CHAPTER 10

Mandated report: Changes in post-acute and hospice care after implementation of the long-term care hospital dual payment-rate structure

CHAPTER 10

Mandated report: Changes in post-acute and hospice care after implementation of the long-term care hospital dual payment-rate structure

Chapter summary

The most medically complex patients frequently need hospital-level care for extended periods of time, and some of these high-need patients are treated in long-term care hospitals (LTCHs). LTCHs are defined by Medicare as hospitals with an average length of stay exceeding 25 days. Because LTCHs are intended to serve very sick patients, per case payments under the LTCH prospective payment system (PPS) are very high. However, until 2016, lack of meaningful criteria for admission resulted in admissions of less complex cases that could be cared for appropriately in other settings.

The Pathway for SGR Reform Act of 2013 fundamentally changed how Medicare pays LTCHs for certain types of cases by creating a "dual payment-rate structure." Under this structure, certain LTCH cases continue to qualify for the standard LTCH PPS rate ("cases meeting the criteria"), while cases that do not meet a set of criteria are paid a lower, "site-neutral" rate. The site-neutral rate is either a cost-based payment or a rate based on the inpatient PPS that is used to pay acute care hospitals (ACHs), whichever is lower. The impact of this policy on LTCHs was expected to be substantial, with possible secondary effects on other post-acute care (PAC) and hospice providers, the Medicare program, and Medicare beneficiaries, given that the base ACH payment rate is 85 percent lower than the LTCH base payment rate. The Congress, therefore, requested that the Commission report on the effect that the policy has had on LTCHs, other PAC and hospice providers, and

In this chapter

beneficiaries. The Commission was also asked to opine on the necessity of the 25 percent rule, which sets a limit on the share of cases that can be admitted to certain LTCHs from a referring ACH. The Secretary eliminated the 25 percent rule in fiscal year 2019.

In response to the congressional request, the Commission conducted quantitative analyses on administrative data sets—in addition to qualitative analyses through site visits and interviews—to better understand what effect implementation of the dual payment-rate structure has had on beneficiaries, LTCHs, and other PAC and hospice providers.

From 2015 through 2017, the Commission found reductions in LTCH spending, in the number of LTCH stays, and in the number of LTCH facilities, but an increase in the share of LTCH cases meeting the criteria for the standard LTCH PPS payment rate. Although nearly 50 LTCHs have closed since fiscal year 2016, most of these closures occurred in markets with multiple LTCHs. In aggregate, LTCHs that closed had a lower share of Medicare discharges that met the criteria and a lower occupancy rate in their last year of operation compared with the facilities that remained open. Because the payment rate for cases not meeting the criteria is substantially lower than that for cases that meet the criteria, an LTCH's financial stability under Medicare relies, in part, on the share of cases that meet the criteria. LTCHs with more than 85 percent of their Medicare population meeting the criteria continued to have positive financial performance under Medicare in 2017.

The LTCH quality program is relatively new, with few risk-adjusted measures currently appropriate for longitudinal comparisons. However, for cases cared for in an LTCH, our examination of unadjusted measures—even after focusing on cases that met the criteria—did not find evidence that quality has been negatively affected by the dual payment-rate structure. Given the relatively small number of LTCH referrals, observing meaningful changes in discharge patterns of PAC and hospice in response to the implementation of the dual payment-rate structure remains challenging. We did, however, observe some small differences in certain Medicare severity–diagnosis related groups, including those involving wound care and, in some markets, tracheostomy.

In sum, the Commission observed changes in the LTCH setting consistent with the policy objectives of the dual payment-rate structure since its implementation for cost reporting periods beginning on or after October 1, 2015. Given the decades of concern regarding increases in LTCH use and the relatively high cost of LTCH services without a clear benefit for many case types, the trends we observed in the LTCH sector align with the Commission's goal of paying for expensive LTCH care

only for the sickest patients. Changes in the trends of LTCH use and spending after the policy's implementation were expected, and the Commission expects to see further continuation of these trends as the dual payment-rate structure becomes fully implemented in 2020. Given the current partial policy phase-in, the Commission will continue to monitor changes in use and trends across post-acute care and hospice providers, LTCH facility closures, and quality of care metrics for LTCH providers.

In regard to the 25 percent rule, the Commission posits that even under the LTCH dual payment-rate structure, ACHs continue to have an incentive to reduce their costs by shortening lengths of stay and shifting costly patients to LTCHs (and other PAC providers). Our analysis of data through 2017 suggests that, since 2016, the trends in LTCH use have begun to shift toward cases meeting the criteria, which indicates a general shift away from lower severity cases and an underlying change in admission patterns in LTCHs, reducing the necessity for the 25 percent rule. The Commission expects additional changes in ACH referrals to LTCHs as the dual payment-rate structure is fully phased in, further reducing the need for the 25 percent rule. ■

Mandate: Section 1206(a) of the Pathway for SGR Reform Act of 2013

(2) MedPAC study and report on impact of changes.

(A) STUDY. —The Medicare Payment Advisory Commission shall examine the effect of applying section 1886(m)(6) of the Social Security Act, as added by the amendment made by paragraph (1) on –

(i) The quality of patient care in long-term care hospitals;

(ii) The use of hospice care and post-acute care settings;

(iii) Different types of long-term care hospitals; and

(iv) The growth in Medicare spending for services in such hospitals.

(B) REPORT.—Not later than June 30, 2019, the Commission shall submit to Congress a report on such study. The Commission shall include in such report such recommendations for changes in the application of such section as the Commission deems appropriate as well as the impact of the application of such section on the need to continue applying the 25 percent rule described under sections 412.534 and 412.536 of title 42, Code of Federal Regulations. ■

Background

The most medically complex patients, including those who exhibit metabolic, endocrine, physiologic, and immunologic abnormalities that result in profound debilitation and often ongoing respiratory failure, frequently need hospital-level care for extended periods of time. Some of these high-need patients are treated in long-term care hospitals (LTCHs). These facilities can be freestanding or colocated with other hospitals as hospitals within hospitals (HWHs) or satellites. To qualify as an LTCH for Medicare payment, a facility must meet Medicare's conditions of participation for acute care hospitals (ACHs) and, for certain Medicare patients, have an average length of stay greater than 25 days.[1] In 2017, the average length of stay in an LTCH was just over 26 days while, by comparison, the average Medicare length of stay in ACHs was about 5 days. In 2017, Medicare spent $4.5 billion on care provided in LTCHs nationwide. About 103,000 beneficiaries had roughly 116,000 LTCH stays. On average, Medicare fee-for-service (FFS) beneficiaries accounted for about two-thirds of LTCHs' discharges (Medicare Payment Advisory Commission 2019).

