CHAPTER 8

Inpatient rehabilitation facility services

RECOMMENDATION

8 For fiscal year 2025, the Congress should reduce the 2024 Medicare base payment rate for inpatient rehabilitation facilities by 5 percent.

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

CHAPTER 8

Inpatient rehabilitation facility services

Chapter summary

Inpatient rehabilitation facilities (IRFs) are hospitals and units of hospitals that 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 2022, fee-for-service (FFS) Medicare spent $8.8 billion on 383,000 IRF stays in about 1,180 IRFs nationwide. The FFS Medicare program accounted for about 51 percent of IRF discharges.

Assessment of payment adequacy

In 2022, most IRF payment adequacy indicators were positive; however, FFS Medicare margins continued to vary across IRFs.

***Beneficiaries' access to care*—**Our analysis of IRF supply and volume of services provided and IRFs' marginal profit under the IRF prospective payment system (PPS) suggests that access remains adequate.

- ***Capacity and supply of providers*—**Between 2021 and 2022, while the number of IRFs stayed the same, the number of IRF beds slightly

In this chapter

- Are FFS Medicare payments adequate in 2024?
- How should FFS Medicare payments change in 2025?
- Improving the accuracy of Medicare's payments

increased. The aggregate IRF occupancy rate remained stable at 68 percent, indicating that capacity is more than adequate to meet demand.

- ***Volume of services*—**From 2021 to 2022, total FFS IRF users increased about 1 percent, and Medicare stays per 10,000 FFS beneficiaries increased by about 4 percent. The average length of stay was 12.8 days.
- ***FFS Medicare marginal profit*—**The FFS Medicare marginal profit, an indicator of whether IRFs with excess capacity have an incentive to treat more Medicare beneficiaries, was 18 percent for hospital-based IRFs and 39 percent for freestanding IRFs—a very strong indicator of access.

***Quality of care*—**In 2021 and 2022, the median facility risk-adjusted rate of succesful discharge to the community from IRFs was 67.3 percent, about 2 percentage points higher (better) than the rate for the period from 2018 to 2019. The median facility risk-adjusted rate of potentially preventable readmission was 8.6 percent and was higher (worse) for freestanding and for-profit providers than hospital-based and nonprofit providers. (Because of a change in the measure calculation, we cannot compare this rate to a prior period.) Lack of data on patient experience and concerns about the accuracy of provider-reported function data limit our set of IRF quality measures.

***Providers' access to capital*—**Between 2021 and 2022, freestanding IRFs' all-payer total margin decreased from 13 percent to about 9 percent. The decrease reflects inflation in the greater macroeconomic environment. Despite this decline in the all-payer margin, the largest IRF chain (which accounted for almost a third of all FFS Medicare IRF discharges) continued to open new IRFs and enter joint ventures with other organizations, suggesting strong access to capital. The extent to which other freestanding IRFs can access capital is less clear. Hospital-based IRFs access capital through their parent hospitals.

***FFS Medicare payments and providers' costs*—**IRFs' FFS Medicare margin decreased to 13.7 percent in 2022, driven by cost growth exceeding payment growth. We expect cost growth in 2024 to be lower, more in line with the historical trend, and thus project that the 2024 margin will increase to 14 percent.

How should payment rates change in 2025?

FFS Medicare's payments to IRFs must be reduced to more closely align aggregate payments with aggregate costs. The Commission recommends that, for fiscal year 2025, the 2024 base payment rate for IRFs be reduced by 5 percent. This reduction would continue to provide IRFs with sufficient revenues to maintain FFS Medicare beneficiaries' access to IRF care while

bringing IRF PPS payment rates closer to the cost of delivering high-quality care efficiently.

Improving the accuracy of payments

The Commission has previously reported on differences in profitability across IRF case-mix groups, noting that misalignment of payments and costs could create financial incentives to admit certain types of patients over others, which could reduce access to IRF services for some patients. Given the persistently large disparities in profit margins across IRFs and evidence of differential coding practices among some IRFs, we conducted additional analyses of the alignment of payments and costs under the IRF PPS. We found that the method for setting payment weights, the hospital-specific relative value (HSRV) method, combined with changes in the IRF landscape since the IRF PPS was implemented, has likely contributed to the disparities in profitability across case-mix groups. We simulated the effect of replacing the HSRV method with an "average-cost" method that is used in other Medicare payment systems to set weights and found that this method yielded more uniform profitability across case-mix groups. We describe how average-cost weights may help reduce providers' incentives to admit certain patients (and avoid others) and incentives to code patients as more functionally impaired. ■

Background

After illness, injury, or surgery, some patients need intensive inpatient rehabilitative care, including but not limited to speech–language pathology, physical, and occupational 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 fully licensed freestanding hospitals or specialized units within acute care hospitals (ACHs). To qualify for a covered IRF stay, a beneficiary must, among other criteria, be able to tolerate and benefit from intensive therapy and must have a condition that requires frequent, face-to-face supervision by a rehabilitation physician. To reimburse IRFs for their facility's costs of providing inpatient services, fee-for-service (FFS) Medicare sets per discharge payment rates under the IRF prospective payment system (PPS).[2] In 2022, the FFS Medicare program spent $8.8 billion on 383,000 IRF stays paid under the IRF PPS in about 1,180 IRFs nationwide. FFS Medicare beneficiaries accounted for about 51 percent of IRF discharges.

Medicare facility requirements for IRFs

To qualify as an IRF for Medicare payment, a facility must meet the Medicare conditions of participation for ACHs.[3] It 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, 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 treatment plan for each patient, which 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.[4] The intent of the compliance threshold is to distinguish IRFs from ACHs. If an IRF does not meet the compliance threshold, Medicare pays for all its stays based on the inpatient hospital PPS rather than the IRF PPS.[5]

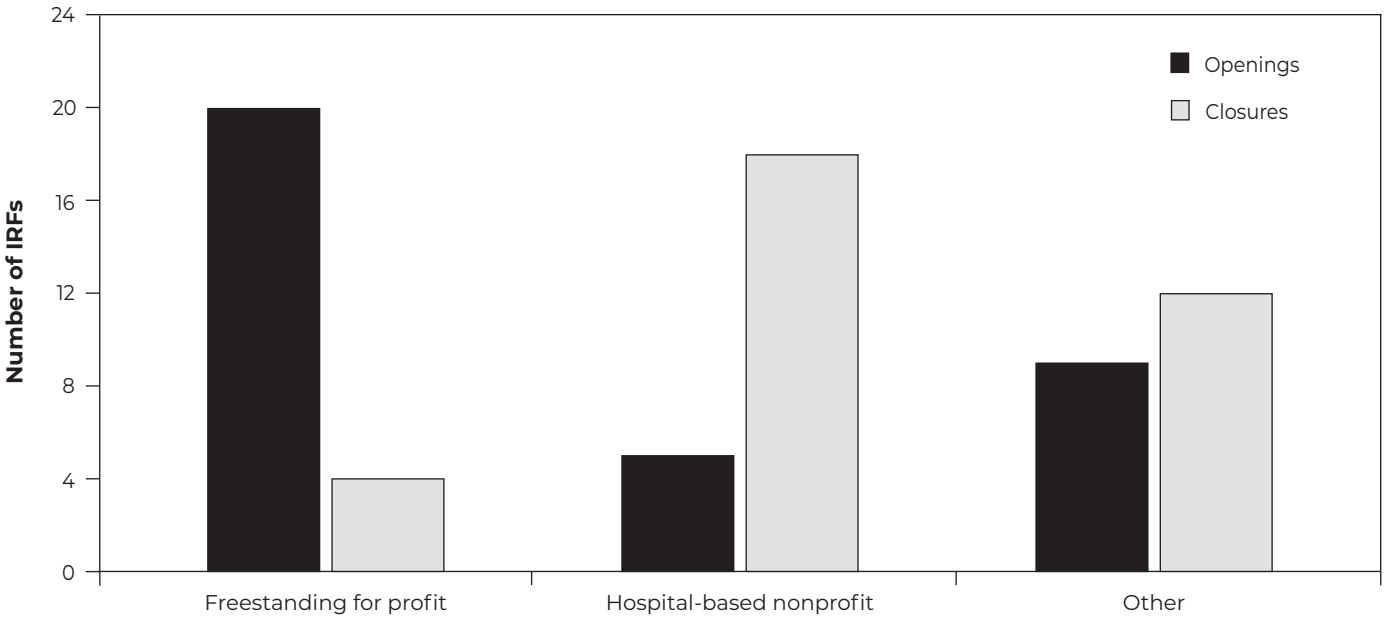
Medicare coverage criteria for beneficiaries

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:[6]

- 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. Beginning with the second week of admission to the IRF, a nonphysician practitioner who is determined by the IRF to have specialized training and experience in inpatient rehabilitation

FIGURE 8–1

In 2022, the majority of new IRFs were freestanding and for profit



Note: IRF (inpatient rehabilitation facility). "Other" includes government facilities, hospital-based for-profit facilities, and freestanding nonprofit facilities.

Source: MedPAC analysis of Provider of Services data.

may conduct one of the three required face-to-face visits with the patient per week, provided that such duties are within the nonphysician practitioner's scope of practice under applicable state law.

- The patient requires an intensive and coordinated interdisciplinary team approach to the delivery of rehabilitative care.

Are FFS Medicare payments adequate in 2024?

To assess whether FFS Medicare payments for fiscal year (FY) 2024 are adequate to cover the costs providers incur and how much providers' costs are expected to change in the coming year (2025), 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.

In general, our indicators of IRF payment adequacy are positive.

IRF supply and service volume suggest sufficient access

Although CMS has established admission criteria for IRFs, it is not always clear when IRF care is required for a given patient. Other, potentially lower-cost post-acute care (PAC) providers such as skilled nursing facilities (SNFs) can provide similar care for some types of patients. The absence of IRFs in some areas of the country implies that beneficiaries in these areas receive similar services in other settings.

TABLE 8–1

The number of IRFs remained stable in 2022

Type of IRF	Share of Medicare FFS discharges 2022	Number of IRFs					Average annual percent change	
		2018	2019	2020	2021	2022	2018–2020	2021–2022
All IRFs	100%	1,170	1,152	1,159	1,181	1,181	–0.5%	0.0%
Urban	94	1,014	1,000	1,004	1,021	1,021	–0.5	0.0
Rural	6	156	152	155	160	160	–0.3	0.0
Freestanding	60	290	299	310	329	345	3.4	4.9
Hospital based	40	880	853	849	852	836	–1.8	–1.9
Nonprofit	31	642	634	623	620	602	–1.5	–2.9
For profit	64	400	393	414	436	457	1.7	4.8
Government	5	121	116	113	115	111	–3.4	–3.5

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). 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.

Nevertheless, our analysis of IRF supply and volume of services suggests that capacity remains adequate to meet demand. Moreover, FFS Medicare marginal profit, an indicator of whether IRFs with excess capacity have an incentive to treat more Medicare beneficiaries, was robust in 2022 for both freestanding and hospital-based IRFs, a very strong indicator of patient access.

Number of IRFs and occupancy rates suggest adequate capacity and supply

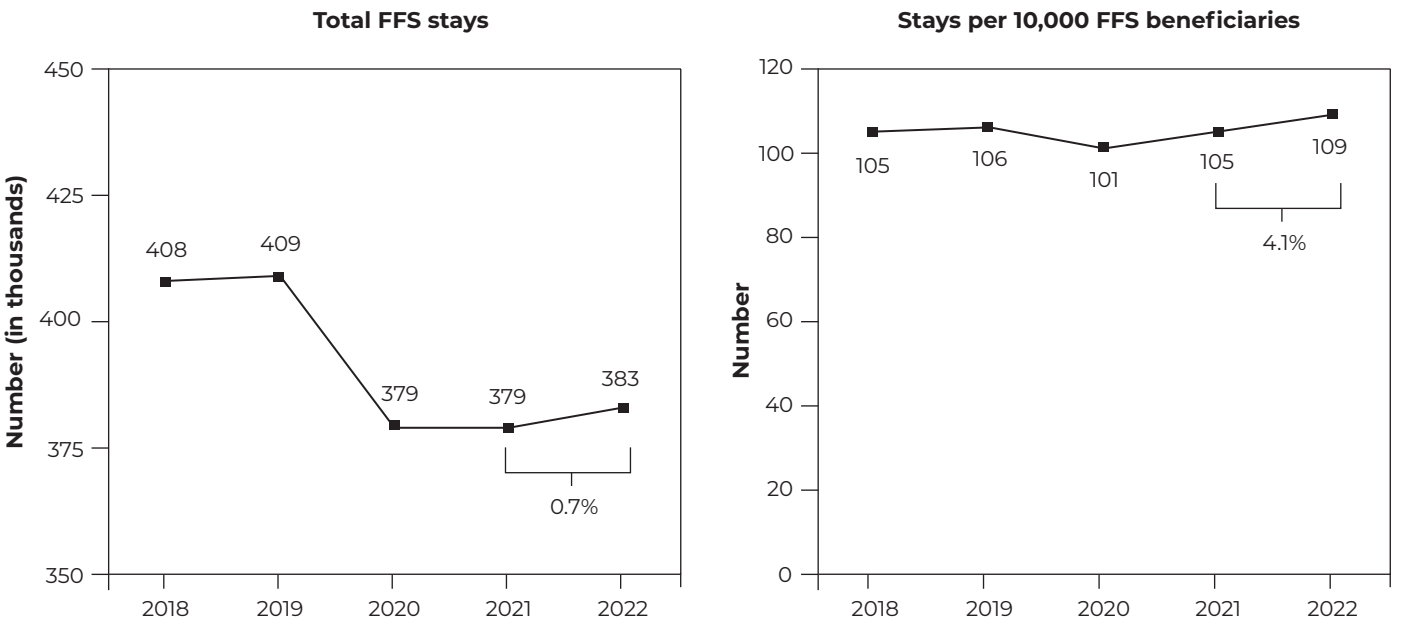
In 2022, the supply of IRFs was stable; there was an equal number of openings and closures (34 IRFs). The majority of IRFs that opened were freestanding and for profit, and most closures were hospital-based nonprofits (Figure 8-1). Less than 30 percent of the nation's hospital service areas (HSAs) had one or more IRFs in 2022.[7] (By comparison, 97 percent of HSAs contained at least one SNF). But because 70 percent of Medicare beneficiaries (including those in FFS and Medicare Advantage) lived in these HSAs, only about 30 percent of FFS beneficiaries lived in an HSA without an IRF. Beneficiaries who live in these HSAs may travel to other areas to receive IRF care or may receive rehabilitative care from other PAC providers.

