIM™ motor score at admission	29.3	30.5	29.0	28.9	27.1
FIM™ cognition score at admission	24.4	24.4	23.8	23.1	21.6
Average CMI	1.36	1.32	1.37	1.34	1.39

Note: IRF (inpatient rehabilitation facility), ACH (acute care hospital), ALOS (average length of stay), ICU/CCU (intensive care unit/coronary care unit), CMI (case-mix index), FIM™ (Functional Independence Measure™). Average CMI during the preceding acute care hospital stay was calculated using the diagnosis-related group weights used in the acute care hospital payment system. Average CMI during the IRF stay was calculated using the case-mix group weights used in the IRF payment system. The motor FIM measures the level of disability in motor functioning at IRF admission on a 91-point scale. The cognitive FIM measures the level of cognitive impairment at IRF admission on a 35-point scale. Higher FIM scores indicate higher levels of function. IRFs were ranked by their 2013 Medicare margins and then sorted into five equal-sized groups (quintiles). Neuromuscular disorder cases that did not have an acute care hospital discharge within 30 days of admission to the IRF were excluded from this analysis.

Source: MedPAC analysis of Medicare Provider Analysis and Review data, Inpatient Rehabilitation Facility–Patient Assessment Instrument data, and cost report data from CMS.

(Likewise, payments for some IRFs may be too low.) This phenomenon also would make some providers appear to be more cost-efficient than they actually are (since their costs would be lower than expected given their reported case mix).

To ensure payment accuracy, CMS must ensure that assessment and coding across providers accurately reflect patients' resource needs. Historically, concerns about coding have focused on unwarranted changes over time (that is, increases in coding over time that do not reflect real change in case mix). CMS has addressed such concerns in the past by making across-the-board adjustments to payments. CMS reduced the IRF standard payment conversion factor by 1.9 percent in 2006 and by 2.6 percent in 2007 to adjust for changes in IRF coding practices over time that CMS determined did not reflect real changes in IRF patients' acuity. However, the Commission's cross-sectional analyses suggest there may be coding differences across IRFs that do not reflect real differences in patient acuity. Making an across-the-board adjustment would reduce payments for all IRFs, whether they are overestimating or underestimating the resource needs of their patients. Instead, analyses of coding accuracy and reassessment of the inter-rater reliability of the IRF patient assessment instrument are necessary. Such analyses should start with focused medical record review and comparison of patients across providers, with particular focus on those that exhibit unusual patterns of case mix and coding. Such focused medical review can help identify necessary reforms to the IRF payment system.

RECOMMENDATION 9-2

The Secretary should conduct focused medical record review of inpatient rehabilitation facilities that have unusual patterns of case mix and coding.

RATIONALE 9-2

The Commission's finding that high-margin IRFs have patients who are, on average, less severely ill in the acute

care hospital but appear more functionally disabled in the IRF suggests the possibility that coding practices contribute to greater profitability in some IRFs. Providers may differ in their assessment of patients' motor and cognitive function, resulting in payments for some IRFs that are too high relative to the costs incurred in treating their patients. To improve the accuracy of payments and protect program integrity, CMS should review medical records merged with IRF patient assessment data, reassess inter-rater reliability across IRFs, and conduct other research as necessary. Because medical record review is resource intensive, CMS should begin by focusing on providers that have an atypical mix of cases, such as a high concentration of neuromuscular disorders and stroke cases without paralysis, and on providers that have anomalous patterns of coding, such as wide discrepancies in their patients' levels of severity as coded in the acute care hospital compared with that coded in the IRF. However, system-wide assessment of payment accuracy is also needed.

IMPLICATIONS 9-2

Spending

- Implementing this recommendation could result in changes to the payment system that would be budget neutral but could also reduce Medicare's spending on IRF services if CMS were to make payment adjustments to account for assessment and coding differences across providers or for coding changes that do not reflect real case-mix change. CMS would incur some administrative expenses to conduct these activities.

Beneficiary and provider

- We do not expect this recommendation to have adverse effects on Medicare beneficiaries with respect to access to care or out-of-pocket spending or on providers' willingness and ability to care for Medicare beneficiaries.

Redistributing payments within the IRF PPS

The high aggregate margin for IRFs in 2014 (12.5 percent) indicates that Medicare payments substantially exceed the costs of caring for beneficiaries. When payments have substantially exceeded costs in other settings, the Commission has recommended that the Secretary rebase Medicare payment rates to a level that supports the efficient provider (Medicare Payment Advisory Commission 2012, Medicare Payment Advisory Commission 2011). However, rebasing payments would not address concerns about patient selection and coding accuracy. Payments could remain too high for cases in some IRFs and too low for cases in others.