LTCHs are intended to serve very sick patients, so per case payments under the LTCH prospective payment system (PPS) are very high. However, until 2016, lack of meaningful criteria for admission resulted in admissions of less complex cases that could be cared for appropriately in other settings. The Commission and CMS have long been concerned that caring for lower acuity cases in LTCHs increases spending without demonstrated improvements in quality or outcomes.

The Pathway for SGR Reform Act of 2013 fundamentally changed how Medicare pays LTCHs for certain types of cases, creating a "dual payment-rate structure." Under this structure, certain LTCH cases continue to qualify for the standard LTCH PPS rate ("cases meeting the criteria"), while cases that do not meet a set of criteria are paid a lower, "site-neutral" rate. The site-neutral rate is either a cost-based payment or a rate based on the inpatient PPS (IPPS) that is used to pay ACHs, whichever is lower. Because the base ACH payment rate is 85 percent lower than the LTCH base payment rate, the impact of this policy on LTCHs was expected to be substantial, with possible secondary effects on other post-acute care (PAC) and hospice providers, the Medicare program, and Medicare beneficiaries. The Pathway for SGR Reform Act of 2013 therefore directs the Commission to evaluate the effects of the payment changes on LTCHs, the quality of care they provide, the use of other PAC and hospice services,

Analytic approach to the congressional mandate

For this report, we conducted quantitative analyses on administrative data sets in addition to qualitative analyses through site visits and interviews to better understand the effect of the implementation of the dual payment-rate structure on beneficiaries, long-term care hospitals (LTCHs), and post-acute care (PAC) and hospice providers. Because the phase-in of the dual payment-rate structure continues through 2020, our analyses and results reflect a partial phase-in of the policy. We expect that the magnitude of the policy's effect will increase once the dual payment-rate structure is fully implemented.

Quantitative analyses

We used administrative data (e.g., provider claims) to analyze the effect of the dual payment-rate structure on LTCHs, other PAC providers, and hospice providers. Except where noted, we have excluded from this analysis any stays or episodes that were not immediately preceded by an acute care hospital (ACH) discharge because over 85 percent of LTCH admissions originate with an ACH stay and because a covered skilled nursing facility (SNF) stay requires a three-day ACH stay. These excluded stays substantially affect the number of home health agency (HHA) episodes

(continued next page)

and program spending (see text box on the congressional mandate, p. 343). The mandate also directs the Commission to consider the need for the continued application of a policy that limits the share of referrals from a single ACH, known as the 25 percent rule, which CMS eliminated in its fiscal year 2019 LTCH PPS final rule.

The congressional mandate requires that the Commission report to the Congress on the implementation of the new patient-level criteria no later than June 30, 2019. The original statutory provision enacted in 2013 required full implementation of the new LTCH patient-level criteria by fiscal year 2019. However, a subsequent statutory amendment delayed full implementation until fiscal year 2020. Given the delay of full implementation and the timing of data availability, this analysis reflects the partial implementation to date of the policy across all LTCHs. For this report, we conducted quantitative analyses on administrative data sets in addition to qualitative analyses through site visits and interviews (see text box on the analytic approach to fulfilling the mandate). Given the relatively low share of beneficiaries who use LTCH care, geographic variation in availability of LTCHs, and variation in the use of LTCH care, we focused some of the analyses on subsets of LTCH providers and subsets of LTCH cases.

LTCH payment system

Medicare's special payment policies for LTCHs came about when the IPPS for ACHs was implemented in 1983. Forty hospitals with average lengths of stay greater than 25 days were excluded from the IPPS because their patient costs could not be accurately predicted by the IPPS patient classification system and weights (Liu et al. 2001). These LTCHs, as they came to be called, had predominantly begun as tuberculosis and chronic disease hospitals. Medicare continued to pay LTCHs on a cost basis in accordance with the payment system established in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) until CMS implemented an LTCH PPS in fiscal year 2003. Beginning in 1983, as the number of LTCHs climbed, the types of patients treated by LTCHs changed dramatically to focus on patients with other respiratory conditions and septicemia (Medicare Payment Advisory Commission 2014). The growth in LTCHs from 1983 until 2010 was largely attributable to growth in the number of for-profit entities. The number of LTCHs peaked in 2010 with nearly 425 paid under the LTCH PPS. In 2017, about 80 percent of the 398 LTCHs were for profit.

Medicare's payment method for LTCHs itself contributed to growth in the use of their services. Medicare paid LTCHs under TEFRA rules for about 20 years. Consequently, several flaws inherent in cost-based payment under TEFRA led to growth in supply, utilization, and expenditures over time. Under TEFRA, each LTCH was paid on the basis of its average cost per discharge, up to a facility-specific limit. The limit was set at the LTCH's average cost per discharge in a designated base

Analytic approach to the congressional mandate (cont.)

that are eligible for inclusion in this analysis. For each ACH discharge occurring in a given fiscal year, we used a seven-day window to look for any admission to an LTCH, inpatient rehabilitation facility (IRF), SNF, HHA, or hospice after the ACH stay.

LTCHs historically have constituted about 1 percent of PAC use. The total number of Medicare LTCH discharges in 2017 (roughly 116,000) is small in comparison with the 2.3 million covered SNF stays, 2.2 million home health episodes preceded by a hospitalization or other PAC stay, 380,000 IRF discharges, and 1.5 million hospice users (Medicare Payment Advisory Commission 2019). The relatively low volume of hospital discharges to LTCHs creates difficulty in detecting changes in the use of other PAC providers. Therefore, in certain cases we focused the analysis on a set of ACH diagnoses where we would most likely be able to detect changes in ACH discharge patterns.