After gradually declining from 2018 to 2020, the number of IRFs rose between 2020 and 2021 from 1,159 to 1,181 (Table 8-1). The overall number of IRFs remained stable at 1,181 in 2022. The majority of IRFs are located in urban areas, with about 14 percent located in rural areas (where about 19 percent of beneficiaries resided in 2022). About two-thirds of urban IRFs are units of ACHs, compared with 93 percent of rural IRFs (data not shown). From 2018 to 2020, freestanding and for-profit IRFs continued an upward trajectory, growing by 3.4 percent and 1.7 percent annually, respectively. In contrast, hospital-based and nonprofit IRFs have been on a steady decline for many years. Between 2018 and 2020, the number of hospital-based IRFs fell by 1.8 percent annually, and the number of nonprofit IRFs fell by 1.5 percent annually; those declines accelerated in 2022 (Table 8-1).

Though the number of freestanding IRFs has risen from year to year, the share of hospital-based IRFs is still greater than freestanding IRFs. In 2022, over 70 percent of IRFs were hospital based; the rest were freestanding facilities. However, because hospital-based units have, on average, fewer beds and a lower share of

FIGURE 8–2

In 2022, IRF stays grew for the first time since the start of the pandemic



Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). The number of FFS stays and the number of beneficiaries are rounded.

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

FFS Medicare discharges, they accounted for only 40 percent of FFS Medicare discharges. In contrast, freestanding facilities made up about 29 percent of the IRF supply but accounted for about 60 percent of FFS Medicare discharges. Similarly, for-profit IRFs made up about 39 percent of the total number of IRFs but accounted for about 64 percent of Medicare discharges (Table 8-1, p. 231). For-profit IRFs are disproportionately freestanding (data not shown).

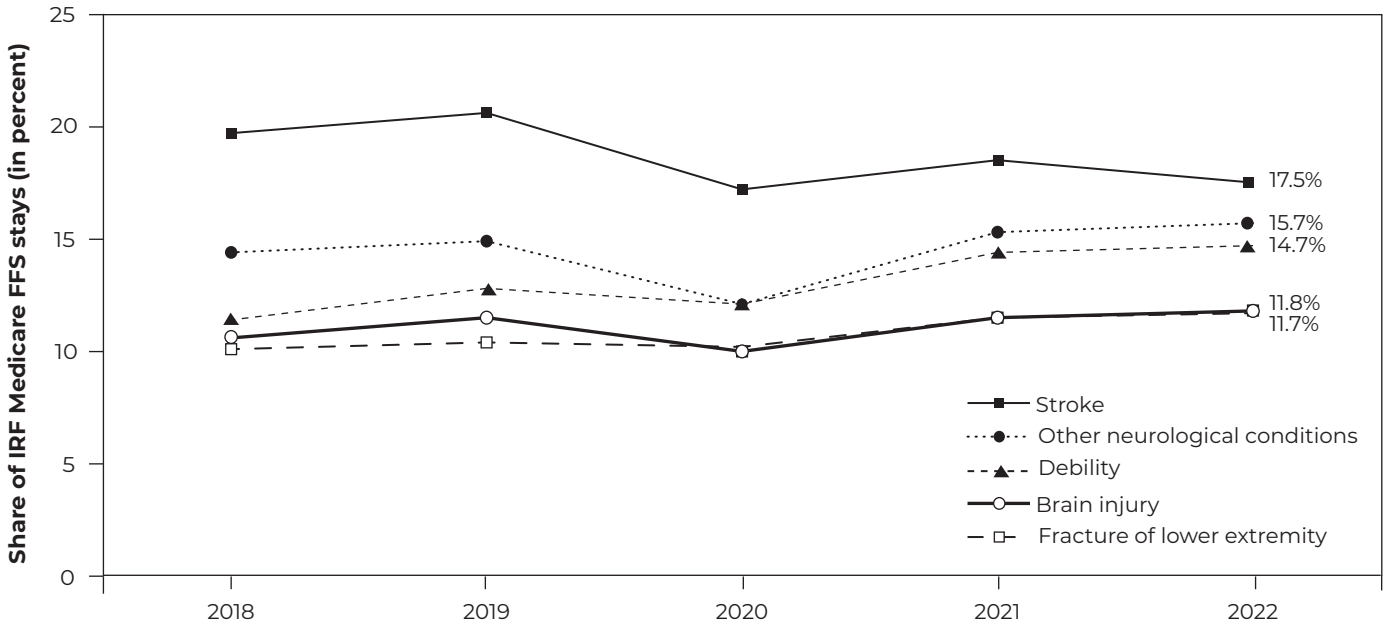
In 2022, the aggregate IRF occupancy rate remained stable at 68 percent. From 2021 to 2022, the aggregate occupancy rate stayed the same among freestanding IRFs (71 percent) but decreased slightly from 65 percent to 64 percent among hospital-based IRFs. These rates suggest that capacity is more than adequate to meet demand for IRF services. Although IRFs provide a more intense level of therapy, IRFs are not the sole providers 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 IRFs are the only provider of rehabilitation therapy services available to Medicare beneficiaries in any given area.

In 2022, IRF stays per beneficiary exceeded prepandemic levels

From 2021 to 2022, the number of FFS stays rose by less than 1 percent to 383,000 (Figure 8-2). However, the number of stays per 10,000 FFS beneficiaries increased by 4.1 percent, from 105 to 109. The average length of stay remained relatively stable at 12.8 days in 2022, a 0.7 percent reduction from 12.9 days in 2021 (data not shown).

FIGURE 8–3

Stroke, other neurological conditions, and debility remain the most common conditions for FFS beneficiaries in IRFs



Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility). "Other neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Brain injury" includes both traumatic and nontraumatic injuries. All FFS Medicare IRF stays with valid patient assessment information were included in this analysis. Yearly figures presented in the table are rounded.

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

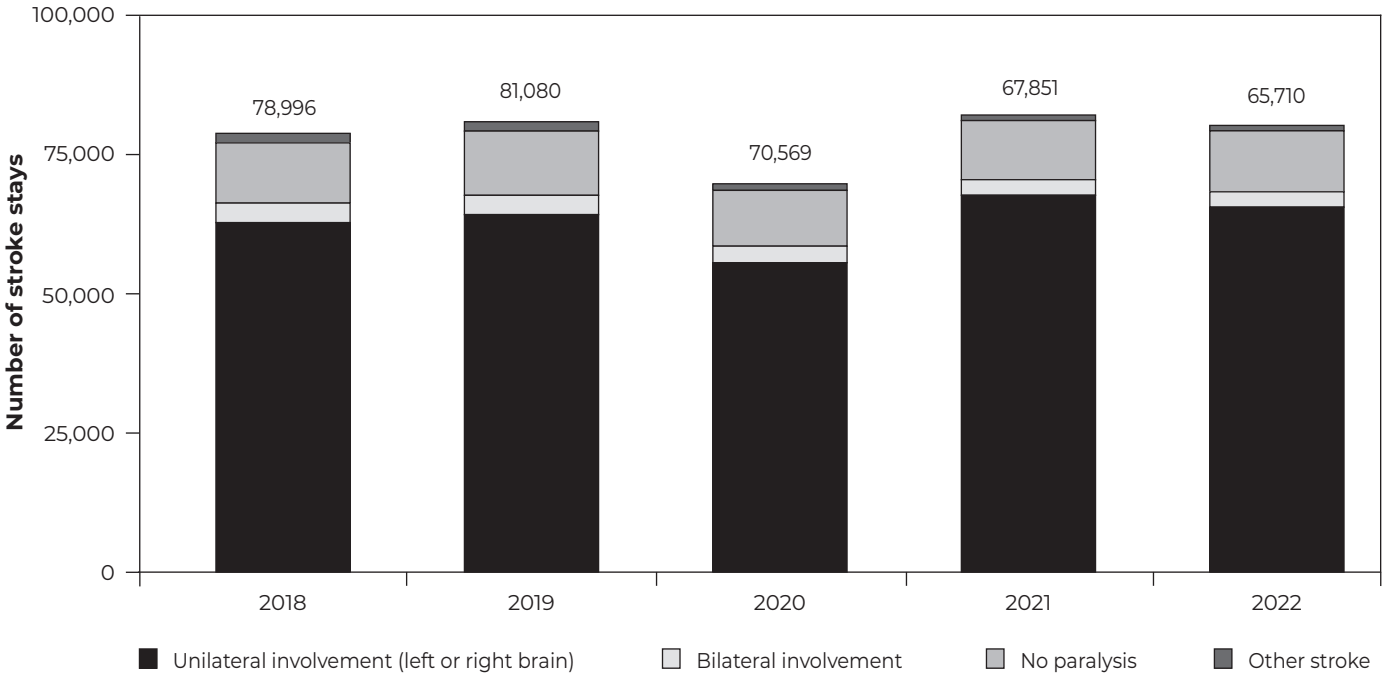
Patterns of use in IRFs

In 2022, the most common condition treated by IRFs was stroke—accounting for almost one-fifth of stays—followed by other neurological conditions and debility (Figure 8-3).

There are few evidence-based guidelines that would help direct beneficiaries seeking post-acute care to the most appropriate setting. For example, one study of patients treated for debility in IRFs concluded that more research was needed to identify the most appropriate setting (Kortebein et al. 2008). However, the American Heart Association/American Stroke Association established stroke guidelines that outline best practices in rehabilitation care for stroke patients (e.g., pain management, prevention of falls and skin breakdown) and recommends placement in IRFs (Winstein et al. 2016). In 2022, the most common type of stroke treated in IRFs continued to be unilateral injuries of the right or left brain, though these cases represent a declining share of all stroke cases (Figure 8-4, p. 234).

The distribution of case types differs by type of IRF and ownership (Table 8-2, p. 235). For example, in 2022, only 14 percent of stays in freestanding for-profit IRFs were admitted for rehabilitation following a stroke, compared with 22 percent of stays in hospital-based nonprofit IRFs. By contrast, 21 percent of stays in freestanding for-profit IRFs were admitted with other neurological conditions, over twice the share admitted to hospital-based nonprofit IRFs. Stays with fracture of the lower extremity made up a higher share of stays

FIGURE 8–4 **Unilateral brain injuries have accounted for a declining share of FFS stroke stays in IRFs**



Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility). All FFS Medicare IRF stays with valid patient assessment information were included in this analysis. Yearly figures presented in the figure are rounded.

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

in hospital-based for-profit facilities than in all other IRF types. The share of stays with brain injury and share of stays with other orthopedic conditions were generally similar across IRF types. The share of stays with debility was the same among all IRF types except hospital-based for-profit IRFs, which rose to 17 percent in 2022. The Commission has previously reported that some case types are more profitable than others under the IRF PPS (for more details, see the IRF chapter of our March 2023 report to the Congress).

FFS Medicare 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 cost of treating one more patient. If Medicare payments are larger than the marginal costs of treating an additional beneficiary, a provider has a financial incentive to care for Medicare beneficiaries.[8,9] We found that Medicare payments in 2022 exceeded marginal costs by a substantial amount—18 percent for hospital-based IRFs and 39 percent for freestanding IRFs—suggesting that IRFs with available beds have a strong incentive to admit Medicare patients.

Quality of care: Successful discharge to the community and potentially preventable readmissions

The Commission prioritizes quality measures tied to clinical outcomes in our assessment of payment adequacy. This year, we report two outcome measures for IRFs: risk-adjusted potentially preventable hospital

TABLE 8–2 **Mix of FFS Medicare IRF stays differed by provider type and selected conditions, 2022**

	Freestanding		Hospital based	
Condition	**For profit**	**Nonprofit**	**For profit**	**Nonprofit**
Stroke	14%	21%	15%	22%
Other neurological conditions	21	7	9	8
Fracture of the lower extremity	10	10	15	13
Debility	14	14	17	14
Brain injury	11	12	13	11
Other orthopedic conditions	8	7	7	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 (unless it is bilateral, the patient's body mass index is greater than or equal to 50, or the patient is age 85 or older).

