

CHAPTER

10

**Inpatient rehabilitation
facility services**

R E C O M M E N D A T I O N

- 10** For fiscal year 2021, the Congress should reduce the fiscal year 2020 Medicare base payment rate for inpatient rehabilitation facilities by 5 percent.

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

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(Additionally, the Commission reiterates its March 2016 recommendations on the inpatient rehabilitation facility prospective payment system. See text box, p. 281.)

Inpatient rehabilitation facility services

Chapter summary

Inpatient rehabilitation facilities (IRFs) provide intensive rehabilitation services to patients after illness, injury, or surgery. Rehabilitation programs are supervised by rehabilitation physicians and include services such as physical and occupational therapy, rehabilitation nursing, speech–language pathology, and prosthetic and orthotic services. In 2018, Medicare spent \$8 billion on IRF care provided to fee-for-service (FFS) beneficiaries in about 1,170 IRFs nationwide. About 364,000 beneficiaries had 408,000 IRF stays. On average, the Medicare FFS program accounted for about 59 percent of IRF discharges.

Assessment of payment adequacy

Our indicators of Medicare payment adequacy for IRFs are positive.

Beneficiaries’ access to care—Our analysis of IRF supply and volume of services provided and IRFs’ marginal profit under Medicare’s IRF prospective payment system suggest that access remains adequate.

- **Capacity and supply of providers**—After declining for several years, the number of IRFs increased in 2014 and continued to grow through 2016, reaching 1,188 facilities nationwide. In 2017, however, the number of IRFs declined slightly, to 1,178 facilities. This trend continued in 2018, declining to 1,170 facilities. Over time, the number of hospital-based and nonprofit IRFs has fallen, while the number of freestanding and for-profit

In this chapter

- Are Medicare payments adequate in 2020?
- How should Medicare payments change in 2021?

IRFs has increased. In 2018, the average IRF occupancy rate remained at 66 percent, indicating that capacity is more than adequate to meet demand for IRF services.

- **Volume of services**—From 2017 to 2018, the number of Medicare FFS cases increased 3.0 percent, growing to about 408,000 cases after having experienced a stagnant period from 2016 to 2017.
- **Marginal profit**—The marginal profit, an indicator of whether IRFs with excess capacity have an incentive to treat more Medicare beneficiaries, was 20.1 percent for hospital-based IRFs and 40.8 percent for freestanding IRFs—a very positive indicator of patient access.

Quality of care—The Commission tracks three broad categories of IRF quality indicators: rates of discharge to the community and to skilled nursing facilities, rates of readmission to an acute care hospital, and risk-adjusted facility-level change in patients’ functional and cognitive status during the IRF stay. Most measures were steady or improved between 2012 and 2018.

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 almost half of freestanding IRFs in 2018 and about 31 percent Medicare IRF discharges, also has good access to capital. This assessment is reflected in the chain’s continued expansion. We were not able to determine the ability of other freestanding facilities to raise capital. IRFs’ access to capital in large part depends on their total (all-payer) profitability, and in 2018, the total margin for freestanding IRFs averaged 10.7 percent.

Medicare payments and providers’ costs—The aggregate Medicare margin for IRFs has grown steadily since 2010. In the three-year period between 2016 and 2018, the aggregate IRF Medicare margin remained above 13 percent, and in 2018, stood at 14.7 percent. Also in 2018, Medicare margins in freestanding IRFs were 25.4 percent. In 2018, hospital-based IRF margins increased slightly to 2.5 percent.

Growth in IRFs’ costs historically has been low. However, from 2019 to 2020, we anticipate costs in IRFs will grow faster than payments since updates in those years were constrained to 1.35 percent and 2.5 percent, respectively. For 2020, we project an aggregate Medicare margin of 12.7 percent.

The Commission continues to examine the financial performance of relatively efficient IRFs. Our analysis found that relatively efficient IRFs performed better on quality metrics and had costs 18 percent lower than other IRFs. Relatively efficient IRFs were on average larger and had higher occupancy rates, contributing to greater

economies of scale and lower costs. Freestanding and for-profit facilities were more likely to be in the relatively efficient group.

How should payment rates change in 2021?

On the basis of these factors, the Commission recommends a 5 percent reduction to the IRF payment rate for fiscal year 2021. In addition, the Commission reiterates its March 2016 recommendations that (1) the high-cost outlier pool be expanded to further redistribute payments in the IRF payment system and reduce the impact of misalignments between IRF payments and costs and (2) the Secretary conduct focused medical record review of IRFs that have unusual patterns of case mix and coding and conduct other research necessary to improve the accuracy of payments and protect program integrity. ■

Background

After illness, injury, or surgery, some patients need intensive inpatient rehabilitative care, including physical, occupational, and speech therapy. Such services can be provided in inpatient rehabilitation facilities (IRFs).¹ IRFs must be focused primarily 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 2018, Medicare spent \$8 billion on IRF care provided in about 1,170 IRFs nationwide. About 364,000 beneficiaries had almost 408,000 IRF stays. On average, Medicare fee-for-service (FFS) beneficiaries accounted for about 59 percent of IRF 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 CMG, patients are further categorized into one of four tiers based on the presence of certain comorbidities that have been found to increase the cost of care. The IRF PPS also 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 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 must provide—through qualified personnel—rehabilitation nursing, physical therapy, occupational therapy, and, as needed, speech–language pathology and psychological (including neuropsychological) services, social services, and orthotic and prosthetic services;

- 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 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;
- have a plan of treatment for each patient that is established, reviewed, and revised as needed by a physician in consultation with other professional personnel who provide services to the patient; and
- meet the compliance threshold, which requires that no less than 60 percent of patients admitted to an IRF have as a primary diagnosis or comorbidity at least 1 of 13 conditions specified by CMS.³ 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 PPS rather than the IRF PPS.

Medicare coverage criteria for beneficiaries

Medicare applies additional criteria that govern whether IRF services are covered for an individual Medicare beneficiary. 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 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 face-to-face physician visits with a patient at least three days a week.
- The patient requires an intensive and coordinated interdisciplinary team approach to the delivery of rehabilitative care.

**TABLE
10-1**

Patterns of use in IRFs have changed over time

Condition	Share of IRF Medicare FFS cases			Meets compliance threshold ^a	Percentage point change	
	2008	2017	2018		2008-2017	2017-2018
Stroke	20.4%	20.5%	20.0%	yes	0.1	-0.5
Other neurological conditions	8.0	14.9	14.7	yes	6.9	-0.2
Fracture of the lower extremity	16.0	10.4	10.3	yes	-5.6	-0.2
Debility	9.1	10.7	11.6	no	1.6	0.9
Brain injury	7.0	10.7	10.8	yes	3.7	0.1
Other orthopedic conditions	6.1	7.9	7.9	no	1.9	0.0
Cardiac conditions	4.6	5.8	5.9	no	1.1	0.1
Major joint replacement of lower extremity	13.1	4.3	4.1	^b	-8.8	-0.2
Spinal cord injury	4.3	4.9	4.9	yes	0.6	0.0
All other	11.3	9.8	9.7	^c	-1.4	-0.1

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). “Other 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. All Medicare FFS IRF cases with valid patient assessment information were included in this analysis. Yearly figures presented in the table are rounded, but figures in the percentage point change columns were calculated using unrounded data.