While there is a wide variation in severity of illness across ACH diagnoses, we identified six ACH Medicare severity–diagnosis related groups (MS–DRGs) in which at least 10 percent of Medicare beneficiaries were discharged to an LTCH (Table 10-1).[2] For example, about 62 percent of beneficiaries requiring a tracheostomy and more than 96 hours of ventilator support in an ACH were discharged to an LTCH (the average of MS–DRGs 004 and 003), as were about 16 percent of beneficiaries with either septicemia or respiratory failure requiring mechanical ventilation for more than 96 hours in the preceding ACH stay (the average of MS–DRGs 870 and 207).

LTCH volume also varies substantially across geographic areas, in large part because LTCHs are not distributed uniformly across the country. Some areas have no LTCHs, underscoring the fact that medically complex patients can be treated appropriately in other

(continued next page)

TABLE 10–1

Share of ACH cases discharged to LTCHs varied by MS–DRGs, 2017

ACH MS–DRG	Description	Number of live ACH discharges	Share discharged to an LTCH
004	Tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth & neck without major OR procedure	12,076	65%
003	ECMO or tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth and neck with major OR procedure	12,314	59
870	Septicemia or severe sepsis with MV 96+ hours	20,464	16
207	Respiratory system diagnosis with ventilator support 96+ hours	12,911	15
853	Infectious and parasitic diseases with OR procedure with MCC	67,886	10
463	Wound debridement and skin graft except hand, for musculo-connective tissue disorders with MCC	5,813	10
	Subtotal of select ACH MS–DRGs	131,464	21
	All ACH MS–DRGs	8,864,084	1

Note: ACH (acute care hospital), LTCH (long-term care hospital), MS–DRG (Medicare severity–diagnosis related groups), MV (mechanical ventilation), OR (operating room), ECMO (extracorporeal membrane oxygenation), MCC (major complication or comorbidity). Includes ACH MS–DRGs with more than 500 discharges to an LTCH.

Source: MedPAC analysis of Medicare claims data.

Analytic approach to the congressional mandate (cont.)

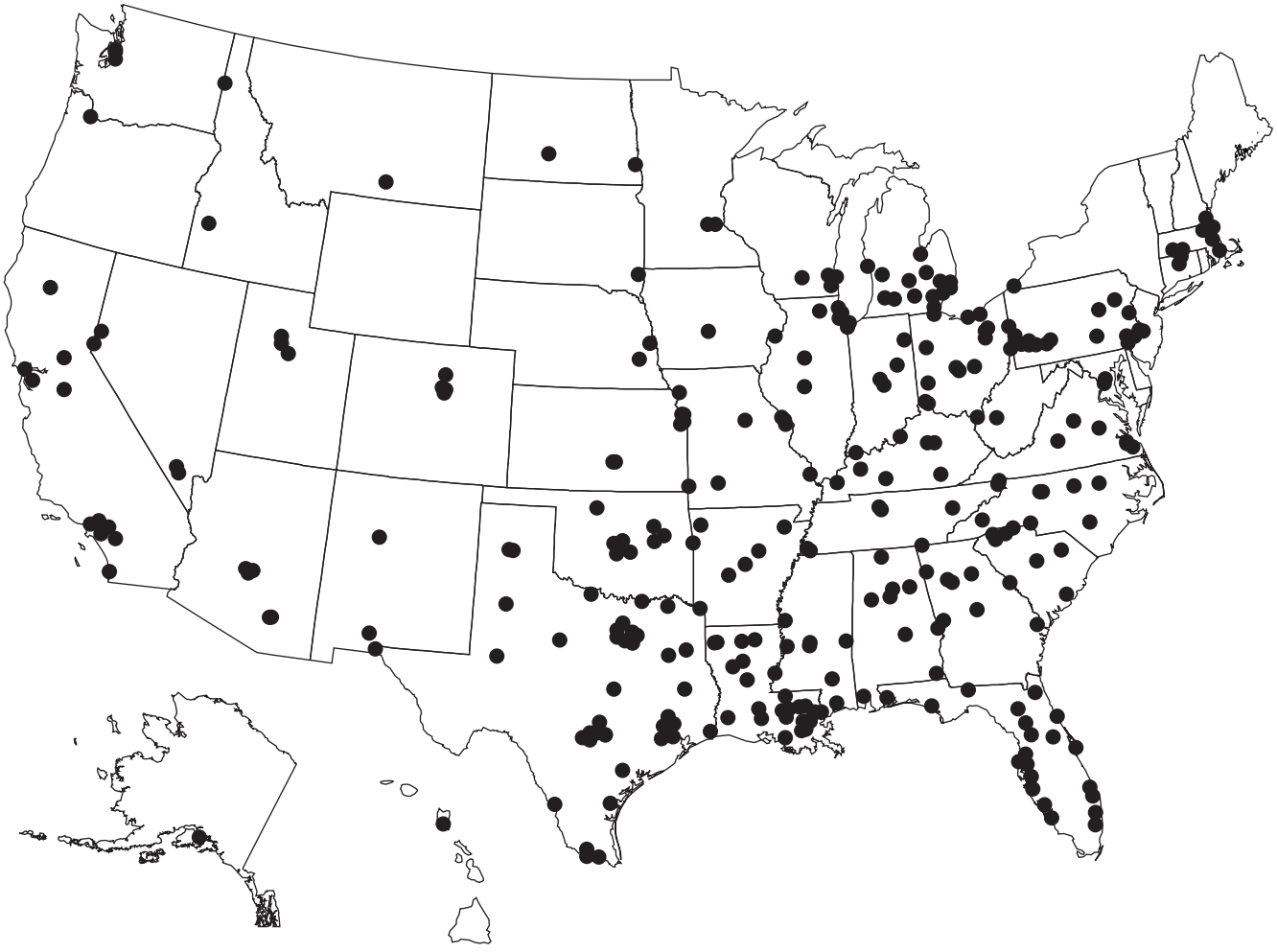
settings or travel to receive care in an LTCH. At the same time, some areas have many LTCHs. In part because of state certificate-of-need programs that prevent or limit the opening of certain types of health care facilities, many new LTCHs have located in markets where LTCHs already exist instead of in markets with few or no direct competitors (Figure 10-1). This concentration has financial implications for the Medicare program. Before the implementation of the dual payment-rate structure, LTCHs in certain markets admitted less complex cases that could appropriately be treated in less costly settings, resulting in higher Medicare spending for those beneficiaries.