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

readmissions after discharge and risk-adjusted successful discharge to the community. We are replacing prototype cross-sector measures developed by the Commission, which we have previously used in our analysis of payment adequacy, with these claims-based outcome measures developed by CMS. CMS outcome measures are the product of a transparent, expert-informed measure development process and have undergone public notice. They have and will be refined over time to incorporate improvements. CMS publicly reports facility-level measures after providers have the opportunity to review the data. The measures are updated annually and cover a 24-month period. The most recent available data, released in October 2023, cover the period from the fourth quarter of 2020 through the third quarter of 2022 (FY 2021 to FY 2022).

Successful discharge to the community

The measure of successful discharge to the community is the rate at which patients returned home or to the community from the IRF and remained alive without any unplanned hospitalizations in the 31 days following discharge from the IRF (higher rates are better) (Centers for Medicare & Medicaid Services 2023).[10] IRFs can improve their rate of successful discharge to the community by providing rehabilitation strategies to improve functional ability, discharge planning and care coordination, patient and family education, and solutions to barriers a patient may face in the community.

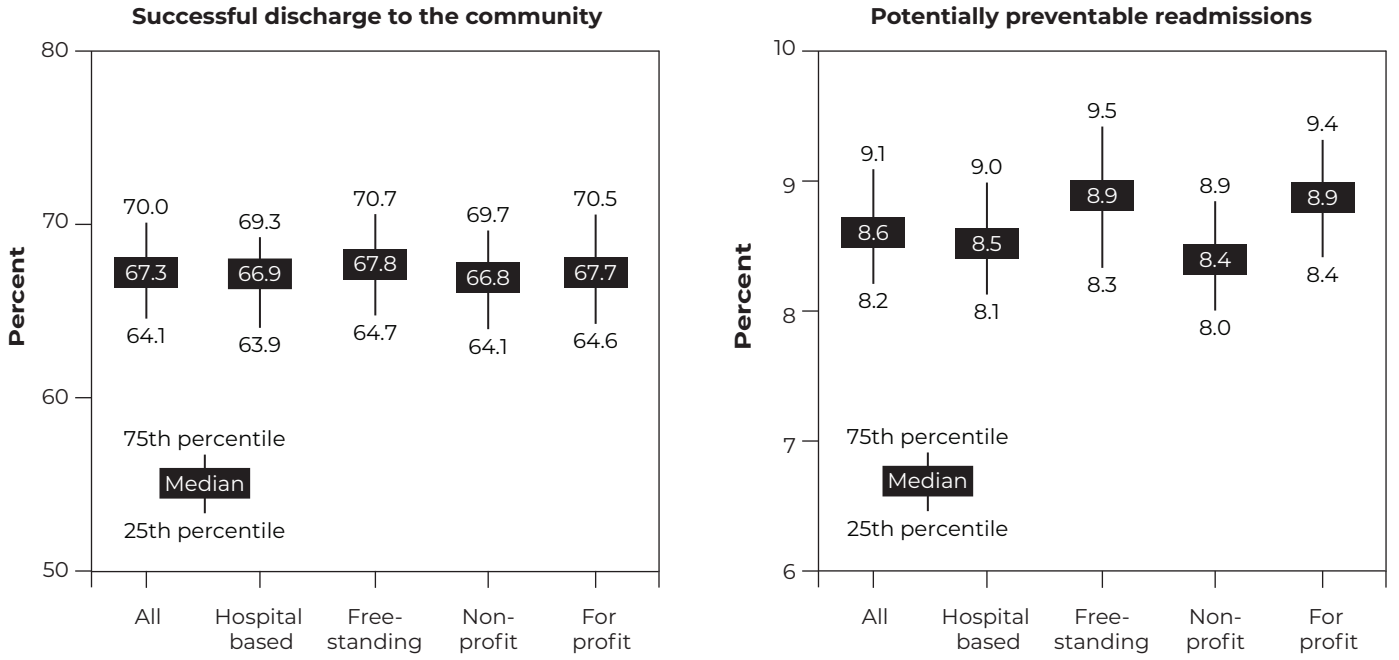
During FY 2021 and FY 2022, the median facility risk-standardized rate of successful discharge to the community was 67.3 percent, about 2 percentage points higher (better) than the rate for the period comprising 2018 and 2019 (not shown). About one-quarter of facilities had a risk-standardized rate below 64.1 percent, and one-quarter had a rate above 70 percent (Figure 8-5, p. 236).

Potentially preventable readmissions

Readmissions expose beneficiaries to hospital-acquired infections, increase the number of transitions between settings (which is disruptive to patient care), and can result in medical error. In addition, they unnecessarily increase Medicare spending (Centers for Medicare & Medicaid Services 2023). IRFs can reduce the number of potentially preventable hospital readmissions by preventing complications, providing clear discharge instructions to patients and families, and ensuring a safe discharge plan. Potentially preventable readmissions after discharge are calculated as the

FIGURE 8–5

Median and interquartile range of IRFs' risk-standardized rates of successful discharge to the community and potentially preventable readmissions in FY 2021 and FY 2022



Note: IRF (inpatient rehabilitation facility), FY (fiscal year). The potentially preventable 30-day postdischarge readmission measure captures all unplanned, potentially preventable readmissions for beneficiaries who receive services in an IRF. "Successful discharge to the community" includes beneficiaries discharged to the community who did not have an unplanned rehospitalization and/or die in the 31 days following discharge. Providers with at least 25 stays in the year were included in calculating the average facility rate. High rates of successful discharge to the community indicate better quality. High rates of potentially preventable 30-day postdischarge readmissions indicate worse quality.

Source: Medicare inpatient claims from CMS.

percentage of patients discharged from an IRF stay who were readmitted to a hospital within 30 days for a medical condition that might have been prevented (lower percentages are better). During the FY 2021 and FY 2022 period, the median facility-level risk-adjusted rate of potentially preventable readmissions was 8.6 percent. The rate was higher (worse) among freestanding and for-profit providers than hospital-based and nonprofit providers (Figure 8-5). This rate is not comparable with earlier periods because CMS updated the list of diagnosis codes that are considered potentially preventable readmissions. The measure is thus more comprehensive but incomparable with previous time periods.

Readmissions and successful discharge to the community measures assess key outcomes of IRF care, but they do not capture all aspects of quality in IRFs. Ideally, we could also measure other outcomes and the experience of IRF care for Medicare beneficiaries in a Part A stay. However, lack of data on patient experience and concerns about the validity of function data limit our set of quality measures, as discussed below.

Concerns about the validity of function data limit our set of IRF quality measures

Although functional outcomes are critically important to patients in need of rehabilitative care, we did not assess measures of provider-reported functional improvement.

While the Commission contends that maintaining and improving functional status is a key outcome of PAC, over time we have become so concerned about the integrity of this information that we do not believe it is a reliable indicator of provider quality (for a detailed discussion of functional assessment data, see our June 2019 report to the Congress). Because functional assessments are used in the case-mix system to establish payments, it is difficult to separate this information from payment incentives. Yet, improved function is an important outcome for patients, so reporting assessment data must be improved such that these outcomes can be accurately evaluated. In our June 2019 report to the Congress, the Commission discussed strategies to improve the assessment data, the importance of monitoring this data reporting, and alternative measures of function (such as patient-reported surveys) that do not rely on provider-completed assessments (Medicare Payment Advisory Commission 2019).

CMS developed an IRF experience-of-care survey. While CMS does not currently include this survey in the IRF Quality Reporting Program, the agency provides it and accompanying materials for public use (Centers for Medicare & Medicaid Services 2023).

IRFs' access to capital remained strong for freestanding IRFs in 2022

Almost three-quarters of IRFs are hospital-based units that access any necessary capital to maintain, modernize, or expand through their parent hospitals. Overall, as detailed in the hospital chapter of this report (Chapter 3), general ACHs' access to capital declined in 2022, despite strong access to bond markets. The all-payer operating margin for hospitals paid under the inpatient prospective payment systems fell to a relative low. Specifically, that margin declined from a record high of 8.8 percent in 2021 to 2.7 percent in 2022—the lowest level since 2008. In addition, hospitals' borrowing costs increased in both 2022 and 2023, but by less than the general market.

In 2022, the all-payer margin for freestanding IRFs decreased to about 9 percent, down from 13 percent in 2021.[11] However, the spread in all-payer margins across groups of freestanding IRFs varied by ownership: For-profit freestanding IRFs' all-payer total margin remained steady over the last few years, at about 14 percent, while nonprofit freestanding IRFs' all-payer total margin fluctuated from about 1 percent prior to the pandemic to 9.3 percent in 2021 (due to relief funds related to the coronavirus public health emergency (PHE)), then fell to −5.2 percent in 2022 as relief funds and other PHE-related payment policies ended and costs increased.

In 2022, the IRF industry's largest chain, Encompass Health—which at that time owned almost 45 percent of freestanding IRFs and accounted for about 31 percent of all Medicare IRF discharges—opened 9 IRFs and added 87 beds to their existing IRFs. Their all-payer total margin was about 14 percent in 2022. According to their latest investor report, the company has 20 IRFs underway, including 6 new IRFs already completed in 2023, and plans to open a total of 18 IRFs between 2024 and 2026. Though this company reported that premium labor costs—including contract labor, agency rates, sign-on bonuses, and shift bonuses—continue to be higher than prepandemic levels, there have been substantial year-over-year reductions in these costs. Specifically, Encompass Health reported a 19 percent decline in full-time contract labor employees and a 41 percent decline in the use of sign-on and shift bonuses from the third quarter of 2022 (Encompass Health 2023).

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

Medicare payments and providers' costs: IRFs' FFS Medicare margin declined but remained strong in 2022

In 2022, IRFs' per case payments grew much more slowly than costs. As a result, the aggregate FFS Medicare margin declined in 2022 but remained strong at 13.7 percent.[12] Margins continued to vary widely across types of IRFs, with higher average margins seen in IRFs that were freestanding, for profit, urban, large, and had a greater share of FFS Medicare patients, and lower margins were found in IRFs that were hospital based, nonprofit, and small.

In 2022, IRFs' payments per case grew much more slowly than costs per case

From 2021 to 2022, IRFs' payments per case grew less than 1.0 percent, which was lower than

prepandemic growth but follows very high payment growth during the height of the pandemic (i.e., 6.4 percent in 2021 and 7.9 percent in 2020, mostly due to case-mix growth). In contrast, the growth in IRFs' costs outpaced payment growth at 4.5 percent (per case). While growth in payments per case was similar between hospital-based nonprofit IRFs and freestanding for-profit IRFs, there was an over 3 percentage point difference in cost growth per case (7.0 percent vs. 3.6 percent, respectively). This gap between growth in costs versus payments, relative to prior years, resulted from several factors:

- ***Underestimated inflation:*** In setting payment rates for 2022, CMS underestimated the growth in the market basket for IRFs by almost 3 percentage points (2.6 percent projected vs. 5.3 percent actual).
- ***Decrease in outlier payments:*** After increasing by 27 percent from 2020 to 2021, outlier payments decreased by about 5 percent from 2021 to 2022, as the number of stays qualifying as outliers fell by about 14 percent.[13] Hospital-based IRF providers accounted for about 68 percent of high-cost outlier stays in 2022.
- ***Reinstatement of Medicare sequestration:*** The Congress suspended the 2 percent sequestration on Medicare payments from May 2020 through March 2022 and phased sequestration back in from April through June 2022. Therefore, sequestration was completely suspended for the first half of FY 2022 but slowly reinstated during the second half.
- ***Flat case-mix growth:*** After rising 11 percent in the first year of the pandemic, IRFs' overall case-mix index (CMI), which measures the severity of patients' health status, remained flat in 2022, decreasing from 1.41 to 1.40 (0.4 percent).

In 2022, IRFs' FFS Medicare margin declined to about 14 percent; margins across IRFs continued to vary significantly

The aggregate FFS Medicare margin declined among nearly all subgroups of IRFs we examined, though significant variation persisted (Table 8-3). For example, the hospital-based IRF FFS Medicare margin was 0.9 percent, compared with 23.3 percent for freestanding IRFs. While margins varied within each group of IRFs, in aggregate, the FFS Medicare margin continued to be higher and positive—with or without federal relief funds—at IRFs that were freestanding, for profit, urban, and large. In contrast, the FFS Medicare margin continued to be lower among IRFs that were hospital based, nonprofit, and small. Notably, the FFS Medicare margin was higher for IRFs with a high share of FFS stays.

FFS Medicare margins also vary by IRFs' share of low-income patients (Table 8-3). Similar to the disproportionate share hospital adjustment for hospitals paid under the inpatient PPS, IRFs receive low-income percentage payments that are intended to offset costs incurred by treating a large or disproportionate number of low-income patients.[14] Nevertheless, margins in IRFs that serve a higher share of beneficiaries with low incomes are lower than those of other IRFs: In 2022, the FFS Medicare margin for IRFs with a large share of low-income patients (constituting more than 25 percent of the facility's discharges) was 9.8 percent, compared with 16.5 percent for IRFs with a small share of low-income patients (less than 5 percent of a facility's discharges). The share of low-income patients in 2022 was similar across freestanding providers (about 17 percent) and hospital-based providers (about 15 percent) (data not shown).

Numerous factors contribute to lower margins in hospital-based IRFs

The Commission has long noted the disparity in margins between hospital-based and freestanding IRFs. Several factors account for this disparity, including size, stringency of cost control, patient mix, and share of high-cost outlier cases.