^aThe compliance threshold requires that at least 60 percent 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. Some FFS cases with conditions that do not meet the compliance threshold could thus be counted toward the threshold if they had certain comorbidities.

^bCases admitted for rehabilitation after 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.

^cConditions in the “all other” category that meet the compliance threshold include congenital deformity, lower-limb amputations, major multiple trauma, burns, and certain arthritis cases.

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

Patterns of use in IRFs

In 2004, CMS began to consistently enforce the IRF compliance threshold and enacted revisions to some of the qualifying conditions.⁴ 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. By 2008, the number of IRF discharges had fallen 26 percent, with the biggest declines seen in the number of medically complex (–73 percent), arthritis (–68 percent), and hip and knee replacement (–60 percent) cases. Average case-mix severity and cost per case increased as IRFs shifted their mix of cases to conditions that counted toward the threshold, such as stroke, brain injury, and conditions classified as “other neurological” (an impairment group that includes multiple sclerosis, Parkinson’s disease,

polyneuropathy, and neuromuscular disorders). IRF volume stabilized after 2008, but increases in other neurological conditions continued through 2017 (Table 10-1). Between 2008 and 2017, the number of IRF discharges with other neurological conditions climbed 103 percent, and the number of discharges with brain injuries (traumatic and nontraumatic combined) rose 67 percent, while the total number of Medicare IRF discharges increased 9 percent (data not shown). Notably, the number of cases with certain other orthopedic conditions, cardiac conditions, and debility also rose over this period, though a sizable share of these cases do not count toward the compliance threshold.⁵ The number of hip and knee replacement cases going to IRFs continued their downward trajectory, declining an additional 64 percent from 2008 to 2017. IRFs also saw a large decline in cases of fractures of the lower extremity, falling 29 percent over

**TABLE
10-2**

Mix of Medicare FFS IRF cases differed by provider type, selected conditions, 2018

Condition	Freestanding		Hospital based	
	For profit	Nonprofit	For profit	Nonprofit
Stroke	16%	26%	19%	26%
Other neurological conditions	20	8	12	10
Fracture of the lower extremity	9	8	14	11
Debility	12	10	13	11
Brain injury	10	13	11	11
Other orthopedic conditions	10	6	6	6

Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility). "Other 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 Medicare FFS IRF cases with valid patient assessment information were included in this analysis.

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

the same period, even though they counted toward the compliance threshold (data not shown). Between 2017 and 2018, we observed disproportionate growth in the number of cases with debility. The share of these cases rose from 10.7 percent to 11.6 percent of FFS IRF cases (Table 10-1).

From 2012 to 2016, the CMS Comprehensive Error Rate Testing (CERT) program, which evaluates a sample of claims to determine that they were paid properly under Medicare coverage, coding, and billing rules found that the error rate for IRFs spiked from 9 percent to 62 percent. IRFs' error rate accounted for 11 percent of the overall Medicare FFS improper payment rate in 2016 (Centers for Medicare & Medicaid Services 2016). In September 2018, the Office of Inspector General (OIG) released a follow-up report indicating that many IRF stays did not comply with all Medicare coverage and documentation requirements for reasonable and necessary care. OIG's analysis found that only 45 of a random sample of 220 stays met the requirements (Office of Inspector General 2018). Though some in the industry have questioned these reports, the OIG's and CERT program's findings raise concern regarding efficient internal controls and oversight of IRF documentation and indicate that the enforcement of such criteria is not sufficient.

The distribution of case types differs by type of IRF (Table 10-2). For example, in 2018, only 16 percent of cases in freestanding for-profit IRFs were admitted for rehabilitation following a stroke, compared with 26 percent of cases in hospital-based nonprofit IRFs. Likewise, 20 percent of cases in freestanding for-profit IRFs were admitted with other neurological conditions, twice the share admitted to hospital-based nonprofit IRFs. Cases with other orthopedic conditions also made up a higher share of cases in freestanding for-profit facilities than in all other IRFs. By contrast, the share of cases with brain injury or debility was similar across IRF types.

High-margin IRFs have a different mix of cases

A previous Commission analysis of differences in the mix of cases across IRFs suggested that patient selection contributes to provider profitability (Medicare Payment Advisory Commission 2016). We found that IRFs with the highest margins in 2013 had a higher share of other neurological cases and a lower share of stroke cases.⁶ Further, we observed differences in the types of stroke and other neurological conditions admitted to high-margin and low-margin IRFs. Stroke cases in the highest margin IRFs were two-and-a-half times more likely than those in the lowest margin IRFs to have no paralysis. Likewise, other neurological cases 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) as opposed to neurological conditions such as multiple sclerosis or Parkinson’s disease.

As noted in our March 2016 report to the Congress, these findings suggest that, under the IRF PPS, some case types are more profitable than others. The Commission plans to assess variation in costs among the IRF CMGs and differences in relative profitability across CMGs in future analyses. It is necessary to identify and reduce variation in costs among CMGs and properly calibrate payments with costs for each group to avoid overpayments and reduce financial incentives for providers to admit certain types of cases and avoid others. In the short term, the Commission has recommended that the Secretary effect changes to reduce potential misalignments between IRF payments and costs by redistributing payments in the IRF PPS through the high-cost outlier pool (see text box on March 2016 recommendations). Expanding the outlier pool would increase outlier payments for the costliest cases, easing the financial burden for IRFs that have a relatively high share of these cases.

Data suggest patients not assessed uniformly across IRFs

A previous Commission analysis of acute care hospital claims data and data from the Inpatient Rehabilitation Facility–Patient Assessment Instrument (IRF–PAI), while not definitive, strongly suggests that IRFs differ in their assessment of patients’ motor and cognitive function, raising more generalized concerns about patient assessment data (Medicare Payment Advisory Commission 2016).

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:

- 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.
- Patients in high-margin IRFs 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.

But once patients were admitted to and assessed by the IRF, the average patient profile changed, with patients treated in high-margin IRFs appearing to be more disabled than those in low-margin IRFs (as measured by motor impairment scores assigned by IRFs). This pattern persisted across case types.

As noted in our March 2016 report to the Congress, 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 assessment in the IRF suggests that assessment and scoring practices contribute to greater profitability in some IRFs, especially given the comparatively low level of costs and cost growth observed in high-margin facilities. If providers differ in their assessment and scoring of patients’ motor and cognitive function, payments will not be properly aligned with patients’ resource needs. Some IRFs will receive payments that are too high relative to the costs incurred in treating their patients, while other IRFs will receive payments that are too low.

These findings led the Commission to recommend that CMS ensure payment accuracy and help improve program integrity by reviewing medical records and conducting other research as necessary (see text box on March 2016 recommendations). Recently, as described in the June 2019 report to the Congress, the Commission found that provider-reported patient functional assessment data are inconsistent and discussed strategies to improve the assessments, including improving the monitoring of provider-reported assessments (i.e., audit program to follow up on aberrant results).

Are Medicare payments adequate in 2020?

To assess whether payments for fiscal year 2020 are adequate to cover the costs providers incur and how much providers’ costs are expected to change in the coming year (2021), 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.