Even with the clustered distribution of LTCHs, most beneficiaries have access to LTCH services. A recent study found that 90 percent of Medicare beneficiaries live within 80 miles of an LTCH, and 80 percent reside

(continued next page)

FIGURE 10–1

Long-term care hospitals are not distributed evenly across the nation



Source: MedPAC analysis of the December 2018 version of Medicare's Provider of Services file.

Analytic approach to the congressional mandate (cont.)

in a hospital referral region with at least one LTCH (National Association of Long Term Care Hospitals 2017). In our March 2018 report, the Commission found that, at the median, beneficiaries traveled about 17 miles to receive LTCH care (Medicare Payment Advisory Commission 2018d).

To isolate the effect of the dual payment-rate structure on changes in PAC, we analyzed discharge patterns from ACHs in selected market areas with historically high or low LTCH use. We identified the 20 markets with the highest per beneficiary LTCH use in 2015.[3] In 2015, these 20 areas accounted for about 5 percent of Medicare fee-for-service (FFS) beneficiaries and nearly a quarter of Medicare FFS cases in LTCHs (26,700 LTCH discharges in 2015). For comparison, we also considered the 20 MedPAC areas with the lowest per beneficiary LTCH use in 2015, requiring a minimum threshold of 25 FFS Medicare LTCH cases. These low-use areas accounted for 12 percent of Medicare FFS beneficiaries and less than 2 percent of LTCH cases (1,900 LTCH discharges in 2015).

The share of ACH cases discharged to an LTCH varied considerably across our high-use and low-use areas. In 2017, 3.8 percent of Medicare ACH cases were discharged to an LTCH in our 20 high-use areas, in aggregate. Alternatively, in our 20 low-use areas, 0.2 percent of Medicare ACH cases were discharged to an LTCH, in aggregate.

For some analyses of the financial impact of the dual payment-rate structure on LTCHs, we report data on the entire LTCH population and a subgroup of LTCHs with a high share of cases that meet the criteria, consistent with the goals of the dual payment-rate structure. Because there is a financial disincentive for LTCHs to admit cases that do not meet the criteria, we would expect wide differences in financial performance between LTCHs that admit a high share of cases meeting the criteria and those with a lower share of cases meeting the criteria. Resulting from conversations with industry representatives and stakeholders, we defined LTCHs with a "high share of cases meeting the criteria" as a cohort of LTCHs with more than 85 percent of their Medicare cases meeting the criteria in 2017. The 85 percent threshold was conveyed as a reasonable threshold for facilities to achieve financial stability for their Medicare population.

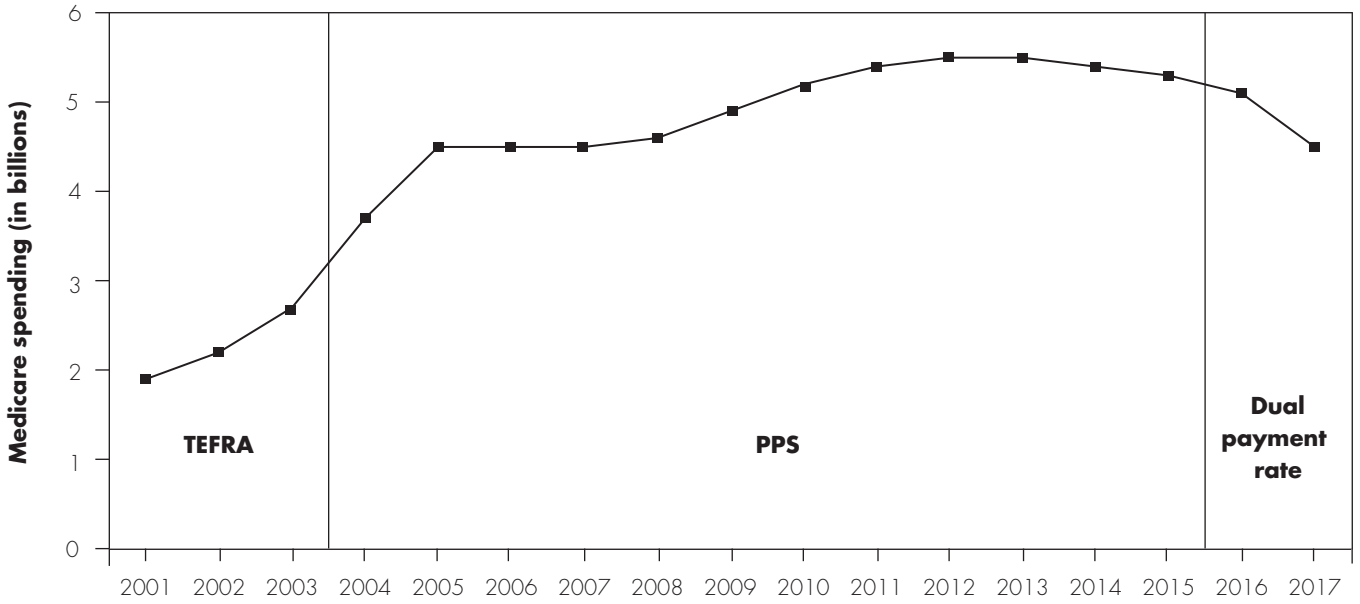
Qualitative analyses

Commission staff conducted a series of site visits and interviews to understand the effects of the implementation of the dual payment-rate structure on LTCHs' admissions, staffing, and operations, as well as the impact on ACHs' patterns of referral to PAC providers. Additionally, we sought to understand the various strategies LTCHs pursued in response to the dual payment-rate structure (e.g., whether facilities changed their admission practices to accept only cases that meet the new criteria for payment under the LTCH PPS).