First, hospital-based IRFs tend to be smaller than freestanding IRFs. In 2022, about 65 percent of hospital-based IRFs had fewer than 25 beds (about 11 percent had fewer than 10 beds) compared with about 95 percent of freestanding IRFs that had more than 25 beds (about 32 percent had more than 65 beds). Because of their size, hospital-based IRFs are less likely to achieve economies of scale. In 2022, the median standardized cost for IRFs with fewer than 10 beds was about 39 percent higher than for IRFs with 65 or more beds ($17,160 compared with $12,360) (data not shown). Hospital-based IRFs also tend to have lower occupancy rates than freestanding IRFs (57 percent compared with 71 percent in 2022), which contributes to differences

TABLE 8–3

IRFs' aggregate FFS Medicare margin decreased to just under 14 percent in 2022

	Prepandemic		Coronavirus pandemic		
Type of IRF	**2018**	**2019**	**2020**	**2021**	**2022**
All IRFs	14.4%	14.1%	13.3%	16.9%	13.7%
Hospital based	2.0	1.7	1.4	5.7	0.9
Freestanding	25.3	24.6	23.4	25.9	23.3
Nonprofit	2.5	1.1	–0.3	5.3	–0.4
For profit	24.4	24.2	23.4	25.3	22.7
Government	N/A	N/A	N/A	N/A	N/A
Urban	14.7	14.5	13.6	17.3	14.1
Rural	9.1	7.6	9.0	11.7	7.8
Number of beds					
1 to 10	–9.1	–9.1	–7.3	–2.7	–6.3
11 to 24	1.4	1.6	2.2	5.7	1.2
25 to 64	16.8	15.8	14.8	18.6	15.0
65 or more	21.1	20.9	19.3	22.2	19.8
FFS Medicare day share					
<50%	9.2	9.2	8.0	11.8	7.4
50% to 75%	18.6	18.0	17.0	20.3	17.6
>75%	17.5	17.9	21.1	24.6	21.3
Low-income patient share					
0% to 5%	16.7	15.9	15.5	19.6	16.5
5% to 10%	17.9	18.0	16.9	19.4	16.8
10% to 15%	16.5	15.4	14.4	17.7	13.8
15% to 20%	12.4	13.9	14.1	15.4	13.5
20% to 25%	5.8	2.5	5.8	17.6	7.0
>25%	6.3	6.5	5.3	9.6	9.8

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service), 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.

in costs. Hospital-based IRFs also appear to have less control over cost growth. Between 2012 and 2022, costs per case for hospital-based IRFs grew over 10 percentage points higher than freestanding IRFs' costs.

There are also marked differences in hospital-based and freestanding IRFs' mix of cases. In 2022, compared with freestanding IRFs, hospital-based IRFs admitted a larger share of patients with stroke as the primary

reason for rehabilitation and smaller shares of cases with certain other neurological conditions (Table 8-2, p. 235). Differences in patient mix may contribute to profitability differences since profitability appears to vary by IRF rehabilitation impairment categories (RICs) (see the section on the accuracy of payments, p. 241).

Outlier cases—cases with extraordinarily high costs—also contribute to differences in margins. In general, hospital-based IRFs are much more likely than freestanding IRFs to have high-cost outlier cases. In fact, though hospital-based IRF providers accounted for about 40 percent of FFS discharges in 2022, they accounted for 68 percent of high-cost outlier stays. Although outlier payments diminish the financial loss per outlier case, by design these payments do not completely cover their costs. It is not clear whether the large number of outlier cases in hospital-based IRFs stems from differences in unit cost, unmeasured clinical complexity that is not fully captured by the case-mix system, or both.

Though differences in profitability across types of IRFs are driven in part by differences in underlying costs, size, patient mix, and share of outlier cases, coding practices may also contribute to IRF profitability. If providers differ in their assessment of patients' motor function, payments for some IRFs could be too high relative to the costs incurred in treating their patients while for other IRFs, payments could be too low (see the section on differential coding practices, p. 244).

IRFs' FFS Medicare margin in 2024 is projected to be higher than in 2022

We estimate that IRFs' FFS Medicare margin in 2024 will increase relative to 2022, driven by higher payment growth in 2024.

To estimate 2024 payments, costs, and margins with 2022 data, the Commission considers policy changes effective in 2023 and 2024. These changes include:

- an update of 3.9 percent in 2023 based on an IRF market basket increase of 4.2 percent and an offsetting total productivity adjustment of 0.3 percent;
- an update of 3.4 percent in 2024 based on an IRF market basket increase of 3.6 percent and an offsetting multifactor productivity adjustment of 0.2 percent;
- minimal changes to the high-cost outlier amount in 2023 and 2024; and
- the full reinstatement of the 2 percent sequestration on Medicare payments in 2023. Specifically, the suspension of the 2 percent Medicare sequestration (due to the coronavirus pandemic) continued through the end of March 2022 and was phased back in at 1 percent from April 2022 through the end of June 2022.

Historically, cost growth in this sector has been at or below market basket levels, though between 2019 and 2020, cost growth exceeded the market basket, increasing by 8.6 percent. Many factors related to the coronavirus pandemic drove cost growth in 2020, including faster growth in case mix, spreading fixed costs over fewer IRF stays, labor cost increases, increase in supplies, and longer average length of stay. After returning to a level below the market basket (2.0 percent) in 2021, cost growth increased again in 2022, jumping to almost 4.5 percent in 2022, which largely reflected the greater macroeconomic environment. In 2022, although the IRF industry reported decreasing operating expenses (such as staffing costs) year over year, their costs remained elevated. Some effects of the coronavirus pandemic, such as higher costs of labor (though decreasing year over year), could persist through 2024. For that reason, the Commission's margin projection assumes that costs will increase by the market basket estimate of 4.9 percent in 2023. Because the industry's costs have begun normalizing to prepandemic levels, we used a three-year historical average of prepandemic cost growth equal to about 2 percent for FY 2024. Considering these assumptions, we project an aggregate FFS Medicare margin of 14 percent for IRFs in 2024.

How should FFS Medicare payments change in 2025?

Under current law, Medicare's IRF PPS base payment rate is increased annually based on the projected increase in the IRF market basket, less an amount for productivity improvement. The final update for 2025 will not be set until summer 2024; however, using CMS's third-quarter 2023 projections of the market basket and productivity would increase IRF payment rates by 2.9 percent.

Our indicators of payment adequacy for IRFs—beneficiary access to care, quality of care, provider access to capital, and Medicare payments relative to providers' costs—are generally positive. The Commission has concluded that current payment rates are sufficient to support the provision of high-quality care with a reduction to the base payment rates in 2025.

RECOMMENDATION 8

For fiscal year 2025, the Congress should reduce the 2024 Medicare base payment rate for inpatient rehabilitation facilities by 5 percent.

RATIONALE 8

Our indicators of access to care are positive, and the level of Medicare's payment indicates that a reduction is needed to better align aggregate payments to aggregate costs. In 2022, the number of IRFs remained stable, but discharges per FFS beneficiary increased. FFS Medicare marginal profit remained robust in 2022, at 18 percent for hospital-based IRFs and 39 percent for freestanding IRFs. IRFs' aggregate FFS Medicare margin of 13.7 percent in 2022 and our projected margin of 14 percent for 2024 indicate that Medicare payments continue to substantially exceed the costs of caring for beneficiaries.

IMPLICATIONS 8

Spending

- This recommendation would decrease Medicare spending relative to current law by $750 million to $2 billion in one year and by $5 billion to $10 billion over five years.

Beneficiary and provider

- We do not expect this recommendation to have an adverse effect on Medicare beneficiaries' access to care or out-of-pocket spending. Given the current level of payments, we do not expect the recommendation to affect providers' willingness or ability to care for Medicare beneficiaries, though financial pressure may increase for some providers.

Improving the accuracy of Medicare's payments

Under the IRF PPS, each Medicare FFS stay is assigned to a RIC based on the principal diagnosis or impairment and is further classified to a case-mix group (CMG) within each RIC based on the patient's age and level of functional impairment.[15] Within each CMG, patients are further classified into one of four tiers based on the presence of certain comorbidities that have been found to increase the cost of care. Each CMG and tier combination has a relative weight assigned to it that, when multiplied by the IRF payment base rate, establishes the payment for the case.[16]

The Commission has previously reported on differences in profitability (measured by the payment-to-cost ratios, or PCRs) across stays by IRF condition and by CMGs with a condition category (Medicare Payment Advisory Commission 2023, Medicare Payment Advisory Commission 2021). The substantial variation in PCRs across conditions and CMGs may create incentives for IRFs to admit patients with certain conditions over others. Because of the persistently large disparities in profit margins among IRFs with certain characteristics and evidence of differential coding practices among some IRFs, we further analyzed the variation in the relationship between payments and costs under the IRF PPS.

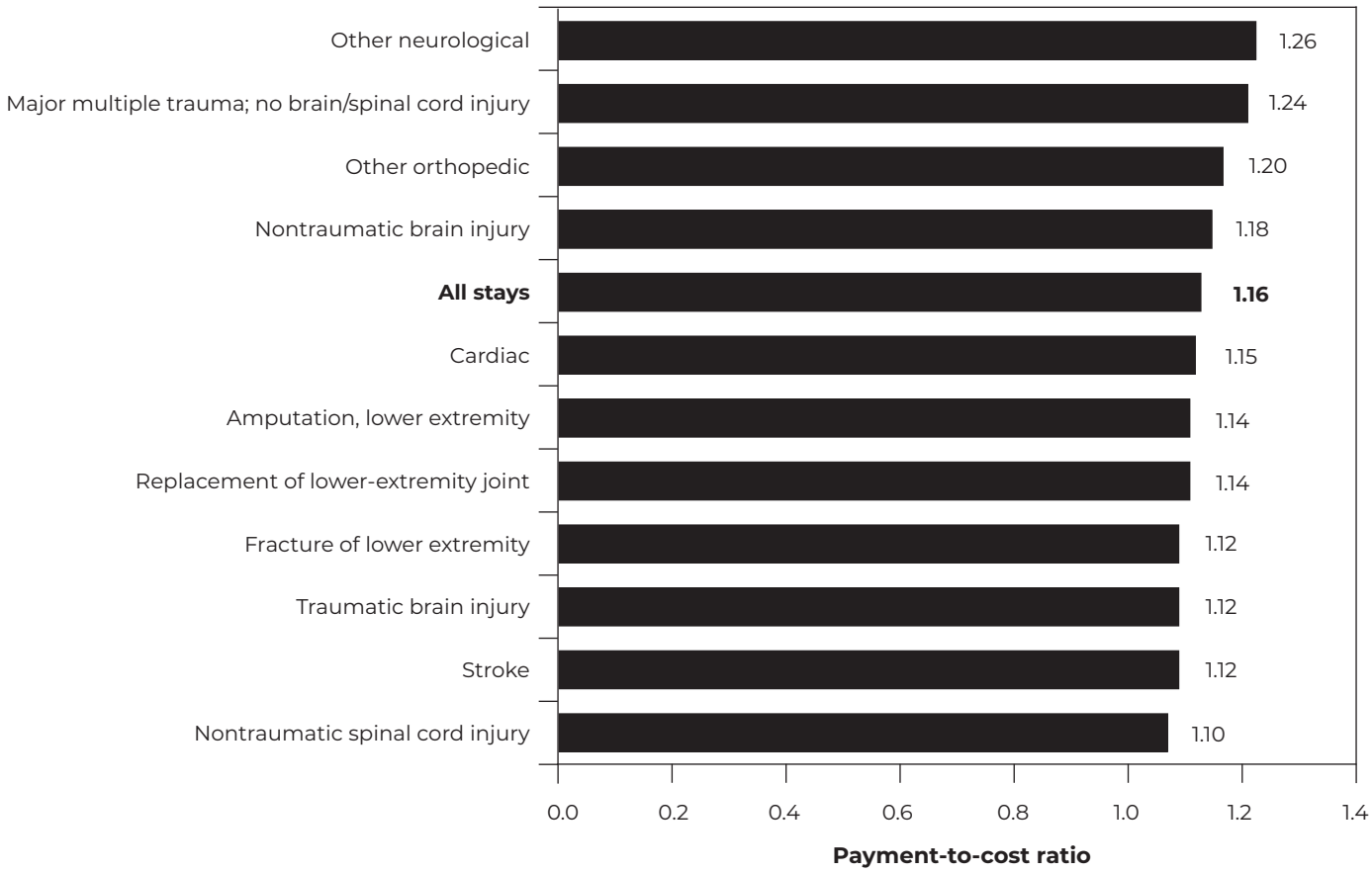
IRF payments do not track overall costs per stay

We found that profitability, measured by PCRs, varied substantially by RIC (see the text box, p. 243, for our data and methods). Stays grouped in the "other neurological" RIC were the most profitable, with a PCR of 1.26 (Figure 8-6, p. 242).[17] That is, in aggregate, the payment for a stay in this RIC exceeded costs by 26 percent. In contrast, the profitability of stays grouped into the stroke RIC was 1.12 (payments were 12 percent more than costs) across all IRFs. Profitability differences across RICs may create financial incentives to select some patients over others.