The Commission reiterates its March 2016 recommendations on the IRF prospective 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 inpatient rehabilitation facilities (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.

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 case-mix groups (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. ■

**TABLE
10-3**

The number of for-profit and freestanding IRFs continued to grow in 2018

Type of IRF	Share of Medicare FFS discharges 2018	Number of IRFs						Average annual change	
		2013	2014	2015	2016	2017	2018	2013-2017	2017-2018
All IRFs	100%	1,161	1,177	1,182	1,188	1,178	1,170	0.4%	-0.7%
Urban	93	977	1,013	1,020	1,026	1,019	1,014	1.1	-0.5
Rural	7	184	164	162	162	159	156	-3.6	-1.9
Freestanding	53	243	251	262	273	279	290	3.5	3.9
Hospital based	47	918	926	920	915	899	880	-0.5	-2.1
Nonprofit	37	677	681	681	676	655	642	-0.8	-2.0
For profit	56	322	338	352	370	392	400	5.0	2.0
Government	7	155	149	138	133	125	121	-5.2	-3.2

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 was due primarily to changes in the core-based statistical areas, 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. Ownership components may not sum to totals due to missing data.

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

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, potentially lower cost post-acute care (PAC) provider (such as a skilled nursing facility (SNF)) 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. Moreover, the marginal profit, an indicator of whether IRFs with excess capacity have an incentive to treat more Medicare beneficiaries, was robust for both freestanding and hospital-based IRFs, thus providing a very positive indicator of patient access.

Number of IRFs and occupancy rates suggest adequate capacity and supply

After a small decline in 2013, the number of IRFs increased in 2014 and continued to grow through 2016

to 1,188 facilities nationwide (Table 10-3). Then in 2017, the number of IRFs fell 0.8 percent to 1,178 facilities. This trend continued in 2018, decreasing to 1,170 facilities. However, IRFs are not the sole provider of rehabilitation services in communities; SNFs also provide rehabilitation services in an institutional setting, and home health agencies, comprehensive outpatient rehabilitation facilities, and independent therapy providers furnish care at home or on an outpatient basis. Given the number and distribution of these other rehabilitation therapy providers, it is unlikely that areas exist where IRFs are the only provider of rehabilitation therapy services available to Medicare beneficiaries. Additionally, even with the overall decline in the number of IRF facilities, the number of freestanding and for-profit facilities continues to grow. Between 2013 and 2017, the number of hospital-based IRFs fell by 0.5 percent and the number of nonprofit IRFs fell by 0.8 percent, while the number of freestanding IRFs and for-profit IRFs rose by 3.5 percent and 5.0 percent, respectively.

In 2018, about 75 percent of IRFs were distinct units in acute care hospitals; the rest were freestanding facilities.

**TABLE
10-4**

The number of IRF cases per FFS beneficiary increased in 2018

	2010	2015	2016	2017	2018	Average annual change	
						2010-2018	2017-2018
Number of cases	365,095	393,475	396,247	396,294	408,038	1.4%	3.0%
Cases per 10,000 FFS beneficiaries	101.3	103.4	103.2	102.7	105.7	0.5	2.9
Payment per case	\$16,814	\$18,527	\$18,931	\$19,481	\$20,124	2.3	3.3
ALOS (in days)	13.1	12.7	12.7	12.7	12.7	-0.4	-0.6
Users	330,774	354,343	355,390	354,618	363,753	1.2	2.6

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service), ALOS (average length of stay). The number of cases presented differs from past reports due to a change in methodology. Yearly figures presented in the table are rounded, but the percent change columns were calculated using unrounded data.

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

However, because hospital-based units have, on average, fewer beds and a lower share of Medicare discharges, they accounted for only 47 percent of Medicare discharges. Overall, 34 percent of IRFs were for-profit entities. Freestanding IRFs were far more likely to be for profit than were hospital-based IRFs (78 percent vs. 19 percent; data not shown). In 2018, 56 percent of Medicare discharges were from for-profit facilities.

In 2018, 35 IRFs closed; almost all were hospital-based units. At the same time, 27 new IRFs opened. Slightly more than half of the new IRFs were hospital-based units. Of the new hospital-based units, about a third were for-profit; of the new freestanding facilities, a majority were for profit. Acute care hospitals find that IRF units can help reduce inpatient lengths of stay. Previous Commission analyses have found that hospitals with IRF units have higher inpatient margins than hospitals without such units (Medicare Payment Advisory Commission 2015).

In 2018, the average IRF occupancy rate slightly increased to 66 percent. Occupancy rates remain higher in freestanding IRFs (69 percent); however, in 2018, the occupancy rates in hospital-based IRFs increased by 2 percentage points (63 percent vs. 61 percent in 2017). These rates suggest that capacity is more than adequate to meet demand for IRF services.

IRF Medicare volume increased in 2018

As previously reported, after CMS renewed its enforcement of the compliance threshold in 2004, IRF volume declined substantially between 2004 to 2008 (Medicare Payment Advisory Commission 2019). At that point, volume began to increase slowly, rising each year (Table 10-4). After a stagnant period from 2016 to 2017, the number of Medicare FFS cases increased 3.0 percent, growing to about 408,000 cases in 2018.

In 2018, the number of IRF cases per 10,000 FFS beneficiaries grew to 105.7, up 2.9 percent from the previous year. Relatively few Medicare beneficiaries use IRF services because, to qualify for Medicare coverage, IRF patients must be able to tolerate and benefit from rehabilitation therapy that is intensive, which is usually interpreted to mean at least three hours of therapy a day for at least five days a week. Yet, compared with all Medicare beneficiaries, those admitted to IRFs in 2018 were disproportionately over age 85 (data not shown).

With the increase in the number of IRF cases per FFS beneficiary, FFS Medicare's share of IRF discharges rose slightly to 59 percent of total discharges as the volume of IRF cases across all payers also increased in 2018 (data not shown).

**TABLE
10-5**

Risk-adjusted quality indicators for IRFs held steady or improved slightly from 2012 to 2018

Measure	2012	2014	2015	2016	2017	2018
Potentially avoidable rehospitalizations during IRF stay	2.8%	2.7%	2.6%	2.7%	2.7%	2.6%
Discharged to a SNF	6.7%	6.9%	6.9%	6.7%	6.7%	6.6%
Discharged to the community	74.4%	75.3%	75.1%	76.0%	76.0%	76.4%
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	5.0%	4.8%	4.4%	4.8%	4.8%	4.8%
Motor FIM™ gain (in points)	22.1	22.9	23.1	23.7	24.0	24.3
Cognitive FIM™ gain (in points)	3.5	3.7	3.8	3.9	3.9	4.0

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility), FIM™ (Functional Independence Measure™). 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 Medicare fee-for-service stays. 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 gain indicates more improvement. Mean FIM gain averages the change of all facilities with 25 or more Medicare fee-for-service stays.