The Commission has found that more costly cases, such as strokes, are disproportionately admitted by lower margin IRFs. Though the variation in margins across IRFs may be due in some part to differences in cost control, we cannot rule out the possibility that high-cost cases may be less profitable. In the short term, CMS should effect changes to reduce potential misalignments between IRF payments and costs by redistributing payments within the IRF PPS through the high-cost outlier pool.

High-cost outlier payments are intended to offer providers some financial protection against exceptionally high-cost cases. Outlier payments can also help ensure continued access for patients who are predictably more likely than others to be exceptionally costly compared with the usual payment for the case type. Under the IRF payment system, Medicare provides extra payments, in addition to the usual PPS payment, for a case if its costs exceed a cost threshold. The outlier payment for a case is equal to 80 percent of costs above this threshold. The cost threshold is equal to the sum of the IRF's usual payment for the case-mix group (CMG) plus a fixed loss amount. CMS sets the fixed loss amount each year at a level that it estimates will result in aggregate outlier payments exhausting the funds available in the target outlier pool, which is currently set at 3 percent of total IRF payments. (For fiscal year 2016, the fixed loss amount is $8,658, adjusted for the applicable wage index and other facility-specific characteristics.) The outlier pool is funded by an offset to the national base payment amount, which reduces all CMG payment rates by the same percentage.

In 2014, about 8 percent of IRF cases received high-cost outlier payments, although this share varied by case type. For example, almost 13 percent of cases with spinal cord injury and more than 10 percent of stroke cases were high-cost outliers. By contrast, less than 5 percent of cases with neurological conditions were outliers. Outlier cases were also distributed unevenly among IRFs. About 12 percent of cases in hospital-based IRFs were high-cost outliers compared with less than 3 percent of cases in freestanding IRFs, although this difference is driven at least in part by overall higher costs in hospital-based IRFs. The prevalence of outliers in IRFs was strongly correlated with margin. In our analyses of IRF margin quintile groups, we found that 30 percent of cases in the lowest margin IRFs were high-cost outliers, compared with just 1 percent of cases in the highest margin IRFs.

The Commission's finding that some IRFs may be systematically selecting certain types of cases and that providers may differ in their assessment of patients' motor and cognitive function suggests that the IRF CMGs may not be adequately capturing differences in patient acuity and costs across cases and providers. The potential for financial loss may therefore be greater for some providers than for others. Expanding the outlier pool would increase outlier payments for the most costly cases, thereby ameliorating the financial burden for IRFs that have a relatively high share of these cases. To fund the expanded outlier pool while maintaining budget neutrality, the base payment amount for all IRF cases would need to be reduced.

The Commission estimates that expanding the outlier pool from 3 percent to 5 percent would increase total payments for cases with spinal cord injury by 1.8 percent and for cases with stroke by about 0.3 percent. Total payments for neurological cases would fall by 0.7 percent. We estimate that total payments to hospital-based IRFs would increase by 1.1 percent, while payments to freestanding IRFs would fall by 1.3 percent. Total payments to nonprofit IRFs would increase by 0.6 percent, while payments to for-profit IRFs would decline by 1.1 percent. Rural IRFs would also see a small increase in total payments. We estimate that total payments for IRFs in the lowest margin quintile would increase by 5.2 percent, while those for IRFs in the highest margin quintile would decrease by 1.6 percent. Expanding the outlier pool by a larger amount would increase the effect on cases and providers, but would require congressional action.

We recognize that, by increasing payments for the most costly cases, Medicare may increase payments for providers who are less efficient as well as for providers who care for patients whose acuity is not well captured by the case-mix system. While this outcome is not desirable, the Commission's concern about the accuracy of Medicare's payments for resource-intensive cases warrants this approach in the near term. Over the longer term, however, CMS must ensure the accuracy of Medicare's payments by determining that IRFs' assessment and coding correctly reflects the rehabilitation needs of patients. At the same time, the variation in the mix of case types by IRF profitability warrants further attention. Some providers may select certain types of patients because their conditions are more profitable than others. Research is needed to assess variation in costs within the IRF CMGs and differences in relative profitability across CMGs. Identifying and reducing variation within CMGs and properly calibrating payments with costs for each group is necessary to avoid overpayments and to reduce incentives for providers to admit certain types of cases and avoid others.

In the future, CMS may enact payment system reforms that warrant reassessment of IRF outlier payments and adjustments to the outlier policy, including a return to a smaller outlier pool. In addition, rebasing IRF payments may be necessary to prevent overpayments, which is critical in all of Medicare's payments systems to protect the long-run sustainability of the Medicare program.

RECOMMENDATION 9-3

The Secretary should expand the inpatient rehabilitation facility outlier pool to redistribute payments more equitably across cases and providers.