We conducted interviews with staff from nine LTCHs, three SNFs, and seven ACHs, either in person or by telephone. These included in-person interviews with representatives from facilities in California, Connecticut, the District of Columbia, Florida, New York, and Texas. We also spoke by telephone with facility representatives from Iowa and from several areas in California and New York. These areas exhibit a wide range of provider and market characteristics. Each market represented varying degrees of Medicare managed care penetration, accountable care organization penetration, physician employment structure, state regulations, ACH occupancy rates and bed availability, and LTCH and other PAC bed availability. The facilities we spoke with varied in size, ownership, Medicare payer share, and degree of integration with other health care providers (e.g., providers that were fully integrated into a large health care system and those that were part of a separate chain). We spoke with facility administrators, physicians, clinical staff, discharge planners, and staff members representing the facility's admissions, case management, care coordination, and quality improvement teams. We also included in our site visits and interviews markets without LTCHs. Analyzing these areas of the country provided insight regarding discharge patterns of the most complex patients in areas without an easily accessible LTCH. ■

FIGURE 10–2

Medicare spending on LTCH services increased rapidly after implementation of the PPS and has fallen since the dual payment-rate structure began



Note: LTCH (long-term care hospital), PPS (prospective payment system), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982).

Source: MedPAC analysis of Medicare claims data from CMS.

year and updated annually for inflation. LTCHs that kept their average costs per discharge below their limits could receive bonus payments. This payment system proved to be financially attractive to new providers. New LTCHs could maximize their costs in their first years of operation, thereby establishing a high facility-specific limit. The new entrant could then quickly reduce its costs below its limit, resulting in payment of its full costs plus bonus payments.

Since October 2002, Medicare has paid LTCHs prospective per discharge rates based primarily on the patient's diagnosis. Under this PPS, LTCH payment rates are based on a patient classification system that groups patients primarily according to diagnoses and procedures. Medicare severity long-term care diagnosis related groups (MS–LTC–DRGs) include the same groupings used in ACHs paid under the IPPS but have a base rate and relative weights specific to LTCH patients. These relative weights reflect the average relative costliness of cases in the group compared with that of the average LTCH case. The LTCH PPS has outlier payments for patients who are extraordinarily costly. The LTCH PPS pays differently for short-stay outlier cases (patients with shorter than average lengths of stay), reflecting CMS's contention that Medicare should adjust payment rates for patients with relatively short stays to reflect the reduced costs of caring for them.[4]

For cost reporting periods beginning on or after October 1, 2015, for cases to qualify for the standard LTCH PPS payment rate, beneficiaries must have a prior stay in an ACH and either (1) stay in the intensive care unit (ICU) of the referring ACH for a minimum of 3 days or (2) receive mechanical ventilation for 96 or more hours in the LTCH. Cases with a psychiatric diagnosis or rehabilitation-based LTCH DRG assignment and other cases not meeting the criteria are paid a site-neutral amount. As defined by statute, the site-neutral rate is either a cost-based payment or a rate based on the IPPS that is used to pay ACHs, whichever is lower. The site-neutral payment rate is being phased in over a four-year period that began in fiscal year 2016. In cost reporting periods beginning on or after October 1, 2015, through September 30, 2019, cases not meeting the specified criteria receive a blended rate,

one-half the standard LTCH payment and one-half the site-neutral payment. In cost reporting periods beginning on or after October 1, 2019, these cases will receive 100 percent of the site-neutral payment rate. Given LTCHs' varying cost reporting periods, the Commission expects fiscal year 2021 to be the first full year in which this policy is completely phased in for all LTCHs. Our analyses, therefore, use data that reflect a partial phase-in of the policy.

Although the Congress intended the LTCH PPS to create better incentives for providers to control their costs, evidence suggests that base payments under the PPS were initially set too high. Given the inflationary incentives of TEFRA, using aggregate costs generated under that payment system to establish budget-neutral prospective payment rates resulted in overly generous payments. In the last years of cost-based payments under TEFRA, Medicare spending (which reflected underlying costs) for LTCH services was growing at an average annual rate of about 18 percent (Medicare Payment Advisory Commission 2014).[5] This growth accelerated in the years after the implementation of the PPS, averaging 27 percent annually from 2003 through 2005 (Figure 10-2). This growth was fueled by the relatively high PPS rate that created an attractive payment environment for both existing LTCHs and new LTCH entrants.[6] After 2005, growth in Medicare spending for LTCH services moderated as regulatory and legislative changes to the PPS were implemented but continued to increase until it peaked at $5.5 billion in 2012 (see text box on regulatory efforts to mitigate LTCH spending growth, pp. 350–351). After 2012, spending began to decrease and, in 2017, after the phase-in of the dual payment-rate structure (which reduced payments) began, totaled $4.5 billion.

Payment per case also grew rapidly in the first three years of the PPS, increasing from 2003 through 2005 by almost 10 percent per year. This growth reflects a real increase in case mix, improvement in documentation and coding, and increases in payment rates (generally due to the market basket updates) (Medicare Payment Advisory Commission 2007). A CMS study suggested that most of the change in case mix represented improvement in documentation and coding rather than a real increase in patients' severity of illness (Centers for Medicare & Medicaid Services 2006). LTCH cost growth increased rapidly as well, albeit slower than the per case payment growth. From 2001 to 2005, LTCH Medicare margins increased substantially, from –0.1 percent to 11.9 percent.[7]

Payment disparities across settings contributed to growth in use of LTCHs

Although LTCHs have positioned themselves as providers of PAC for chronically critically ill and other medically complex patients, most of these patients nationwide are cared for in ACHs with subsequent care provided in skilled nursing facilities (SNFs) after discharge. Additionally, many LTCH patients are less acutely ill (Centers for Medicare & Medicaid Services 2013, Dalton et al. 2012a, Kahn et al. 2010, Medicare Payment Advisory Commission 2013). But Medicare's payments to LTCHs are typically far higher than those made for similar patients in other settings (Gage et al. 2007, Kahn et al. 2013, Kandilov and Dalton 2011).