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

Marginal profit provides incentive to treat more Medicare beneficiaries

Another measure of access is whether providers have a financial incentive to expand the number of Medicare beneficiaries they serve. In considering whether to treat a patient, a provider with excess capacity compares the marginal revenue it will receive (i.e., the Medicare payment) with its marginal costs—that is, the costs that vary with volume. If Medicare payments are larger than the marginal costs of treating an additional beneficiary, a provider has a financial incentive to increase its volume of Medicare patients. In contrast, if payments do not cover the marginal costs, the provider could have a disincentive to care for Medicare beneficiaries. 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 increase the number of Medicare beneficiaries they serve.⁷ We found that Medicare payments exceed marginal costs by a substantial amount—20 percent for hospital-based IRFs and 41 percent for freestanding IRFs—suggesting that IRFs with available beds have a strong incentive to admit Medicare patients.

Quality of care: Steady or improved for most measures

Between 2012 and 2018, the Commission tracked 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 to an acute care hospital. (For a detailed discussion of the methodology underlying the Commission’s quality measures, see our March 2019 report to the Congress.) During this period, most measures were steady or improved.

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

Avoidable rehospitalizations expose beneficiaries to hospital-acquired infections, 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 Medicare spending. 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 rehospitalization in the 30 days after discharge reflects in part how well facilities prepare beneficiaries and their caregivers for safe and appropriate transitions to the home or the next health care setting. Because IRFs are also hospitals, the rate of rehospitalization should ideally be low. Between 2014 and 2018, the national average rate

of risk-adjusted potentially avoidable rehospitalizations during the IRF stay was about 2.7 percent (Table 10-5). Meanwhile, between 2012 and 2018, the rate of risk-adjusted potentially avoidable rehospitalization within 30 days after discharge from an IRF declined from 5.0 percent to 4.4 percent in 2015, then rose to 4.8 percent in 2018 (a slight improvement since 2012).

We also examined rates of discharge to the community and to SNFs. We found that between 2012 and 2018, the national average for the risk-adjusted community discharge rate increased from 74.4 percent to 76.4 percent.⁹ (Higher rates are better.) Between 2012 and 2015, the national average for the risk-adjusted rate of discharge to SNFs increased from 6.7 percent to 6.9 percent, but subsequently declined to 6.6 percent in 2018. (Lower rates are better.)

Change in functional status during IRF stay

The Commission also considers functional status at admission and discharge, measured using the motor and cognitive scores on the IRF-PAI. In its June 2019 report to the Congress, the Commission reported that broad function levels were associated with other patient characteristics, such as age and patient complexity, giving us some reassurance that in aggregate the measures may be reasonable. However, when comparing assessments for individual patients, the work raised serious questions about the accuracy of the provider-reported functional assessments. For beneficiaries transferred from one PAC setting and admitted to another, the functional status recorded at discharge from one setting and at admission to the next were often different, and the differences favored reporting that would raise payments. Further, for the same beneficiaries, a disproportionate share of the levels reported for quality were reported higher than those reported for payment-related items. The Commission concluded that the accuracy of this information needs to be improved before it is used to adjust payment (including value-based payment) and to gauge individual providers' quality.

The IRF-PAI incorporates the 18-item Functional Independence MeasureTM (FIMTM) 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 5 to 35, with higher scores indicating greater 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 motor function and cognition between admission and discharge.

In 2018, the mean gain (positive change) in the motor FIM score during an IRF stay was 24.3, and the mean gain for the cognitive FIM score was 4.0 (Table 10-5). From 2012 to 2018, the average risk-adjusted gain in IRF patients' motor and cognitive FIM scores (as assigned by IRFs) increased about 10 percent and 14 percent, respectively. However, changes in motor function and cognition must be interpreted with caution due to the subjective nature of the measures.

Variation in quality measures across IRFs

IRFs varied widely in their performance on Medicare's quality measures (Table 10-6, p. 286). In 2018, the best performing quartile of IRFs had a risk-adjusted rate of discharge to a SNF that was 4.1 percent or lower, less than half the rate of the worst performing quartile. (A lower rate of discharge to a SNF is better.) Risk-adjusted rates of discharge to the community varied as well: The best performing quartile of IRFs had a community discharge rate 6 percentage points higher (79.3 percent or higher) than the worst performing quartile. (A higher rate of discharge to the community is better.) Rehospitalization rates also varied: The best performing quartile had risk-adjusted rates of potentially avoidable rehospitalization during the IRF stay that were at half the rate of the worst performing quartile, with a rate of 1.7 percent or below. (A lower rate of readmissions is better.) IRF providers need to continue to prioritize the quality of care to ensure that all beneficiaries are receiving equitable care. The variation in performance among IRF providers suggests that disparity in the quality of care is an area that needs improvement, even for measures with low rates.

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 the hospital chapter, hospitals' access to capital remained

**TABLE
10-6**

Performance on risk-adjusted quality measures varied across IRFs in 2018

Measure	Risk-adjusted rate			Ratio of best to worst performing quartile
	Mean	Worst performing quartile	Best performing quartile	
Potentially avoidable rehospitalizations during IRF stay	2.6%	3.4%	1.7%	0.50
Discharged to a SNF	6.6%	8.5%	4.1%	0.48
Discharged to the community	76.4%	73.4%	79.3%	1.08
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	4.8%	6.0%	3.6%	0.60
Motor FIM™ gain	24.3	21.6	27.0	1.25
Cognitive FIM gain	4.0	3.0	4.8	1.59

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility), FIM™ (Functional Independence Measure™). 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 Medicare fee-for-service stays. 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 gain indicates more improvement.

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

strong in 2018, although bond issuances decreased, in part due to higher interest rates relative to 2017. Since 2018, interest rates on these hospital bonds have fallen below 2017 levels, while 2019 bond issuances were on pace to eclipse their 2018 levels (Thomson Reuters 2019). Hospital construction spending in 2018 was about \$25 billion, which has been relatively stable since 2014 when the health care industry began to see a decrease in spending on inpatient hospital capacity (Census Bureau 2019). This trend is in part due to health systems focusing on lower cost outpatient facilities and renovations of existing facilities (Conn 2017).

Market analysts indicate that the IRF industry’s largest chain, Encompass Health (formerly HealthSouth)—which owned almost half of freestanding IRFs in 2018 and accounted for over 30 percent of all Medicare IRF discharges—has good access to capital. This assessment is reflected in the chain’s continued expansion. Analysts note that Encompass Health traditionally has prioritized building new facilities over acquiring existing facilities, which allows the company to maintain control over facility size, layout, and amenities. Approximately one in three U.S. patients receiving inpatient rehabilitative care receives it through an Encompass Health rehabilitation hospital (Encompass Health 2019a). In 2018, the company

opened two new facilities and four more in 2019, with three additional facilities scheduled to open in 2020. The new facilities are frequently joint ventures with acute care hospitals (Encompass Health 2019b). As part of a vertical integration strategy, the company has acquired home health agencies and hospice providers to expand its PAC business and drive more effective collaboration between its rehabilitation facilities and home health agencies.

Most other freestanding IRFs are independent or local chains with a limited number of facilities. The extent to which these providers have access to capital is less clear.