PCRs also varied by a stay's CMG within a RIC, with higher-severity CMGs within a RIC being more profitable than lower-severity CMGs. For example, among cases assigned to the stroke RIC, those in the least severe CMG (those with the highest motor function) had a PCR of 0.95, meaning that, on average, payments were 5 percent lower than costs (Figure 8-7, p. 244). Cases assigned to the most severe CMG (those with the lowest motor function) had a PCR of 1.17, meaning that, on average, payments exceeded costs by 17 percent. Generally, profitability steadily

FIGURE 8–6

Stays for other neurological conditions were the most profitable among FFS Medicare IRF stays, FY 2019



Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility), FY (fiscal year). "Other neurological" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of lower extremity" includes hip, pelvis, and femur fractures; "other orthopedic" excludes hip, pelvis, and femur fractures. The figure includes rehabilitation impairment categories (RICs) with at least 10,000 stays in the year. Payment-to-cost ratios are calculated by dividing aggregate payments by aggregate costs for stays assigned to each RIC (see text box on the Urban Institute's calculations, p. 243).

Source: Urban Institute analysis of Medicare FFS claims and cost reports from CMS.

increased as severity worsened for all stroke CMGs. We found similar inverse relationships between PCRs and functional severity among the CMGs for other IRF conditions (data not shown). We also observed this pattern within CMGs when stratifying by each of the four comorbidity tiers (data not shown): Profitability increased as severity of comorbidities increased.

Higher-severity cases are expected to be more costly (all else equal), and the payment system assigns greater weights (and thus higher payments) to these cases. However, Figure 8-7 (p. 244) demonstrates that severity (and payments) increases faster than costs rise, resulting in greater overall profitability for cases coded with the highest degrees of functional severity. The variation in profitability may reflect, in part, differences in the types of cases that IRFs treat. If lower-cost IRFs tend to treat patients whose conditions are of higher severity (or who are coded as being of higher severity), average costs for higher-severity cases will be lower relative to payments, resulting in higher profitability. While some variation in the types of cases treated

Calculating inpatient rehabilitation facilities' payments, costs, and profitability

Under contract with the Commission, the Urban Institute used fee-for-service (FFS) Medicare claims and Medicare cost reports to conduct the analyses presented in this chapter on payments, costs, and profitability (Garrett and Wissoker 2024). After excluding inpatient rehabilitation facility (IRF) stays missing payments or other data elements, the analytic file contained 366,800 IRF stays at 1,060 IRFs beginning and ending in fiscal year 2019.

Costs: Costs of treating FFS Medicare patients include routine and ancillary costs, overhead costs, and the additional costs associated with teaching programs and treating low-income patients. We estimated routine costs using the average routine cost per day from the cost report multiplied by the stay's covered length of stay from the claims data. We estimated both therapy and nontherapy ancillary costs by converting eligible charges on the IRF claims to costs using facility- and department-specific cost-to-charge ratios from each provider's cost report. All costs were standardized using the labor share and the area wage index.[18]

Payments: FFS Medicare payments were calculated as the total amount of payments made directly to the facility, paid as coinsurance, copayments, and the deductible for blood products from the claims data. Total payments were standardized by each provider's labor share and area wage index.

Payment-to-cost ratios: To assess relative profitability by IRF rehabilitation impairment category and case-mix groups, we divided aggregate payments by aggregate costs for the group of interest. A payment-to-cost ratio of 1 indicates that payment equals cost; less than 1 indicates that payments are lower than costs; greater than 1 indicates that payments are higher than costs. ■

by IRFs is expected, the degree of differences in profitability and trends across different types of IRFs is concerning because it may create financial incentives to admit certain types of patients or code patients as more severely impaired than they are.

Declining relationship between IRFs' case-mix indexes and average costs per stay

When the IRF PPS was first implemented in 2002, the developers demonstrated that IRF payment weights generally tracked IRFs' average costs per stay (Carter et al. 2002). We found that the relationship between average payment weight (or case-mix index (CMI)) and IRFs' average costs per stay continued to be nearly proportional in 2007; that is, a 1 percent increase in CMI was associated with an approximately 1 percent increase in average cost per stay (Figure 8-8, p. 245). However, this relationship deteriorated over time. By 2021, a 1 percent increase in CMI corresponded to only a 0.6 percent increase in costs. As a result, in recent years, IRFs with higher CMIs were not associated with similarly high average costs per stay, as they were in prior years.

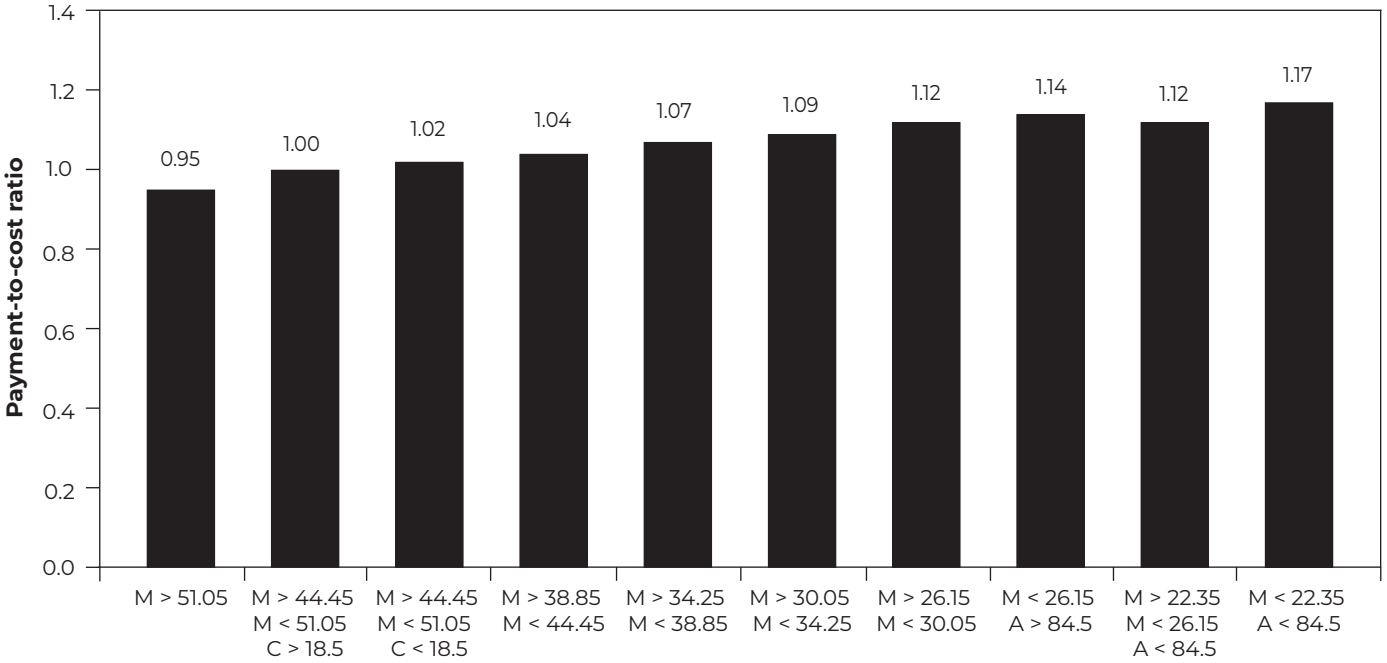
Generally, the payment system assumes that, compared with an IRF with a lower CMI, an IRF with a higher CMI serves patients requiring greater resource intensity and therefore has higher costs, on average. However, Figure 8-8 (p. 245) shows that in recent years, IRFs' CMIs and average costs per stay no longer track each other. This less-than-proportional relationship between IRFs' CMIs and average costs could be explained by lower-cost IRFs tending to treat patients in CMGs that have higher payment weights or by some IRFs tending to code patients as more functionally impaired, which would result in lower-cost cases being coded into higher-severity CMGs.

Growth of lower-cost IRFs

The decline in the relationship between CMI and average costs shown in Figure 8-8 (p. 245) corresponds with the growth of freestanding for-profit IRFs. From the late 1990s through the 2010s, hospital-based IRFs

FIGURE 8–7

Medicare profitability of IRF stroke stays increased with CMG severity, FY 2019



Note: IRF (inpatient rehabilitation facility), CMG (case-mix group), FY (fiscal year). There are 10 CMGs within the IRF stroke rehabilitation impairment group, which increase in severity, as shown, from left to right. The payment-to-cost ratios were calculated by dividing aggregate payments by aggregate costs for stays assigned to each stroke CMG (see text box on the Urban Institute's calculations, p. 243).

Source: Urban Institute analysis of Medicare fee-for-service claims and cost reports from CMS.

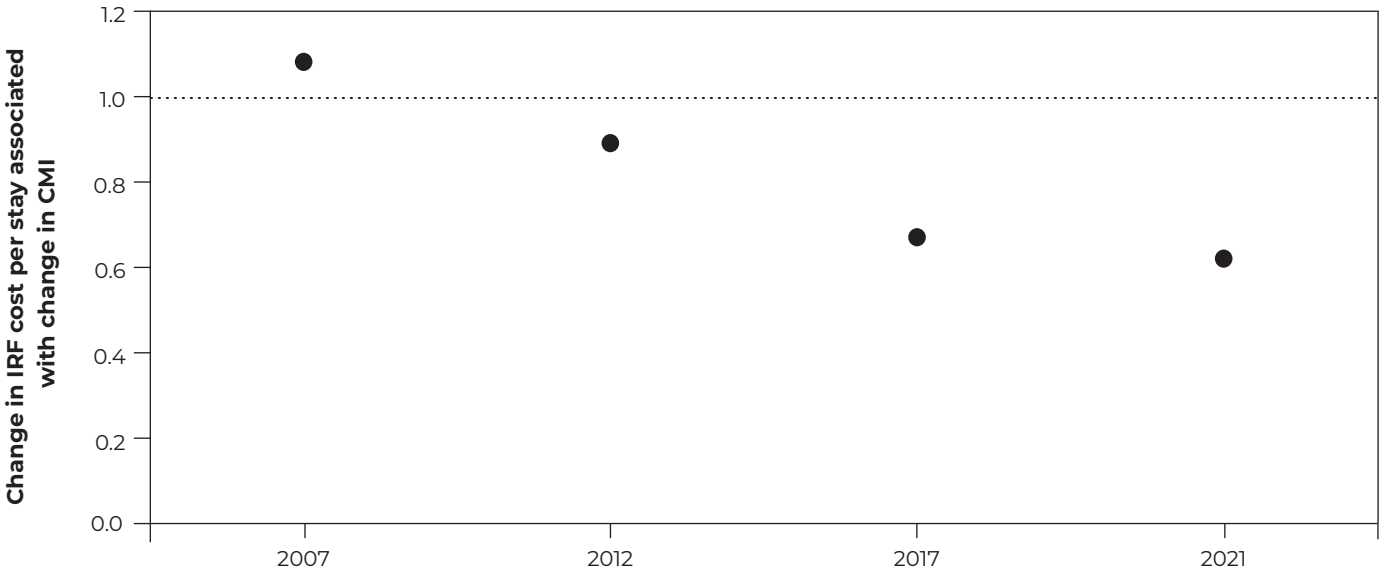
dominated the IRF market (Figure 8-9, p. 246). Around 2012, the number of freestanding for-profit IRFs began to grow rapidly. These IRFs tend to be large, so while hospital-based IRFs (which are usually nonprofit entities) are still the most numerous type of IRF, the largest share of IRF beds is now at freestanding IRFs (which tend to be for-profit entities). In 2022, the share of discharges at freestanding IRFs was 59 percent compared with 41 percent from hospital-based IRFs.

Freestanding for-profit IRFs tend to have lower costs than hospital-based IRFs, and the types of cases they treat may therefore be more profitable.[19] Freestanding IRFs may have lower costs in part because they are larger and have more economy of scale. However, differential coding practices and the ability of IRFs to select certain types of patients may have also contributed to the substantial profitability differences we observed.

Differential coding practices

Payment for IRF services depends, in part, on how functionally impaired patients are at admission to the IRF. Patients who are coded as more functionally impaired generally are categorized in a higher-severity CMG, resulting in greater payment, even if they have lower (case-mix-adjusted) costs per stay. Compared with payments based on diagnosis codes reported on claims (as in ACH payment), functional assessment may involve a greater degree of clinician judgment (and can be more difficult to audit) and therefore poses a greater risk of differential coding. The Commission has previously reported findings that were suggestive

FIGURE 8–8 **Decreasing relationship between IRFs' CMIs and average cost per stay, 2007–2021**



Note: IRF (inpatient rehabilitation facility), CMI (case-mix index). Each point represents the coefficient estimated on a log-log regression of IRFs' average cost on CMI, controlling for IRF type (freestanding vs. hospital based), teaching status, and share of low-income patients. Each coefficient shown in the figure represents the percent difference in costs associated with a 1 percent increase in CMI. The CMI is the average payment weight for each IRF. For more detail on these calculations, please refer to Garrett and Wissoker (2024).

Source: Urban Institute analysis of the IRF prospective payment final rule rate-setting files for fiscal year 2009 through fiscal year 2023, found at https://www.cms.gov/medicare/payment/prospective-payment-systems/inpatient-rehabilitation/rules-related-files.