CMS has long been concerned that incentives under the ACH PPS and the LTCH PPS encourage hospitals to transfer costly patients to LTCHs (Centers for Medicare & Medicaid Services 2013). Unnecessary transfer of patients to LTCHs increases costs to the Medicare program by triggering two inpatient payments—one for the ACH stay and one for the LTCH stay—for what otherwise might have been one inpatient stay (or one inpatient stay and one less costly stay in a SNF or other PAC setting). As a prudent payer, Medicare must ensure that its payments to providers are properly aligned with the resource needs of beneficiaries. In addition, the Commission has held that payment for the same set of services should be comparable, regardless of where the services are provided, ensuring that beneficiaries receive appropriate, high-quality care in the least costly setting consistent with their clinical conditions. The Commission and others have raised concerns that the lack of meaningful criteria for admission to LTCHs resulted in these providers admitting less complex patients who could be cared for appropriately in less expensive settings.

Research literature on the value of care provided in LTCHs

Paying more for LTCH care might be warranted if such care produced better outcomes for beneficiaries or LTCH use reduced Medicare spending for other services. However, studies comparing LTCH care with that provided in alternative settings have failed to find a clear advantage across LTCH users.

Readmission and mortality rates

Several studies have considered outcome measures including readmissions and mortality for patients who

Regulatory and legislative efforts to mitigate long-term care hospital spending growth

Long-term care hospitals (LTCHs) have a complicated regulatory history. Beginning in 2005, the Congress and CMS implemented a number of policy changes in an effort to reduce spending growth, including limiting the share of cases that can be admitted to an LTCH from certain referring acute care hospitals (ACHs), reducing payments for short-stay cases, and establishing moratoria on the development and expansion of LTCHs. While the short-stay policy remains in place, the moratoria have expired, and the limitation on the cases admitted from a single ACH has been eliminated, it is important to understand the rationale behind (and the Commission's past positions on) these policies.

Payment adjustments for short-stay cases

Since the implementation of the LTCH prospective payment system, CMS has paid differently for cases with shorter lengths of stay. CMS defined these cases, known as short-stay outliers (SSOs), as having a length of stay less than or equal to five-sixths of the geometric mean length of stay for the case type. The SSO policy reflects CMS's contention that patients with lengths of stay similar to those in ACHs should be paid at rates comparable with cases paid under the ACH inpatient prospective payment system (IPPS). The SSO policy has evolved considerably since fiscal year 2003 but currently pays LTCHs a rate equal to a blend of the IPPS rate for the Medicare severity diagnosis related group and 120 percent of the LTCH per diem rate up to the full LTCH prospective payment system rate.[8] As the length of stay for the SSO increases, the blended payment rate includes an increasing share of payment attributable to the LTCH per diem. The longer the length of stay, the more closely payment resembles the full LTCH PPS amount.

25 percent rule

In fiscal year 2005, CMS established the 25 percent rule to set a limit on the share of cases that can be admitted to certain LTCHs from a referring ACH and reduced payments for some LTCHs that exceed the threshold. CMS established the 25 percent rule in an attempt to prevent LTCHs from functioning as de facto step-down units of ACHs; decisions about admission, treatment, and discharge in both ACHs and LTCHs were to be made for clinical rather than financial reasons. Medicare's IPPS and LTCH payment policies create strong incentives for ACHs to shift costly patients to LTCHs (and other post-acute care (PAC)

(continued next page)

received care in LTCHs and other settings. Regarding readmissions, several studies have found lower risk-adjusted rates of readmission among some LTCH users compared with similar patients in alternative settings (Gage et al. 2011, Medicare Payment Advisory Commission 2004b). A more recent industry-sponsored study found that Medicare beneficiaries who used LTCHs had lower risk-adjusted rates of readmission to the ACH for 17 of 24 major conditions compared with beneficiaries who did not use LTCHs (Koenig et al. 2013). This outcome is not unexpected since LTCHs are certified as hospitals and have the capabilities to provide a higher level of care than other PAC providers. However, another study found that LTCH cases were more likely than other PAC cases to be readmitted to an ACH on day 30 and beyond (Morley et al. 2011).

Research regarding mortality rates for LTCH users has been mixed. One study conducted in three states with a history of high LTCH use (Louisiana, Oklahoma, and Texas) found that risk-adjusted mortality was lower for the most complex ventilator-dependent patients who used an LTCH compared with those who used an alternative PAC setting (Kennell and Associates Inc. 2010). This study also found that the most complex ventilator-dependent patients who used LTCHs were more likely to be discharged home compared with similar patients who did not use LTCHs. But for the least complex ventilator

Regulatory and legislative efforts to mitigate long-term care hospital spending growth (cont.)

providers) and for LTCHs to expand capacity. Under the IPPS, per case payments encourage ACHs to reduce their costs by shortening lengths of stay. The incentive to reduce the length of stay at an ACH may result in additional use of PAC services. The 25 percent rule reduced payments for patient discharges exceeding the threshold to create disincentives for LTCHs to admit a large share of their patients from a single ACH.

The 25 percent rule initially applied only to LTCH hospitals within hospitals (HWHs) and LTCH satellites.[9] In July 2007, CMS extended the rule to apply to freestanding LTCHs. The Congress and CMS delayed full implementation of this policy so that most HWHs and satellites were paid standard LTCH rates for eligible patients admitted from their host hospitals as long as the share of Medicare admissions from the host hospital did not exceed 50 percent. CMS eliminated the 25 percent rule in its fiscal year 2019 final rule.