IRFs’ access to capital depends in large part on their total (all-payer) profitability. In 2018, total margins for freestanding IRFs remained healthy, with an aggregate margin of 10.7 percent, up 0.3 percentage point from 2017. Profitability varied by ownership. In 2018, for-profit IRFs had an aggregate total margin of 13.2 percent compared with 5.5 percent for nonprofit IRFs. Data are not available to calculate total margins for hospital-based IRFs. However, in 2018, hospitals’ aggregate total margins across all lines of service for hospitals with and without IRF units were similar, at 6.8 percent and 6.7 percent, respectively.

**TABLE
10-7**

Aggregate IRF Medicare margins increased in 2018

Type of IRF	Share of Medicare discharges, 2018	Margins							
		2008	2010	2012	2014	2015	2016	2017	2018
All IRFs	100%	9.4%	8.6%	11.2%	12.2%	13.9%	13.3%	13.9%	14.7%
Hospital based	47	3.8	-0.5	0.6	0.7	2.1	0.8	1.5	2.5
Freestanding	53	18.2	21.4	23.9	25.2	26.6	25.8	25.6	25.4
Nonprofit	37	5.3	2.1	2.0	1.7	3.4	1.5	2.1	2.4
For profit	56	16.9	19.6	23.0	23.9	25.1	24.5	24.1	24.6
Government	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Urban	93	9.6	9.0	11.5	12.6	14.3	13.6	14.2	15.0
Rural	7	7.2	4.7	6.6	6.4	8.6	9.1	8.2	9.8
Number of beds									
1 to 10	2	-4.9	-10.3	-6.9	-11.0	-7.5	-10.1	-11.0	-5.5
11 to 24	20	1.3	-3.3	-1.3	-0.3	-0.4	-0.4	0.7	2.2
25 to 64	48	10.0	10.6	12.2	14.0	16.0	15.0	15.8	17.0
65 or more	30	17.4	17.5	21.0	20.6	23.0	22.4	21.9	21.1
Medicare FFS share									
<50%	19	6.0	-0.4	-0.2	0.6	1.8	1.1	1.8	3.3
50% to 75%	57	9.8	9.1	11.1	12.8	15.7	15.0	15.1	15.7
>75%	24	10.4	14.9	19.5	19.5	19.8	19.7	22.0	23.3

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. Percentages may not sum to 100 due to rounding.

Source: MedPAC analysis of cost report data from CMS.

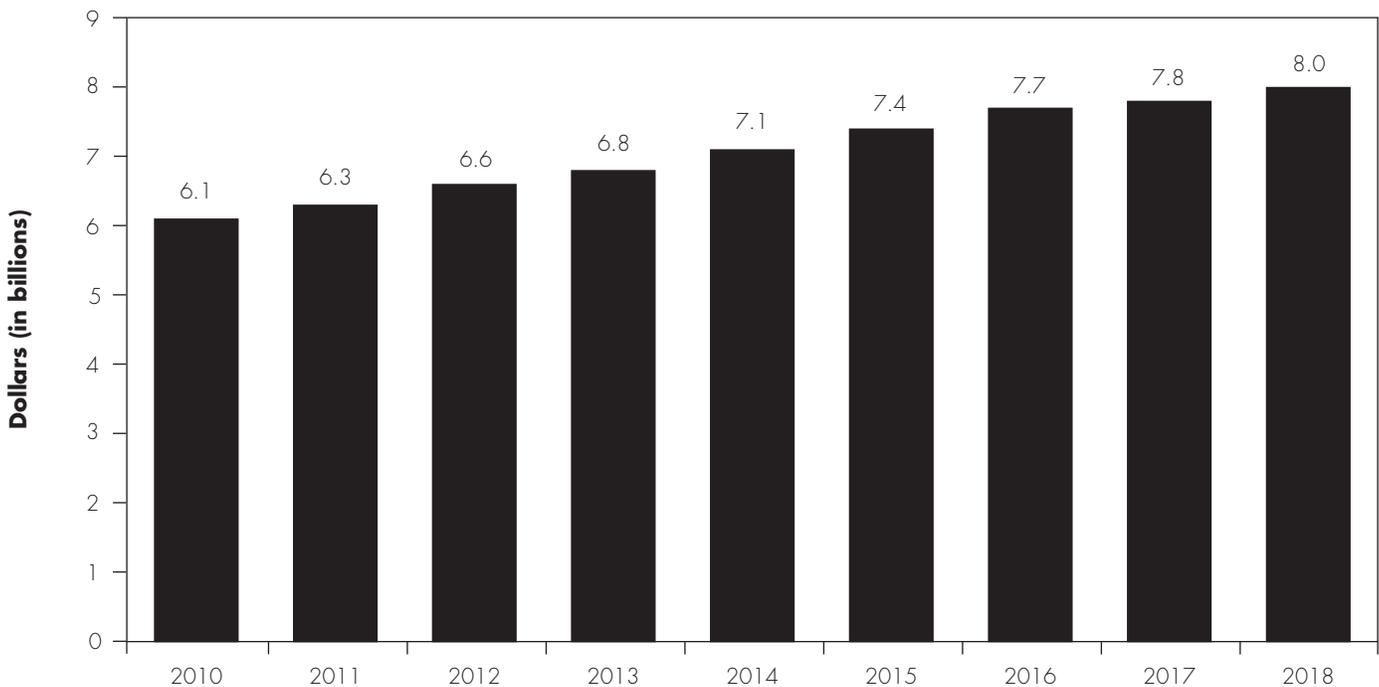
Medicare payments and providers' costs: Medicare margins remained high in 2018

Aggregate Medicare margins grew steadily between 2010 and 2015 and increased again in 2017 to 13.9 percent (Table 10-7). In 2018, aggregate margins continued to rise to 14.7 percent.¹⁰ Between 2015 and 2018, Medicare margins in freestanding IRFs fell slightly from a peak of 26.6 percent to 25.4 percent. Hospital-based IRF margins were comparatively low at 2.5 percent in 2018, but one-quarter of hospital-based IRFs had Medicare margins greater than 13 percent (data not shown), indicating that many hospitals can manage their IRF units profitably.

Trends in spending and cost growth

The Office of the Actuary estimates that Medicare FFS spending for IRF services in fiscal year 2018 was \$8.0 billion (Figure 10-1, p. 288). Program spending has been growing, on average, more than 3 percent per year since 2010. A combination of increases in the number of Medicare beneficiaries receiving care in IRFs (average growth of 1.2 percent per year) and payment increases averaging 3.7 percent per year contributed to this growth in spending.

Since 2010, payments have been growing faster than costs (Figure 10-2, p. 289). From 2010 to 2015, the cumulative

**FIGURE
10-1****Program spending for IRF services has grown steadily since 2010**

Note: IRF (inpatient rehabilitation facility).

Source: Office of the Actuary 2019.