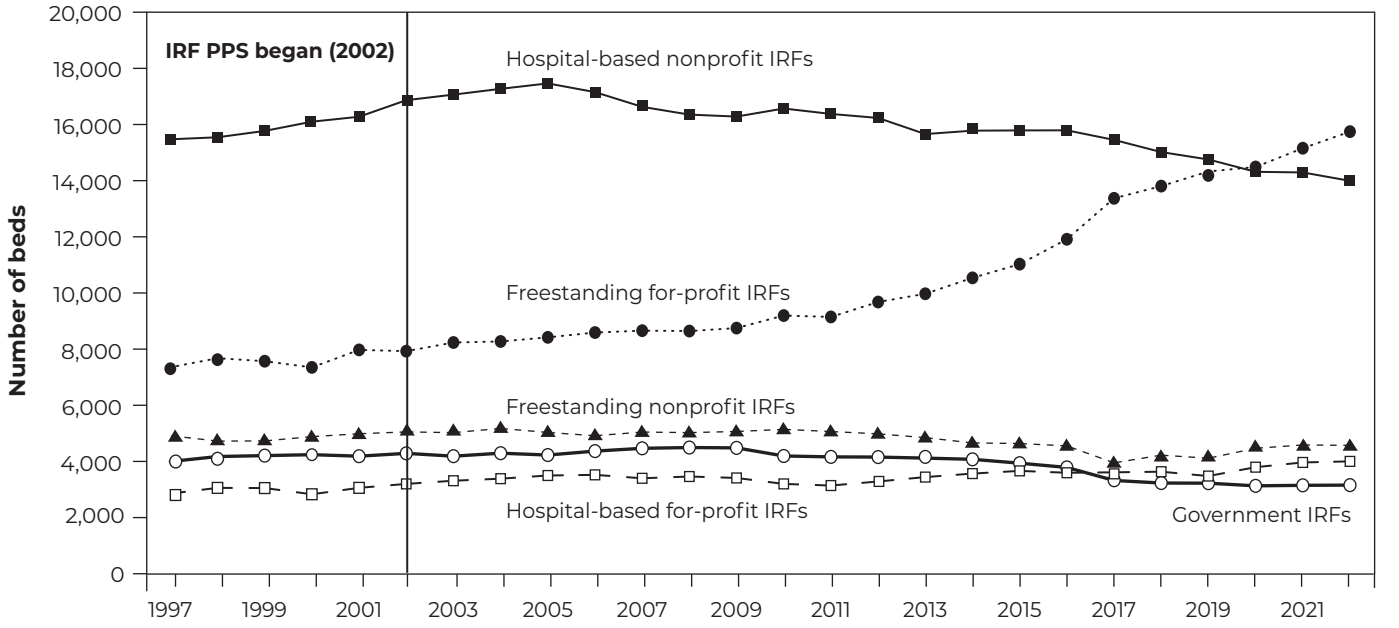
of such differential coding. In an analysis of data from 2013, we found that, within RICs, patients cared for by high-margin IRFs, compared with those in low-margin IRFs, were less severely ill during their preceding acute care hospitalization but appeared to be more functionally disabled upon assessment in the IRF (Medicare Payment Advisory Commission 2016). This pattern persisted across RICs and suggested that assessment and coding practices might contribute to greater profitability in some IRFs. Based on these findings, the Commission recommended that the Secretary conduct analyses of IRF coding and reassess the inter-rater reliability of the IRF Patient Assessment Instrument to help ensure payment accuracy and improve program integrity.

We have also discussed the use of nonresponse codes (or "activity not attempted" responses) that are recoded to the most dependent functional level and result in greater payment, all else equal (Medicare Payment Advisory Commission 2023). In that report, we suggested alternative approaches to handle nonresponses that would not automatically increase payments.[20]

Patient selection

IRFs must carefully screen patients before admission to ensure they meet Medicare's coverage criteria: The patient must be stable, require therapy in two modalities, be able to participate in and benefit from intensive therapy, and must require an intensive and coordinated team approach to care under the supervision of a rehabilitation physician. Indeed, IRFs admit less than 40 percent of the patients who are referred to them because those patients do not meet Medicare coverage requirements, do not require intensive therapy, or do not have the potential to improve (American Medical Rehabilitation Providers

FIGURE 8–9 **Substantial growth in the number of beds in freestanding for-profit IRFs, 1997–2022**



Note: IRF (inpatient rehabilitation facility), PPS (prospective payment system).

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

Association 2023). In interviews conducted with hospital discharge planners, we learned that some IRFs would not admit certain types of patients, such as those with a history of substance abuse or behavioral problems who are likely to be resource intensive (L&M Policy Research 2023).

In our analysis of 2019 data, we found variation in patient mix by IRF type. Notably, stays in the "other neurological" RIC (the most profitable RIC) were disproportionately admitted to freestanding for-profit IRFs (Figure 8-10). Among these IRFs, beneficiaries coded to this RIC composed 21 percent of stays compared with 8 percent of stays in nonprofit and government IRFs. Moreover, among stays in the "other neurological" RIC, over 30 percent admitted to freestanding for-profit IRFs indicated "other specified myopathies" as the condition for which the patient received rehabilitation compared with 6 percent of stays among hospital-based nonprofit hospitals (data not shown).[21] The IRF admission of patients with other specified myopathies by some IRFs has come under scrutiny by the Department of Justice and CMS (Centers for Medicare & Medicaid Services 2017, Department of Justice 2019).[22]

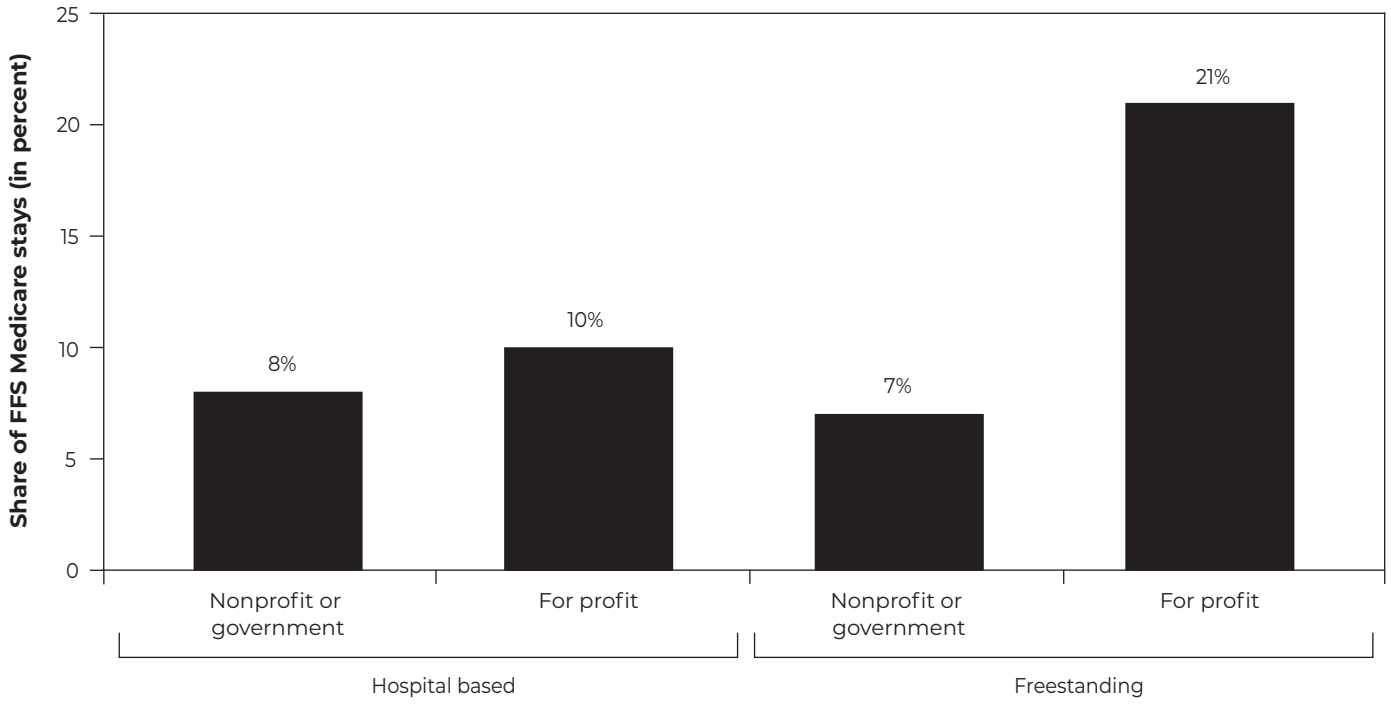
The profitability of neurological conditions is high in part because lower-cost IRFs tend to treat patients with these conditions. In the next section, we describe how a change in the method for calculating payment weights could address these profitability differences.

Changing the method used to calculate payment weights would improve payment accuracy

Payment weights assigned to each CMG should reflect differences in the costs of providing care to patients across CMGs. That is, a stay that is expected to cost twice as much to treat as another should have twice the payment weight. Having differences in payment per stay aligned with differences in cost per stay is intended to minimize incentives to admit one type of

FIGURE 8–10

Shares of FFS Medicare stays for other neurological conditions by IRF type and ownership, FY 2021



Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility), FY (fiscal year). Using aggregate payment and cost data from 2019, we found that IRF stays for neurological conditions were the most profitable. "Other neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders.

Source: MedPAC analysis of fee-for-service Medicare claims from CMS.

stay over another. A payment system that overpays for one type of stay and underpays for others could create incentives to selectively admit patients with certain conditions or code them to a more profitable CMG.

A standard method for setting payment weights involves averaging costs across all stays within each CMG and setting CMG weights proportional to how those costs vary with the average costs of all stays across all CMGs. For example, if the average costs of stays in case-mix group A are twice as much as the average costs of case-mix group B, the payment weight for stays grouped in A would be set to twice as much as for stays in group B. We refer to this method as the "average-cost" method, and it is used by the inpatient and skilled nursing facility PPSs to set payment weights.

The IRF PPS uses a hospital-specific relative value (HSRV) method to assign weights to CMGs. This method sets payment weights based on within-IRF relative cost variation in CMGs. That is, within an IRF, costs are averaged across stays in each CMG and divided by the IRF's overall average cost per stay. For each CMG, the resulting relative cost ratios are then adjusted by each IRF's average payment weight (or CMI) and averaged across IRFs to yield payment weights.[23] A simplified example is shown in the text box (pp. 248–249) to demonstrate how the HSRV and average-cost methods set payment weights.

The HSRV method was developed when hospital charges (not estimated costs) were used to set weights for diagnosis related groups (DRGs) under the inpatient hospital PPS. Different hospitals would have different

Illustrative example of payments under the average-cost and hospital-specific relative value methods

TABLE 8–4

Illustrative example of calculating average-cost weights

CMG	IRF cost per stay: IRF A	IRF B	IRF C	Average cost per stay	Proportion of overall average cost per stay (average-cost payment weight)
1	$6,000	$13,500	$24,000	$14,500	$14,500/$22,000 = **0.66**
2	$20,000	$22,500	$46,000	$29,500	$29,500/$22,000 = **1.34**
Average	**$13,000**	**$18,000**	**$35,000**	**$22,000**	

Note: IRF (inpatient rehabilitation facility), CMG (case-mix group). In this example, three IRFs (A, B, and C) each treat one patient in CMG 1 and one in CMG 2 (six total stays).

In this example, three inpatient rehabilitation facilities (IRFs) (A, B, and C) each treat one patient in case-mix group (CMG) 1 and 2 (six total stays). The cost per stay for each IRF is shown in Table 8-4. We calculate the average cost per stay across the three IRFs for each CMG. The overall cost per stay across all six stays is $22,000. The average-cost weight for each CMG is then calculated as the ratio of each CMG's average cost per stay to the overall cost per stay.

The average costs for each IRF are shown in the bottom row of Table 8-4. We used these IRF-level averages to calculate relative costs within each IRF for each stay, as shown in Table 8-5. We then average the relative costs across the row for each CMG to yield the hospital-specific relative value (HSRV) payment weights. The relative costs would be adjusted by the IRF's case-mix index (CMI) in combining the relative costs. In this simplified example, each IRF has a CMI of 1, but in reality, CMIs will differ across IRFs depending on the type and volume of patients they serve.

Assuming a base rate of $22,000 (the overall average cost per stay as shown in Table 8-4), we multiply the average-cost and HSRV payments by the base rate to yield the payment assigned to each CMG,

TABLE 8–5

Illustrative example of calculating HSRV weights

CMG	Within-IRF relative cost per stay: IRF A	IRF B	IRF C	Average across IRFs (HSRV payment weight)
1	$6,000 / $13,000 = **0.5**	$13,500 / $18,000 = **0.8**	$24,000 / $35,000 = **0.7**	**0.63**
2	$20,000 / $13,000 = **1.5**	$22,500 / $18,000 = **1.3**	$46,000 / $35,000 = **1.3**	**1.37**

Note: HSRV (hospital-specific relative value), IRF (inpatient rehabilitation facility), CMG (case-mix group). In this example, three IRFs (A, B, and C) each treat one patient in CMG 1 and one in CMG 2 (six total stays). Within-IRF relative costs per stay are calculated using each IRF's costs shown in Table 8-4. "Average across IRFs" was calculated using unrounded figures.

(continued next page)

Illustrative example of payments under the average-cost and hospital-specific relative value methods (cont.)

as shown in Table 8-6. The payments are similar between the two methods, but not the same.