RATIONALE 9-3

The Commission's finding that high-margin IRFs may be selecting certain types of cases suggests that some CMGs may be more profitable than others. At the same time, our finding that IRFs may differ in their assessments of patients' motor and cognitive function suggests that the IRF CMGs may not be adequately capturing differences in patient acuity and costs across cases and providers. The potential for financial loss may therefore be greater for some providers than for others. Expanding the outlier pool would increase outlier payments for the most costly cases, easing the financial burden for IRFs that have a relatively high share of these cases.

IMPLICATIONS 9-3

Spending

- This recommendation would be implemented in a budget-neutral manner and should not have an overall impact on spending.

Beneficiary and provider

- We do not expect this recommendation to have adverse effects on Medicare beneficiaries with respect to access to care or out-of-pocket spending. This recommendation may relieve the financial pressure on some providers and may improve equity among providers by diminishing the effects of inaccurate coding. ■

Endnotes

1 More frequently, Medicare beneficiaries receive inpatient rehabilitation services in skilled nursing facilities (SNFs), in part because nationwide there are many more SNFs than IRFs.

2 More information about the prospective payment system for IRFs is available at http://medpac.gov/documents/payment-basics/inpatient-rehabilitation-facilities-payment-system-15.pdf?sfvrsn=0.

3 Patients with a length of stay of fewer than four days are assigned to a single CMG, regardless of diagnosis, age, level of motor and cognitive function, or presence of comorbidities.

4 The 13 conditions are stroke; spinal cord injury; congenital deformity; amputation; major multiple trauma; hip fracture; brain injury; certain neurological conditions (multiple sclerosis, Parkinson's disease, cerebral palsy, and neuromuscular disorders); burns; three arthritis conditions for which appropriate, aggressive, and sustained outpatient therapy has failed; and hip or knee replacement when it is bilateral, the patient's body mass index is greater than or equal to 50, or the patient is age 85 or older.

5 An impairment group code is not an International Classification of Diseases, Tenth Revision, Clinical Modification diagnosis code but part of a separate unique set of codes specifically developed for the IRF PPS for assigning the primary reason for admission to an IRF.

6 CMS's major revisions to the compliance threshold policy in 2004 were (1) increasing the number of conditions that count toward the threshold from 10 to 13 (by redefining the arthritis conditions that counted) and (2) revising the qualifying condition of major joint replacement—a condition that was commonly treated in IRFs—such that only a specific subset of patients with that condition would count toward the compliance threshold.

7 Cases with noncompliant conditions may count toward the compliance threshold if they have specified comorbidities.

8 These potentially avoidable readmissions are identified by the primary diagnosis for the hospital readmission at the time of hospital discharge. The potentially avoidable readmissions we measure are respiratory-related illness (pneumonia, influenza, bronchitis, chronic obstructive pulmonary disease, and asthma); sepsis; congestive heart failure; fractures or fall with a major injury; urinary tract or kidney infection; blood pressure management; electrolyte imbalance; anticoagulant therapy complications; diabetes-related complication; cellulitis or wound infection; pressure ulcer; medication error or adverse drug reaction; and delirium.

9 Our measure of community discharge does not give IRFs credit for discharging a Medicare beneficiary to the community if the beneficiary is subsequently readmitted to an acute care hospital within 30 days of the IRF discharge.

10 Medicare spending for IRF services was also affected when CMS reduced the IRF standard payment conversion factor by 1.9 percent in 2006 and by 2.6 percent in 2007 to adjust for changes in IRF coding practices that CMS determined did not reflect real changes in IRF patients' acuity.

11 Standardized costs per discharge reported in the Commission's 2014 March report were not adjusted for high-cost outliers and therefore are not comparable with the standardized costs reported here.

12 Because of the structure of the Medicare cost report, all-payer overall margins for hospital-based IRFs reflect a margin for the entire hospital rather than for the IRF unit alone. Therefore, we present an all-payer overall margin only for freestanding IRFs.

13 The market basket forecast was made in the fourth quarter of 2015. When setting the update, CMS will use the most recent forecast available at the time, which may differ from the number we report here.

14 Since 2010, hospital-based IRFs have kept cost growth to about 2 percent per year, on average.

15 Neurological conditions include multiple sclerosis, Parkinson's disease, neuromuscular disorders, and polyneuropathy.

16 Neuromuscular disorders include late effects of polio, motor neuron disease such as amyotrophic lateral sclerosis, and muscular dystrophy.

17 IRFs assign each patient to an impairment group that indicates the primary reason for inpatient rehabilitation. These impairment groups can be collapsed into 21 rehabilitation impairment categories (e.g., stroke, traumatic brain injury, and neurological condition).

18 Medicare's payment to IRFs for stroke cases can also vary depending on the patient's age, cognitive score, and comorbidities.

19 This comparison assumes both patients are under age 85.

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