Moratoria

The Congress implemented two separate moratoria in an attempt to slow the growth of new LTCH facilities and new beds in existing LTCHs. First, the Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA) and subsequent legislation imposed a limited moratorium on new LTCHs and new beds in existing LTCHs from December 29, 2007, through December 28, 2012. During that time, new LTCHs were able to enter the Medicare program only if they met specific exceptions to the moratorium.[10] However, many hospitals were already being built or had obtained a certificate of need before the enactment of MMSEA, which resulted in almost 60 hospitals being certified as LTCHs through the exceptions process during the time of the moratorium.

Between the end of December 2012 and April 2014, the moratorium was lifted and new LTCHs were able to obtain Medicare provider numbers and expand beds in existing facilities. Given the regulatory uncertainty with the prior moratoria and policy discussions regarding patient and facility criteria, only four hospitals became certified as LTCHs during this time. After this 16-month period, the Pathway for SGR Reform Act of 2013 and subsequent legislation implemented a new moratorium from April 1, 2014, through September 30, 2017. That moratorium originally provided exceptions that allowed the establishment of new LTCHs and new LTCH satellites (that is, the law permitted certain new LTCHs in their entirety); however, the 21st Century Cures Act expanded the exceptions to also permit increases in the number of certified beds in existing facilities.[11] Over 20 new LTCHs were certified during the time of this moratorium through the exceptions process. ■

cases, the researchers found that outcomes were worse for beneficiaries who used LTCHs. In yet another study, Kahn and colleagues examined claims data from 2002 through 2006 for beneficiaries who required mechanical ventilation and spent at least 14 days in an ACH ICU. This research found no differences in mortality one year after discharge for beneficiaries who were subsequently transferred to an LTCH compared with those who were not (Kahn et al. 2013). An industry-sponsored study also found no difference in one-year survival rates for ventilator-dependent patients who used LTCHs compared with those who did not, but did find lower risk-adjusted rates of mortality one year after discharge for LTCH patients with 9 of the 24 major conditions studied (Koenig et al. 2013). Further research of five major diagnostic categories found significantly lower mortality rates for patients who used LTCHs compared with those who did not, and significantly lower mortality rates across four of the diagnostic categories when the beneficiary had a prior ICU stay of three days or longer. Condition categories with a lower 365-day mortality rate included circulatory, musculoskeletal, infectious, and respiratory diagnoses. Of note, this research found lower risk-adjusted mortality rates for beneficiaries with a digestive condition without an ICU stay of three days or longer who used LTCHs (Koenig et al. 2015). A recent working paper assesses changes in spending and certain patient outcomes, including mortality, after an LTCH opening in

a market area from 1998 to 2014. This research did not find reductions in time spent in an institutional care setting or improvements in 90-day mortality using data through 2014 (Einav et al. 2018). A recent analysis of beneficiaries with severe wounds found a reduction in LTCH use after the implementation of the dual payment-rate structure. This reduction was associated with increases in sepsis and 60-day readmissions for certain beneficiaries (Demiralp et al. 2019).

PAC episode spending

Paying more for LTCH care might also be a good use of Medicare dollars if LTCH use reduced Medicare spending for other services; however, there has not been any consensus across the literature to date. An analysis of 2004 claims data for beneficiaries in Louisiana, Oklahoma, and Texas found that for the most complex ventilator-dependent patients, Medicare payments for the episode of care were the same or lower for those who used an LTCH than for those who did not. However, for the least complex ventilator-dependent patients, Medicare payments were considerably higher for the beneficiaries who used LTCHs than for those who did not (Kennell and Associates Inc. 2010). By contrast, Kahn and colleagues found that transfer to an LTCH was associated with lower total provider costs but higher total Medicare payments for beneficiaries requiring mechanical ventilation who spent at least 14 days in an ACH ICU between 2002 and 2006 (Kahn et al. 2013). Other research found lower total risk-adjusted episode payments for LTCH users for only a subset of conditions studied (circulatory, digestive, and nervous system conditions and injuries/poisoning/toxic effect of drugs), representing about 20 percent of LTCH patients (Koenig et al. 2013). Further research showed reduced risk-adjusted spending over a 180-day episode for patients with digestive diagnoses. However, when other factors, including the presence of multiple organ failure or spending 3 or more days in an ICU, were taken into account, spending for beneficiaries using LTCHs was lower for the 180-day period for beneficiaries with circulatory, digestive, and musculoskeletal conditions (Koenig et al. 2015). The lack of clear evidence on costs raises questions about the value of Medicare expenditures on LTCH care.

Defining an LTCH patient

For almost two decades, given the variation in LTCH use across the country and the relatively high cost of providing care to Medicare beneficiaries in LTCHs, policymakers and researchers alike have attempted to define the type of patient most appropriate for the LTCH setting. Recent research using data from 2012 showed that about half of the variation in LTCH use is explained by regional and hospital factors, including the proximity of a beneficiary's discharging ACH to an LTCH (Makam et al. 2018c, Makam et al. 2018b).

Defining the most medically complex patients who might be the most appropriate for LTCH-level care has been elusive. Some clinicians have described these patients as exhibiting metabolic, endocrine, physiologic, and immunologic abnormalities that result in profound debilitation and often ongoing respiratory failure (Nierman and Nelson 2002). Many of these abnormalities and debilities in hospital patients are not readily identifiable using available administrative data. However, the research literature is consistent in describing such patients as having long ACH stays with heavy use of intensive care services. Another study defined LTCH-appropriate patients as patients who are ventilator dependent with major comorbidities, patients who have multiple organ failures, and patients with septicemia and other complex infections (Dalton et al. 2012b).

Analysis of findings from the Post-Acute Care Payment Reform Demonstration, which tested the use of a standardized patient assessment tool in various PAC settings, revealed meaningful differences between LTCH users and other PAC users in the intensity of nursing care and nutritional, rehabilitation, and physician services. Length of time in an ICU during an immediately preceding ACH stay was a distinguishing characteristic of patients who used LTCHs compared with patients who used only SNFs, inpatient rehabilitation facilities (IRFs), or care provided by home health agencies (HHAs). PAC episodes that had a preceding ACH ICU stay of seven days or more were found only among LTCH users (Gage et al. 2011).