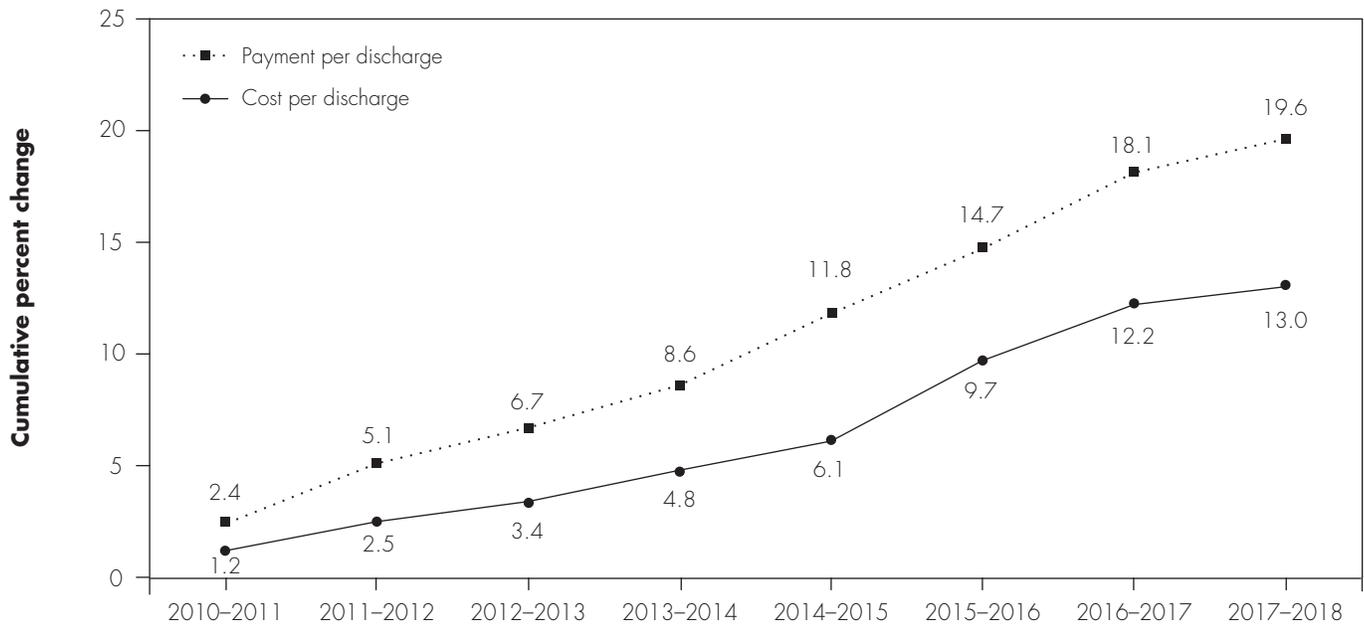
growth in cost per discharge was 6.1 percent, an average of just 1.2 percent per year. The cumulative growth in cost per discharge for freestanding for-profit IRFs was especially slow over this period, at just 1.1 percent (data not shown). In contrast, payments per discharge grew more rapidly than costs, climbing a cumulative 11.8 percent over this period (an average of 2.4 percent per year) and 12.0 percent for freestanding for-profit IRFs (latter figure not shown). These differences in per case cost and payment growth led to a steady rise between 2010 and 2015 in aggregate Medicare margins, which climbed from 8.6 percent to 13.9 percent (Table 10-7, p. 287).

Between 2015 and 2016, cost growth outpaced payment growth for the first time since 2009, climbing 3.6 percentage points, the fastest rate of cost growth since 2008. However, from 2016 to 2017, payments per discharge again increased faster than costs, growing by 3.4 percentage points compared with 2.5 percentage points

for costs. In 2018, per case payments continued to grow faster than costs (1.5 percentage points compared with 0.8 percentage points), resulting in an aggregate IRF margin of 14.7 percent. From 2015 through 2018, aggregate Medicare margins for IRFs remained above 13 percent (Table 10-7, p. 287).

Aggregate Medicare margins are high but vary widely

Financial performance varied across IRFs. In 2018, the aggregate margin for freestanding IRFs (which accounted for 53 percent of Medicare discharges from IRFs) was 25.4 percent; hospital-based IRFs had an aggregate margin of 2.5 percent (Table 10-7, p. 287). Margins varied by ownership as well, with for-profit IRFs having a substantially higher aggregate Medicare margin in 2018 than nonprofit IRFs (24.6 percent vs. 2.4 percent). (Hospital-based IRFs are far more likely than freestanding

FIGURE 10-2**IRFs' payments per discharge increased cumulatively more than costs, 2010-2018**

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.

IRFs to be nonprofit.) Among freestanding IRFs, nonprofit facilities (which accounted for 6 percent of Medicare discharges from IRFs) had an aggregate margin of 9.6 percent (data not shown). Freestanding for-profit IRFs (which accounted for 47 percent of Medicare discharges from IRFs) had an aggregate margin of 27.9 percent (data not shown). Among hospital-based IRFs, the aggregate margin for nonprofit units (which accounted for 30 percent of Medicare discharges from IRFs) was 0.8 percent, compared with 9.3 percent for for-profit units (which accounted for 10 percent of Medicare discharges from IRFs; data not shown).

Higher unit costs were the primary driver of differences in financial performance between freestanding and hospital-based IRFs. Freestanding IRFs had a median standardized cost per discharge that was 26 percent lower than that of hospital-based IRFs (\$12,105 vs. \$16,391, respectively). Hospital-based IRFs are far more likely than freestanding IRFs to be nonprofit, which could contribute to the

disparity in unit costs. But even nonprofit freestanding IRFs had a median standardized cost per discharge that was 9.1 percent lower than that of hospital-based IRFs (data not shown). Previous Commission analysis of underlying cost components found that hospital-based IRFs had higher costs than freestanding IRFs across all cost categories, with the biggest difference manifesting in routine costs (Medicare Payment Advisory Commission 2015).

Nevertheless, one-quarter of hospital-based IRFs had Medicare margins greater than 13 percent, indicating that many hospitals can manage their IRF units profitably. Further, despite comparatively low average margins in hospital-based IRFs, evidence suggests that these units make a positive financial contribution to their parent hospitals. For example, aggregate inpatient Medicare margins for hospitals are consistently higher for hospitals with IRF units versus hospitals without (1.4 percentage

points higher in 2018). Aggregate overall Medicare margins for hospitals with IRF units were 2.4 percentage points higher for 2018.

Margins also varied by facility size. In 2018, the aggregate Medicare margin for IRFs with 10 or fewer beds was -5.5 percent, compared with 21.1 percent for IRFs with 65 or more beds (Table 10-7, p. 287). These differences are in large measure due to differences in economies of scale leading to higher costs in smaller facilities. The median standardized cost for IRFs with fewer than 10 beds was 48 percent higher than for IRFs with 65 or more beds (\$18,822 compared with \$12,687; data not shown). Smaller facilities also tend to have lower occupancy rates than large facilities (54 percent compared with 74 percent in 2018), also contributing to differences in costs.

Medicare margins tended to rise as the share of Medicare patients increased. The aggregate Medicare margin in 2018 was 3.3 percent for IRFs in which less than half of discharges were covered by FFS Medicare, compared with 23.3 percent for IRFs in which more than three-quarters of discharges were covered by FFS Medicare (Table 10-7, p. 287). The positive correlation between Medicare share and Medicare margin indicates that Medicare's payments to IRFs are higher than those of other payers. Further, the high aggregate Medicare margin in IRFs with high Medicare shares indicates that Medicare payments substantially exceed the costs of caring for beneficiaries.