Payments differ under the two methods because the illustrative IRFs differed in their costs of treating patients. The HSRV method seeks to set payments proportional to within-IRF relative costs per stay, while the average-cost method sets payments proportional to costs per stay across all IRFs. ■

TABLE 8–6

Illustrative example comparing average-cost and HSRV-weighted payment per stay

	CMG payment per stay	
CMG	**Average-cost weight**	**HSRV weight**
1	**0.66** x $22,000 = $14,500	**0.63** x $22,000 = $13,913
2	**1.34** x $22,000 = $29,500	**1.37** x $22,000 = $30,087

Note: HSRV (hospital-specific relative value), CMG (case-mix group). The average-cost and HSRV payment weights in this example were derived in Table 8-4 and Table 8-5. The base rate is $22,000, which is the overall average cost per stay, as shown in Table 8-4. Unrounded weights were used to calculate "CMG payment per stay."

strategies (or markups) to establish charges based on costs. Comparing the relative charges of DRGs within each facility and then averaging was intended to provide a more accurate reflection of the differences in costs by DRGs. In contrast, if payment weights were set using a simple average of the charges across all stays in a DRG, stays in DRGs disproportionately served by hospitals with higher markups would result in inaccurately higher payment weights, all else equal.[24]

When using costs to generate payment weights, as is done by the IRF PPS, HSRV and average-cost weights can also yield different results (as shown in the illustrative example in the text box) because IRFs differ in their costs of treating patients. The HSRV method seeks to set payments proportional to within-IRF relative costs, while the average-cost method sets payments proportional to costs per stay across all IRFs. Both methods are valid approaches to setting payment weights to reflect costs, but the average-cost method would help to address the concerning patterns and trends observed across IRFs. If the average-cost method were used to set payment weights, when lower-cost providers treat cases in a CMG, the payment weights associated with that CMG would decrease relative to other CMGs (making cases in that CMG less profitable relative to cases in other CMGs). HSRV weights depend on the distribution of relative costs within an IRF. Growth in the number of a particular type of stay in lower-cost IRFs would increase the influence of these IRFs in calculating payment weights, but if the within-IRF relative costs do not change, neither will HSRV weights.

Replacing HSRV with average-cost payment weights resulted in more uniform profitability across case types

The Urban Institute, under contract with the Commission, simulated average-cost weights and compared them to HSRV weights using the same

Calculating inpatient rehabilitation facility payment weights

We contracted with the Urban Institute to calculate the inpatient rehabilitation facility (IRF) prospective payment system (PPS) hospital-specific relative values (HSRV) payment weights; simulate average-cost weights using the same data; and calculate the impacts of replacing HSRV with average-cost weights in fiscal year (FY) 2019 (Garrett and Wissoker 2024).

HSRV payment weights: Using FY 2019 data, the Urban Institute replicated methods described in reports published by RTI and RAND on the IRF PPS to calculate HSRV payment weights using the same method as CMS (Carter et al. 2002, Centers for Medicare & Medicaid Services 2019). This method consisted of calculating a hospital-specific relative cost of a stay as the ratio of cost per stay divided by the average cost of a stay at that IRF. The ratios were then averaged across the IRFs' stays in a case-mix group (CMG), adjusted by each IRF's case-mix index (CMI). The CMI is estimated simultaneously with the weights through an iterative process that ends when subsequent iterations yield very similar results. The objective of the HSRV method is to set weights such that the relative profitability of cases is equalized within each IRF. Short stays (where the patient was transferred to another inpatient setting before the average length of stay for the CMG) received a proportionally lower weight based on the length of stay.

Average-cost payment weights: Using FY 2019 data, average-cost weights were calculated as the average standardized costs per stay for each CMG divided by the overall average cost per stay across all stays. That is, average-cost weights were set to be directly proportional to the average standardized costs across all stays within each CMG. With average-cost weights, the objective is to equalize profitability across all stays. Costs were standardized for the IRF adjustments in the PPS: teaching status, low-income share, and geographic location, including the wage index. Short stays received a proportionally lower weight based on the length of stay.

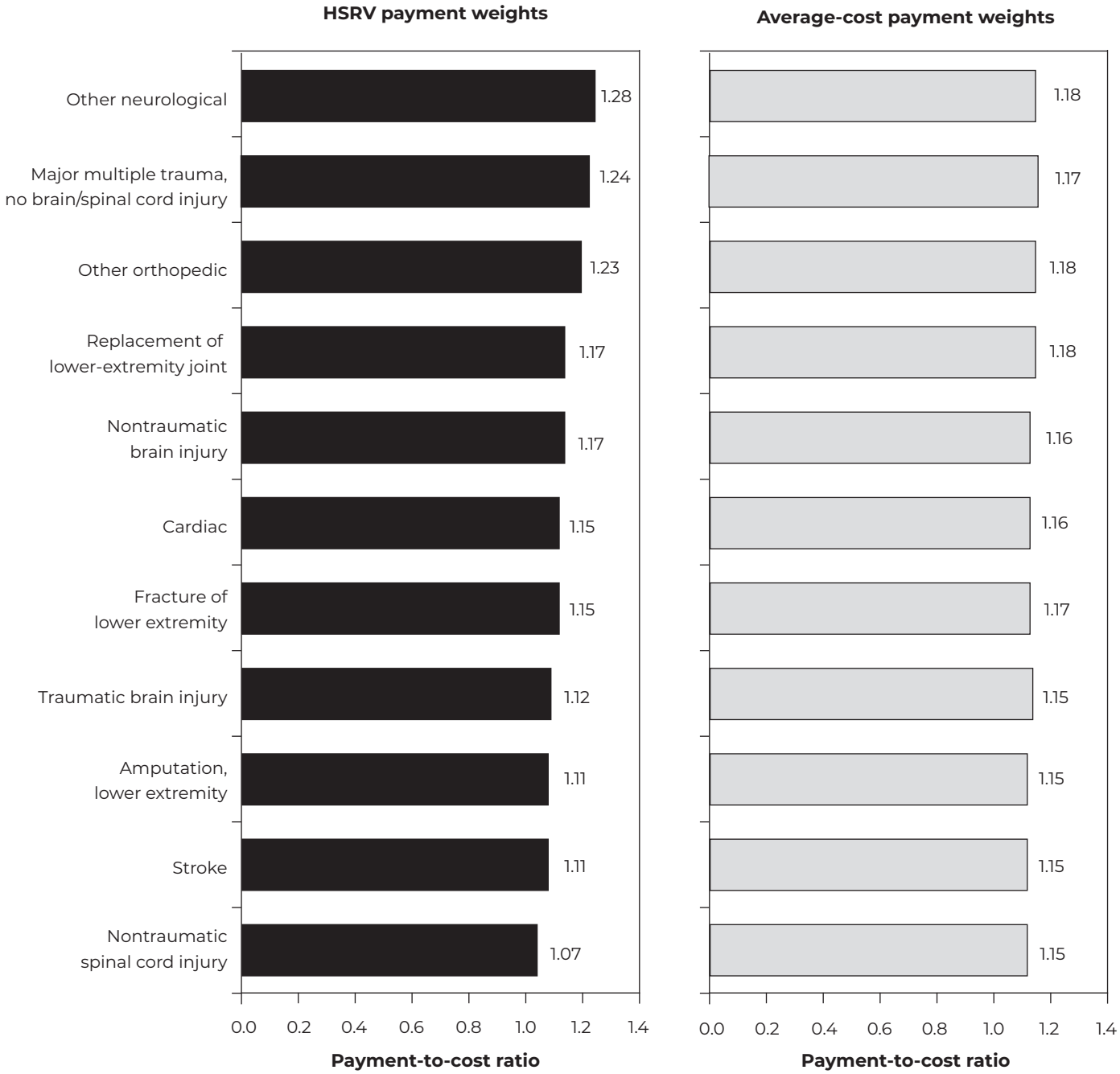
Impacts: The HSRV and average-cost payment weights were multiplied by the IRF PPS base rate to obtain HSRV and average-cost-based payments for each stay in FY 2019. The weights were also used to calculate separate HSRV- and average-cost-based CMIs for each IRF. Since we apply a budget-neutrality constraint, the overall difference between HSRV- and average-cost-based payments was zero; however, an individual IRF, depending on its mix of patients, could have a lower, same, or higher average-cost-based payment compared with HSRV-based total payment. ■

year of data (see the text box for the Urban Institute's methods of calculating IRF payment rates). It found substantive differences between HSRV and average-cost payment weights. Notably, average-cost weights improved the relationship between CMI and IRFs' costs—a 1 percent change in the average-cost-based CMI was associated with a nearly proportional (0.96 percent) increase in cost per stay.

The average-cost method, by definition, sets payment weights for any given CMG proportional to the average cost of all cases so that profitability (i.e., PCR) is more uniform than under HSRV weights (Figure 8-11). Across the RICs, the PCRs based on average-cost weights ranged from 1.15 to 1.18 compared with 1.07 to 1.28 using the HSRV method (Figure 8-11).[25] Compared with HSRV weights, average-cost weights result in lower PCRs for some conditions and higher PCRs for other conditions. For example, the PCR for other neurological conditions would decrease from 1.28 using HSRV weights to 1.18 using average-cost weights. In contrast, for nontraumatic spinal cord injuries, the PCR increases from 1.07 with HSRV weights to 1.15 with average-cost weights.

FIGURE 8–11

Payment-to-cost ratios are more uniform across IRF conditions with average-cost payment weights compared with HSRV payment weights, FY 2019

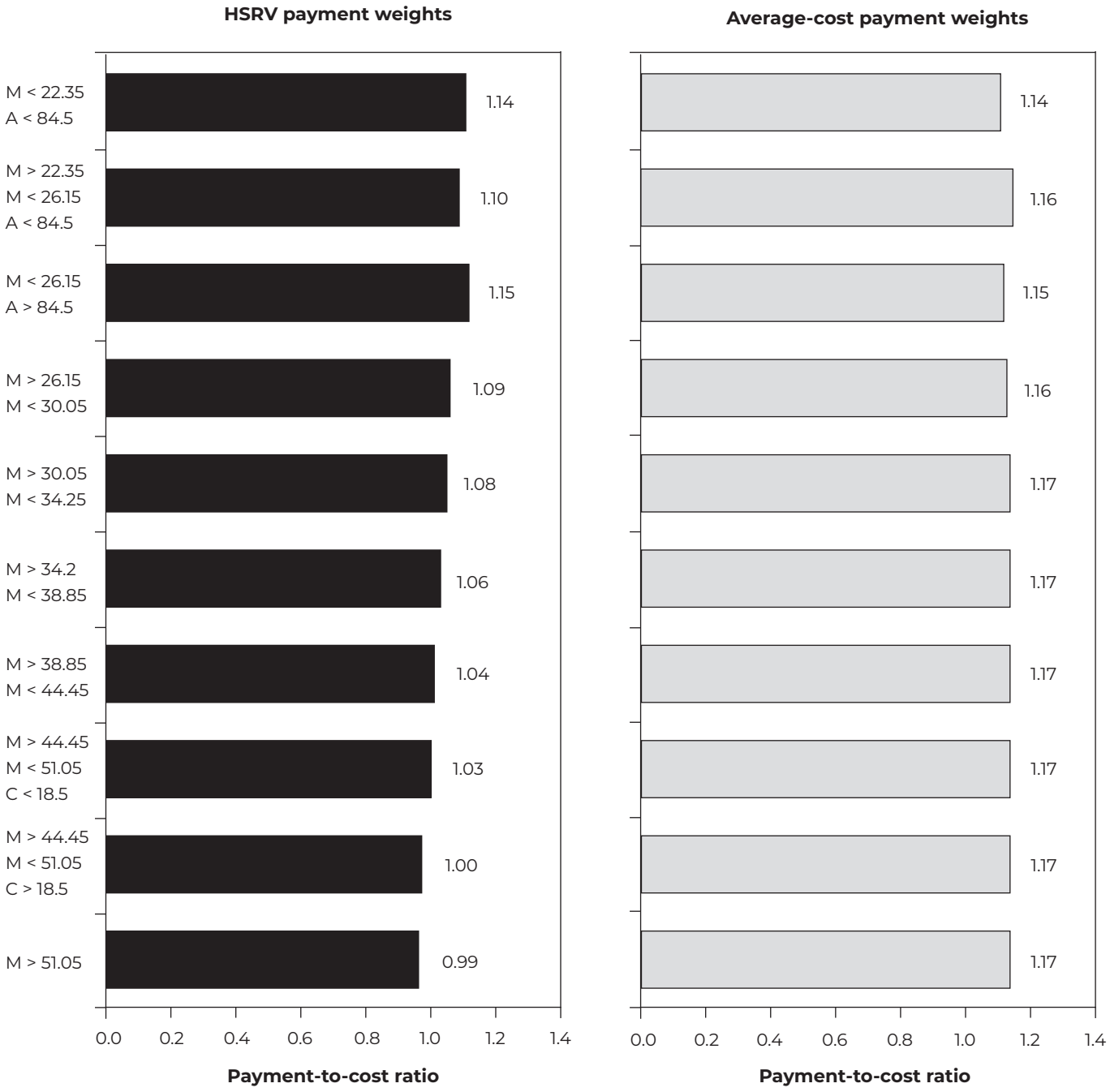


Note: IRF (inpatient rehabilitation facility), HSRV (hospital-specific relative value), FY (fiscal year). "Other neurological" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures; "other orthopedic" excludes hip, pelvis, and femur fractures. Payment-to-cost ratios are calculated by dividing aggregate payments by aggregate costs for stays assigned to each rehabilitation impairment category. Payments were calculated based on the Urban Institute's simulation of HSRV and average-cost weights (see text box on the Urban Institute's calculations, p. 250).

Source: Urban Institute analysis of Medicare fee-for-service claims from CMS.