Numerous factors contribute to lower margins in hospital-based IRFs

Several factors account for the disparity in margins between hospital-based and freestanding IRFs, including differences in economies of scale (as described above), stringency of cost control, service mix, and patient mix. Differences in IRFs' assessment of patients' motor function and cognition likely also play a role.

Hospital-based IRFs may be less stringent in cost control

Hospital-based IRFs appear to be less stringent in their cost control. Between 2010 and 2018, costs per case for hospital-based IRFs grew 18.9 percent, compared with 10.1 percent for freestanding IRFs. Notably, hospital-based IRFs are far less likely than freestanding IRFs to be for profit and therefore less likely to be focused on controlling costs to maximize returns to investors. We see this effect among freestanding IRFs, where the cumulative increase in costs per case from 2010 to 2018 for nonprofits

(30.0 percent) far outstripped that of for-profit facilities (7.4 percent).

Hospital-based IRFs have a different mix of patients

There are marked differences in hospital-based and freestanding IRFs' mix of cases. In 2018, hospital-based IRFs compared with freestanding IRFs admitted a larger share of patients with stroke as the primary reason for rehabilitation (24 percent vs. 17 percent). Similarly, freestanding IRFs compared with hospital-based IRFs admitted larger shares of cases with certain other neurological conditions (19 percent vs. 10 percent) and certain other orthopedic conditions (10 percent vs. 6 percent). Notably, the impairment groups of other neurological and other orthopedic conditions encompass a broader range of conditions than do other impairment groups. This clinical heterogeneity can allow favorable selection of patients within these groups based on their likely costs of care. Cases with other neurological conditions also count toward the compliance threshold, so IRFs with higher shares of these cases can 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 larger shares of those cases. The Commission plans to examine the relative profitability of the IRF case-mix groups in a future analysis.

Hospital-based IRF facilities in 2018 accounted for 45 percent of the Medicare FFS discharges. In general, hospital-based IRFs have a much larger share of cases with extraordinarily high costs. In 2018, 14 percent of hospital-based IRF cases qualified for high-cost outlier payments, compared with 3 percent of freestanding IRF cases. Indeed, 82 percent of Medicare's IRF outlier payments were made to hospital-based facilities. Though these payments diminish losses per case for such outliers, they do not completely cover the 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.

Hospital-based IRFs appear to assess their patients differently

Historically, evidence suggests that assessments of patients' motor and cognitive function are not reliably consistent across IRFs. Some in the industry have postulated that hospital-based IRFs devote less time to training assessment staff and verifying the accuracy of assessments, resulting in less reliable measures of patients' motor and cognitive function in hospital-based IRFs.

Others assert that some freestanding IRFs aggressively assess their patients in a way that maximizes payment. To the extent that hospital-based IRFs consistently assess their patients as less disabled than do their freestanding counterparts, for whatever reason, their payments—and margins—will be systematically lower.

Efficient-provider analysis

The Commission is required by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 to consider the costs associated with efficient providers.

The Commission follows two principles when selecting a set of efficient providers. First, the providers must do relatively well on both cost and quality metrics. Second, the performance has to be consistent, meaning that the provider cannot have poor performance on any metric in any of three consecutive years preceding the year under evaluation. The Commission’s approach is to develop a set of criteria and then examine how many providers meet them. It does not establish a set share (for example, 10 percent) of providers to be considered efficient and then define criteria to meet that pool size. (For a more detailed discussion of the Commission’s methodology, see our March 2019 report to the Congress: http://medpac.gov/docs/default-source/reports/mar19_medpac_ch10_sec.pdf?sfvrsn=0.)

Our analysis finds that relatively efficient IRFs had lower rates of rehospitalization and discharge to SNFs than other IRFs. While payment rates to all IRFs were similar, standardized costs per discharge for this group were 18 percent lower, leading to a large difference in the median Medicare margin, which was 17.8 percent for the relatively efficient group compared with 1.1 percent for other IRFs (Table 10-8, p. 292).

Relatively efficient IRFs were on average larger and had higher occupancy rates compared with other IRFs, leading to greater economies of scale. The mix of cases also differed somewhat between the relatively efficient and other IRFs. Relatively efficient IRFs had a higher average case-mix index and more cases with other neurological conditions, but smaller shares of stroke cases compared with other IRFs.

Although all types of facilities were represented in the relatively efficient group of IRFs, they were much more likely to be freestanding, for profit, or both. Hospital-based nonprofit IRFs were less likely to be in the relatively

efficient group, although they accounted for over a third (about 37 percent) of this group.

Previous Commission analyses suggest that assessment and scoring practices contribute to greater profitability in some IRFs (Medicare Payment Advisory Commission 2016). The results of the efficient provider analysis must therefore be interpreted with caution due to the subjective nature of the function measures used to categorize patients and their direct association with Medicare payment and profitability.

How should Medicare payments change in 2021?

To estimate 2020 payments, costs, and margins with 2018 data, the Commission considers policy changes effective in 2019 and 2020. The changes that affect our estimate of the 2020 margin include:

- changes to the high-cost outlier amount in 2019, which lowered payments by 0.1 percentage point, and
- an update of 2.5 percent in 2020 based on an IRF market basket increase of 2.9 percent and an offsetting multifactor productivity adjustment of 0.4 percent.

Historically, cost growth in this sector has been at or below market basket levels, though between 2015 and 2016, cost growth exceeded the market basket. We use a three-year historical average to estimate cost growth in 2019 and 2020.

Considering these assumptions, we project an aggregate Medicare margin of 12.7 percent for IRFs in 2020.

For fiscal years 2009 through 2017, the Commission recommended a 0 percent update to the IRF payment rate. In its calculations for fiscal year 2019, however, as the aggregate margin neared historic highs, the Commission recommended in its March 2018 and March 2019 reports that the Congress reduce IRF payment rates by 5 percent. Because our recommendations were not enacted and because, in the absence of legislative action, CMS is required by statute to apply an adjusted market basket increase, payments have continued to rise. From 2010 to 2015, the cumulative growth in payments per discharge exceeded cost growth—which remained well below market basket levels. In 2016, however, the gap between

**TABLE
10-8**

Characteristics of relatively efficient providers, 2018

Performance in 2018	Type of IRF		Ratio of relatively efficient to other IRFs
	Relatively efficient IRFs	Other IRFs	
Quality measures:			
Rehospitalization rate	2.3%	2.6%	0.86
Discharge to SNF rate	4.8%	6.6%	0.73
Cost and payment measures:			
Payment per discharge	\$20,734	\$20,627	1.01
Standardized cost per discharge	\$13,391	\$16,392	0.82
Medicare margin	17.8%	1.1%	N/A
Facility characteristics:			
Facility case-mix index	1.33	1.28	1.04
Length of stay (in days)	12.4	12.6	0.99
Occupancy rate	69%	63%	1.09
Number of beds	30	23	1.30
Share of discharges for:			
Stroke	19.0%	23.5%	0.81
Other neurological conditions	10.0%	6.9%	1.45
Share of facilities:			
Freestanding	41.0%	21.8%	N/A
For profit	51.6%	31.9%	N/A
Hospital-based nonprofit	37.3%	54.1%	N/A

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility), N/A (not applicable). All data are medians unless otherwise indicated. IRFs were identified as “relatively efficient” based on a cost measure (costs per discharge) and two quality measures (rates of readmission and discharge to SNFs) between 2015 and 2017. Relatively efficient IRFs were those in the best third of the distribution for one measure and not in the worst third for any measure in each of the three years. Costs per discharge were standardized for differences in area wages; mix of cases; and prevalence of high-cost outliers, short-stay outliers, and transfer cases. Quality measures were calculated for all facilities with 25 or more fee-for-service stays. “Rehospitalization rate” refers to potentially avoidable rehospitalizations during the IRF stay. High rates of rehospitalization and discharge to SNF indicate worse quality. “Other neurological conditions” includes multiple sclerosis, Parkinson’s disease, polyneuropathy, and neuromuscular disorders.

Source: MedPAC analysis of Medicare cost report data, Medicare Provider Analysis and Review data, and Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS for 2015 to 2018.

payments and costs narrowed somewhat as per case cost growth exceeded payment growth for the first time since 2008. As a result, the aggregate margin in 2016 declined but remained high. In 2017 and 2018, payments again increased faster than costs, raising margins to 13.9 and 14.7 percent, respectively. These high aggregate margins indicate that aggregate Medicare payments continue to substantially exceed the costs of caring for beneficiaries in IRFs. Absent congressional action, payments to IRFs will

continue to increase in fiscal year 2021 by an estimated 2.7 percent, the largest payment rate update in the past decade.

Reducing the payment rate for IRFs would better align Medicare payments with the costs of IRF care. The Commission also continues to believe that the high-cost outlier pool should be expanded, as previously recommended in 2016, to further redistribute payments within the IRF PPS and reduce the impact of potential

misalignments between IRF payments and costs. Currently, the outlier pool is set at 3 percent of total IRF payments. Expanding the outlier pool would increase outlier payments for the costliest cases, ameliorating the financial burden for IRFs that have a relatively high share of these cases. The expanded outlier pool would be funded by an offset to the national base payment amount, which would further reduce all case-mix group (CMG) payment rates by the same percentage across the board. As noted in our March 2016 and March 2017 reports to the Congress, expanding the outlier pool could increase payments for providers who are less efficient as well as for providers whose patients' acuity is not well captured by the case-mix system. Nevertheless, because of concerns about the accuracy of Medicare's payments for resource-intensive cases, the Commission maintains that an expanded outlier pool is warranted in the near term. Over the longer term, however, CMS must ensure the accuracy of Medicare's payments by determining that IRFs' assessment and scoring consistently reflect patients' level of disability. Research is also needed to assess variation in costs within the IRF CMGs and differences in relative profitability across CMGs. In the future, CMS could enact payment system reforms that necessitate reassessment of IRF outlier payments and adjustments to the outlier pool, including a return to a smaller pool.

The Commission also reiterates its March 2016 recommendation that the Secretary conduct focused medical record review of IRFs that have unusual patterns of case mix and coding and conduct other research necessary to improve the accuracy of payments and protect program integrity. With the shift to using the Quality Reporting Program (QRP) functional measures to classify cases into CMGs, it is important that CMS conduct focused medical reviews to ensure consistency in reporting across providers using the new measures.

The Commission estimates that reducing the payment rate for IRFs by 5 percent and expanding the outlier pool from 3 percent to 5 percent would decrease total payments to IRFs by 5 percent. We estimate the combined effect of reducing the payment rate for IRFs by 5 percent and expanding the outlier pool would decrease aggregate payments to freestanding IRFs by 6.0 percent, to hospital-based IRFs by 4.1 percent, to for-profit IRFs by 6.0 percent, and to nonprofit IRFs by 4.3 percent. Changes being made by the Secretary to the CMGs by using the QRP functional measures in place of the FIM, though budget neutral, could result in some small shift in

payments toward hospital-based and nonprofit facilities in the short term.

RECOMMENDATION 10

For fiscal year 2021, the Congress should reduce the fiscal year 2020 Medicare base payment rate for inpatient rehabilitation facilities by 5 percent.

RATIONALE 10

The combination of low historical cost growth and increasing average payments has resulted in overpayments to IRFs. The high aggregate margin in 2018 and our projected margin for 2020 indicate that Medicare payments substantially exceed the costs of caring for beneficiaries. This excess contributes to Medicare's long-run sustainability challenges. For every fiscal year since 2009, the Commission has recommended that the update to the IRF payment rate be eliminated or that the payment rate be reduced. However, CMS has been required by statute to apply an adjusted market basket increase each year. Between 2010 and 2018, the cumulative increase in payments per case for all IRFs was 19.6 percent, while costs per case rose 13.0 percent, a difference of more than 6 percentage points. Reducing the payment rate for IRFs by 5 percent would better align Medicare payments with the costs of IRF care.

IMPLICATIONS 10

Spending

- The payment update for IRFs in fiscal year 2021 consists of a forecasted 3.1 percent market basket update and a forecasted -0.4 percent productivity adjustment of the market basket update.¹¹ Relative to current law, this recommendation would decrease Medicare spending by between \$750 million and \$2 billion in 2021 and by between \$5 billion and \$10 billion over five years.

Beneficiary and provider

- We do not expect this combination of recommendations to have an adverse effect on either Medicare beneficiaries' access to care or out-of-pocket spending. This recommendation could increase financial pressure on some providers. We expect relatively efficient providers will continue to be willing and able to care for Medicare beneficiaries. ■

Endnotes

- 1 More frequently, Medicare beneficiaries receive inpatient rehabilitation services in skilled nursing facilities (SNFs), in part because there are many more SNFs than IRFs nationwide.
- 2 More information about the prospective payment system for IRFs is available at http://medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_19_irf_final_sec.pdf?sfvrsn=0.
- 3 The 13 conditions are stroke; spinal cord injury; congenital deformity; amputation of a lower limb; major multiple trauma; hip fracture; brain injury; certain other neurological conditions (multiple sclerosis, Parkinson's disease, cerebral palsy, and neuromuscular disorders); burns; 3 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.
- 4 CMS's major revisions to the compliance threshold policy in 2004 were to (1) increase the number of conditions that count toward the threshold from 10 to 13 and (2) revise the qualifying criteria of major joint replacement—a condition that was commonly treated in IRFs at that time—such that only a certain subset of patients with that condition would count toward the compliance threshold.
- 5 Other orthopedic conditions, cardiac conditions, and debility are not among the 13 conditions that count toward the compliance threshold, but such cases may count if they have specified comorbidities.
- 6 This analysis of FFS IRF claims and assessment data from 2013 excluded cases that were not preceded by an acute care hospital stay within 30 days of the IRF admission.
- 7 If we approximate marginal cost as total Medicare cost minus fixed building and equipment cost, then:

$$\text{Marginal profit} = (\text{payments for Medicare services} - (\text{total Medicare costs} - \text{fixed building and equipment costs})) / \text{Medicare payments}.$$
- 8 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 complications; 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 In this analysis, Medicare margins were calculated as $(\text{Medicare payments} - \text{Medicare costs}) / \text{Medicare payments}$.
- 11 This market basket forecast was made in the third quarter of 2019. When setting the update for fiscal year 2021, CMS will use the most recent forecast available at that time, which may differ from the number we report here.

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