FIGURE 8–12

Payment-to-cost ratios are more uniform across stroke CMGs with average-cost payment weights compared with HSRV payment weights, FY 2019



Note: CMG (case-mix group), HSRV (hospital-specific relative value), FY (fiscal year), M (motor score), C (cognitive score), A (age). There are 10 CMGs in the inpatient rehabilitation facility stroke rehabilitation impairment group, which increase in severity from bottom to top. CMGs are created from thresholds based on motor score, cognitive score, and age. Payment-to-cost ratios were calculated by dividing aggregate payments by aggregate costs for stays assigned to each stroke CMG. Payments were calculated based on the Urban Institute's simulation of HSRV and average-cost weights (see text box on the Urban Institute's calculations, p. 250).

Source: Urban Institute analysis of Medicare fee-for-service claims from CMS.

TABLE 8–7

The use of average-cost payment weights would have shifted dollars to hospital-based nonprofit and small IRFs, 2019

	Percent of stays	Estimated percent change in payment
All	100%	0.0%
Hospital-based	44	1.6
For profit	9	0.2
Nonprofit	29	2.0
Government	6	1.8
Freestanding	56	–1.2
For profit	50	–1.5
Nonprofit	5	0.7
Government	1	1.3
Rural	6	0.7
Urban	94	0.0
Small	6	2.5
Medium	34	1.3
Large	60	–1.0

Note: IRF (inpatient rehabilitation facility). "Estimated percent change in payment" was calculated by subtracting hospital-specific relative value (HSRV)-based payments from average-cost-based payments divided by HSRV-based payments. IRF size (small, medium, and large) was based on the number of FFS Medicare stays in the year (IRFs with less than the 25th percentile in stays were designated small, IRFs with greater than the 75th percentile in the number of stays were designated large, and all others were medium) (see Garrett and Wissoker (2024)).

Source: Urban Institute analysis of Medicare fee-for-service claims from CMS.

PCRs were also more uniform across CMGs within a condition. For example, PCRs for stroke CMGs ranged from 1.14 to 1.17 using average-cost weights, while they ranged from 0.99 to 1.15 using HSRV weights (Figure 8-12).

Under the average-cost method, payments are more uniformly aligned to costs across CMGs, but for any given IRF, payments may not be as well aligned to their own costs across groups. In contrast, the HSRV method yielded large distortions in profitability across CMGs (and in the relationship between CMI and IRFs' costs). This result is likely related to the relatively greater opportunity to select patients (compared with other settings of care) and differential coding practices across IRFs that may result in lower (case-mix-adjusted) costs at certain IRFs. Average-cost weights would be more sensitive to these shifts in the IRF landscape, which may better ensure access to IRF services by reducing the financial incentives to avoid patients who would be assigned to lower payment-weighted CMGs and reducing incentives to code patients into higher-weighted CMGs.

Impacts of replacing HSRV with average-cost payment weights in the IRF PPS

We calculated the impacts of using average-cost weights in place of the current HSRV weights by IRF characteristics in 2019, assuming no change in admission pattern (Table 8-7). We assumed budget neutrality: The total payments remain the same. Under these assumptions, some IRFs would have received lower payments and some would have received higher payments, depending on the types of cases they served. Payments to nonprofit hospital-based IRFs would have increased by 2 percent. Small IRFs

(which tend to be hospital based) would have received a 2.5 percent increase in payments. Freestanding for-profit IRFs would have had a 1.5 percent reduction in payments. Rural IRFs would have seen a slight boost in payments of 0.7 percent. Large IRFs (which tend to be freestanding) would have had payments reduced by 1 percent. Across all IRFs with at least 50 stays in the year, the estimated change in payments would have ranged, at the 25th to 75th percentiles, from -2.0 percent to 2.8 percent (data not shown). The median IRF would have experienced a 1.2 percent increase in payment using average-cost weights (data not shown).

Next steps

CMS has the regulatory authority to replace the current HSRV payment weights used in the IRF PPS with average-cost weights. Making such a change would pose no additional administrative burden on providers. Our simulations showed that the one-year impacts on any provider group would be relatively small and could be smaller or larger if IRFs altered their admitting and coding practices. With average-cost-based payment weights, IRFs would have less financial incentive to select higher-weighted cases over lower-weighted cases or to code patients into higher-weighted CMGs. However, this change would not eliminate financial incentives to select profitable patients, nor would it eliminate issues of inter-rater reliability in patient assessment. Therefore, continued monitoring and auditing of IRF service use and the accuracy of the provider-reported assessment data would be needed. ■

Endnotes

1 More frequently, some 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 https://www.medpac.gov/wp-content/uploads/2022/10/MedPAC_Payment_Basics_23_IRF_FINAL_SEC.pdf.

3 During the public health emergency (PHE), some exceptions were made to Medicare's facility requirements for IRFs to help health care providers in affected communities manage patient flow. For example, during the PHE, an IRF that agreed to admit a patient to help a nearby hospital free up an acute care bed could exclude that patient from its compliance threshold calculation as long as the patient's medical record properly indicated that the patient was admitted solely to respond to the pandemic (Centers for Medicare & Medicaid Services 2020). The compliance threshold (commonly referred to as the "60 percent rule") 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.

4 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; 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. In fiscal years 2014, 2015, and 2018, CMS updated its lists of ICD-10-CM codes, replacing certain general codes (such as the arthritis codes) with more specific ones for patients who would be likely to require intensive rehabilitation therapy.

5 More criteria are used to designate a case as compliant than the general 13 conditions. CMS applies an algorithm to determine compliant IRF stays. The algorithm is described here: https://www.cms.gov/files/document/specifications-determining-irf-60-rule-compliance.pdf.

6 During the PHE, some exceptions were made to IRF Medicare coverage criteria for beneficiaries to help health care providers contain the spread of COVID-19. For example, the Secretary waived Section 412.622(a)(3)(ii), commonly referred to as the "3-hour rule," the criterion that patients treated in IRFs generally receive at least 15 hours of therapy per week. IRFs were expected to provide typical IRF levels of care for beneficiaries admitted during the PHE who required and could benefit from such care (Centers for Medicare & Medicaid Services 2020).

7 HSAs are local health care markets for hospital care. An HSA is a collection of ZIP codes in which Medicare residents receive most of their hospitalizations from hospitals in that area. There are 3,435 HSAs. See https://www.dartmouthatlas.org.

8 In contrast, if payments do not cover the marginal costs, the provider could have a disincentive to care for Medicare beneficiaries.

9 If we approximate marginal cost as total Medicare cost minus fixed building and equipment cost, then:

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

10 Community, for this measure, is defined as home/self-care, with or without home health services, based on Patient Discharge Status Codes 01, 06, 81, and 86 on the Medicare FFS claim.

11 Hospital cost reports do not require hospitals to report an all-payer margin specifically for their IRFs or other hospital-based units.

12 We estimated the aggregate margin including reported relief funds based on FFS Medicare's share of 2019 all-payer operating revenue.

13 The number of stays qualifying as outliers fell in 2022 after CMS increased the fixed loss threshold required for outlier payments.

14 We use CMS's definition of the low-income patient adjustment. CMS defines an IRF's low-income patient share as the sum of two ratios: the share of all Medicare days devoted to patients on Supplemental Security Income (SSI) plus the share of Medicaid days over all inpatient days.

15 Clinical information used to classify IRF patients in CMGs is drawn from the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF–PAI), an assessment tool that providers complete when the patient is admitted and discharged. Diagnosis codes are used to categorize stays into RICs; functional impairment levels and age are used to classify stays into CMGs within a RIC.

16 The IRF PPS also has adjustments for teaching status, low-income share, geographic location, and outlier payments for patients who are extraordinarily costly.

17 Conditions in the "other neurological" RIC include multiple sclerosis, Parkinson's disease, neuromuscular disorders, and polyneuropathy.

18 This method to calculate stay-level costs differs from the method used to calculate the margins shown in Table 8-3 (p. 239), which require only aggregate costs computed from the IRFs' Medicare cost reports.

19 In 2021, the average cost per stay in for-profit freestanding IRFs was about 30 percent less than the average cost per stay in hospital-based IRFs, based on hospital cost reports.

20 In FY 2020, CMS transitioned from using Functional Independence Measure™ (FIM™) items on the IRF-PAI to Section GG functional ability items to calculate CMGs. Many analyses in this section use data from FY 2019, prior to the change to Section GG.

21 Among hospital-based nonprofit IRFs, critical illness myopathies (diagnosis code G72.81) and Parkinson's disease (G20) were the most common diagnosis codes, accounting for about 45 percent of "other neurological" RIC stays. Among freestanding for-profit IRFs, other specified myopathies (G72.89) and critical illness myopathies (G72.81) together accounted for 60 percent of "other neurological" RIC stays.

22 The Department of Justice alleged that certain IRFs were inappropriately admitting these patients without supporting clinical evidence of their need for IRF services. The case was ultimately settled. At the time, CMS considered removing this condition (diagnosis code G72.89) from meeting the 60 percent compliance threshold. CMS stated that this condition was intended to represent confirmed (through, for example, medical testing) myopathies, but instead found that the diagnosis code was being used by certain IRFs as a nonspecific diagnosis for muscle weakness (Centers for Medicare & Medicaid Services 2017). Ultimately, CMS did not remove this code from the compliance list and stated that it would continue to monitor the appropriate use of this code.

23 The HSRV method is iterative: Once payment weights are calculated, a new CMI for each IRF is computed as the average payment weight. For each CMG, ratios of costs are adjusted by the new CMI and averaged across IRFs, yielding a new set of payment weights that are used to compute a new CMI for each IRF. When the CMI and payment weights do not differ in subsequent rounds, the weights are set. In the first round, the CMI for each IRF can be set to 1.

24 The inpatient PPS initially used an average-charge method to calculate payment weights. As costs and charges diverged and charge-based weights led to distortions, CMS considered the HSRV method but ultimately shifted to cost-based weights using the average-cost method in 2007 (Centers for Medicare & Medicaid Services 2007).

25 PCRs across RICs are not exactly the same when using average-cost payment weights because transfer stays receive an adjusted weight. The frequency of transfer stays varies by RIC and CMG.

References

American Medical Rehabilitation Providers Association. 2023. AMRPA response to October 2023 public meeting session on IRF & SNF payment reform models. https://amrpa.org/Portals/0/AMRPA%20Response%20to%20MedPAC%20IRF%20SNF%20Oct.%202023%20Session_FINAL.pdf.

Carter, G. M., M. Buntin, O. Hayden, et al. 2002. *Analyses for the initial implementation of the inpatient rehabilitation facility prospective payment system.* Santa Monica, CA: RAND Corporation.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2023. Inpatient Rehabilitation Facility (IRF) Quality Reporting Program (QRP). https://www.cms.gov/medicare/quality/inpatient-rehabilitation-facility.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020. Inpatient rehabilitation facilities: CMS flexibilities to fight COVID-19. https://www.cms.gov/files/document/inpatient-rehabilitation-facilities-cms-flexibilities-fight-covid-19.pdf.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019. *Analyses to inform the use of standardized patient assessment data elements in the inpatient rehabilitation facility prospective payment system.* Baltimore, MD: CMS. https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/InpatientRehabFacPPS/Downloads/IRFPPSAnalysis2019RTI032219.pdf.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2017. Medicare program; inpatient rehabilitation facility prospective payment system for federal fiscal year 2018. Final rule. *Federal Register* 82, no. 148 (August 3): 36238–36305.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2007. Medicare program; changes to the hospital inpatient prospective payment systems and fiscal year 2008 rates. Final rule. *Federal Register* 72, no. 162 (August 22): 47298.

Department of Justice. 2019. *Encompass Health agrees to pay $48 million to resolve False Claims Act allegations relating to its inpatient rehabilitation facilities.* Washington, DC: DOJ. https://www.justice.gov/opa/pr/encompass-health-agrees-pay-48-million-resolve-false-claims-act-allegations-relating-its.

Encompass Health. 2023. 2023 third quarter earnings call October 27, 2023 supplemental information. https://s22.q4cdn.com/748396774/files/EHC-Q3-2023-Earnings-Slides_as-filed.pdf.

Garrett, B., and D. Wissoker. 2024. *Hospital-specific relative value weights, cost-based weights, and implications for Medicare payment to inpatient rehabilitation facilities.* Report prepared by the Urban Institute for the Medicare Payment Advisory Commission. Washington, DC: The Urban Institute.

Kortebein, P., M. M. Bopp, C. V. Granger, et al. 2008. Outcomes of inpatient rehabilitation for older adults with debility. *American Journal of Physical Medicine & Rehabilitation* 87, no. 2 (February): 118–125.

L&M Policy Research. 2023. *Interviews with acute care hospital discharge planners about inpatient rehabilitation facility and skilled nursing facility placement.* Report prepared by L&M Policy Research LLC for the Medicare Payment Advisory Commission. Washington, DC: L&M Policy Research LLC. September 29.

Medicare Payment Advisory Commission. 2023. *Report to the Congress: Medicare payment policy.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2021. *Report to the Congress: Medicare payment policy.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2019. *Report to the Congress: Medicare and the health care delivery system.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2016. *Report to the Congress: Medicare payment policy.* Washington, DC: MedPAC.

Winstein, C. J., J. Stein, R. Arena, et al. 2016. Guidelines for adult stroke rehabilitation and recovery: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 47, no. 6 (June): e98–e169.