LTCH care is also commonly used for other, less acutely ill patients. These patients may require lengthy hospitalizations and subsequent PAC, but they do not have (or no longer have) intensive nursing care needs (Centers for Medicare & Medicaid Services 2013). Research has consistently shown that caring for these lower acuity patients in LTCHs increases Medicare expenditures without demonstrable improvements in quality of care or outcomes (Koenig et al. 2015). Yet such patients have historically made up a substantial share of cases in most LTCHs.

Concerns about the relative costliness and growth in use of LTCHs are not new for the Commission. Over the past 15 years, the Commission has maintained that LTCHs should serve only the most medically complex patients. The Commission has long held that payments to providers should be properly aligned with patients' resource needs and should be comparable regardless of where the services are being provided.

The Commission's recommendation for LTCH patient-level criteria

Because of the concerns about lower acuity patients using LTCHs at a relatively high cost to the Medicare program, the Commission sought to define the level of medical complexity appropriate for LTCH use and improve the accuracy of Medicare's payments for LTCH services for patients not meeting that definition. The Commission focused on how to use available data to identify the patients who require costly, extended hospital-level care and how to direct LTCH payments for them while paying more appropriately for patients who are less severely ill. Since ICU days are positively associated with case severity, a definition of the most medically complex cases could use a threshold of ICU days. If the ICU-day threshold is set too low, CMS would overpay for many less complex cases that could be cared for appropriately in other PAC settings at a lower cost to the Medicare program.

The Commission's analysis of IPPS claims found that 6 percent of Medicare IPPS discharges included eight or more days in an ICU; these cases had a geometric mean cost per discharge that was four times that of IPPS cases with seven or fewer ICU days. Further, these cases were concentrated in a small number of Medicare severity–diagnosis related groups (MS–DRGs) that correspond to the appropriate type of LTCH patients described by LTCH representatives and critical care clinicians (Dalton et al. 2012b). In addition to the ICU use criteria, the Commission wanted to ensure that beneficiaries who require prolonged mechanical ventilation but did not have an ICU stay of eight days or longer have appropriate access to specialty weaning services offered by many LTCHs.

To reduce incentives for LTCHs to admit lower acuity patients—who could be appropriately cared for in other settings at a lower cost to Medicare—the Commission recommended in its March 2014 report to the Congress that standard LTCH payment rates be paid only for LTCH patients who meet certain criteria at the point of transfer from an ACH. Those cases should have (1) spent eight or more days in an ICU during the IPPS stay or (2) received mechanical ventilation for 96 hours or more during the IPPS stay. The Commission recommended that Medicare pay for all other cases admitted to LTCHs using IPPS-based rates.

To improve equity across the LTCH PPS and the IPPS, the Commission included additional inpatient outlier payments for the most medically complex cases in ACHs as part of this recommendation. As discussed in our March 2014 report, the outlier payments for IPPS cases meeting the criteria could be calculated using a lower fixed loss amount with Medicare paying a higher share of the hospital's costs above the outlier threshold (Medicare Payment Advisory Commission 2014). Since June 2016, to encourage equitable payments for similar services across PAC settings, the Commission has recommended a unified PAC PPS that includes LTCH care (see text box on the Commission's recommendations for a unified PAC PPS, p. 354). The dual payment-rate policy included in the Pathway for SGR Reform Act of 2013 reflects the Commission's intent of reducing incentives for LTCHs to admit beneficiaries with lower severity levels; however, the Act uses a three-day ICU stay in a referring ACH as the threshold to qualify for the standard LTCH PPS rate.

Impact of changes in payment policy on LTCH services

The Commission expected that changes in LTCH admission patterns would begin immediately after the implementation of the new payment policy, given the industry's well-documented responsiveness to previous payment changes. To assess and characterize the impact of the new dual payment-rate structure, we examined changes in Medicare spending on LTCH services, supply, operational strategies, admission patterns, financial profitability, and quality.

Medicare spending on LTCH services

Between 2012, when LTCH spending peaked, and 2015, LTCH spending decreased from $5.5 billion to $5.3 billion, in part due to payment reductions mandated by the Patient Protection and Affordable Care Act of 2010. Beginning in 2016, the dual payment-rate structure began reducing payments to LTCHs, and spending further decreased to $5.1 billion. Total LTCH spending again

The Commission's recommendations for a unified post-acute care prospective payment system

Because the need for post-acute care (PAC) is not well defined and there is considerable overlap in the types of patients treated in different PAC settings, the Commission has most recently focused on transitioning payment for all PAC providers to a unified PAC prospective payment system (PPS). In June 2016, the Commission developed a PPS spanning skilled nursing facilities, inpatient rehabilitation facilities, long-term care hospitals (LTCHs), and home health agencies as mandated by Section 2(b)(1) of the Improving Medicare Post-Acute Care Transformation Act of 2014. This work established the feasibility of implementing a single payment system across all four PAC settings. Using 2013 data, the consolidated PAC PPS redistributes payments to providers, reducing payments for cases that are predominantly for physical rehabilitation and increasing payments for medically complex stays.[12] The Commission's unified PAC PPS design accounted for a variety of patient characteristics, including patient's length of stay in an intensive care unit, severity of illness, risk score, and comorbidities. The Commission's recommendations to the Congress regarding the unified PAC PPS include care provided in LTCHs and adjusted payments for several patient characteristics common to LTCH users, including indicators for respiratory needs, such as ventilator care, tracheostomy care, and continuous positive airflow pressure (Medicare Payment Advisory Commission 2016a). The Commission's ongoing work to establish a unified PAC PPS and address implementation issues continues to include LTCHs in our analysis (Medicare Payment Advisory Commission 2018c, Medicare Payment Advisory Commission 2017a). ■

decreased in 2017 to about $4.5 billion as the number of cases that did not meet the criteria fell, while the volume of cases that met the criteria rose slightly. In 2017, Medicare paid over $3.4 billion for discharges that met the criteria, and the remaining spending was for cases that did not meet the criteria.

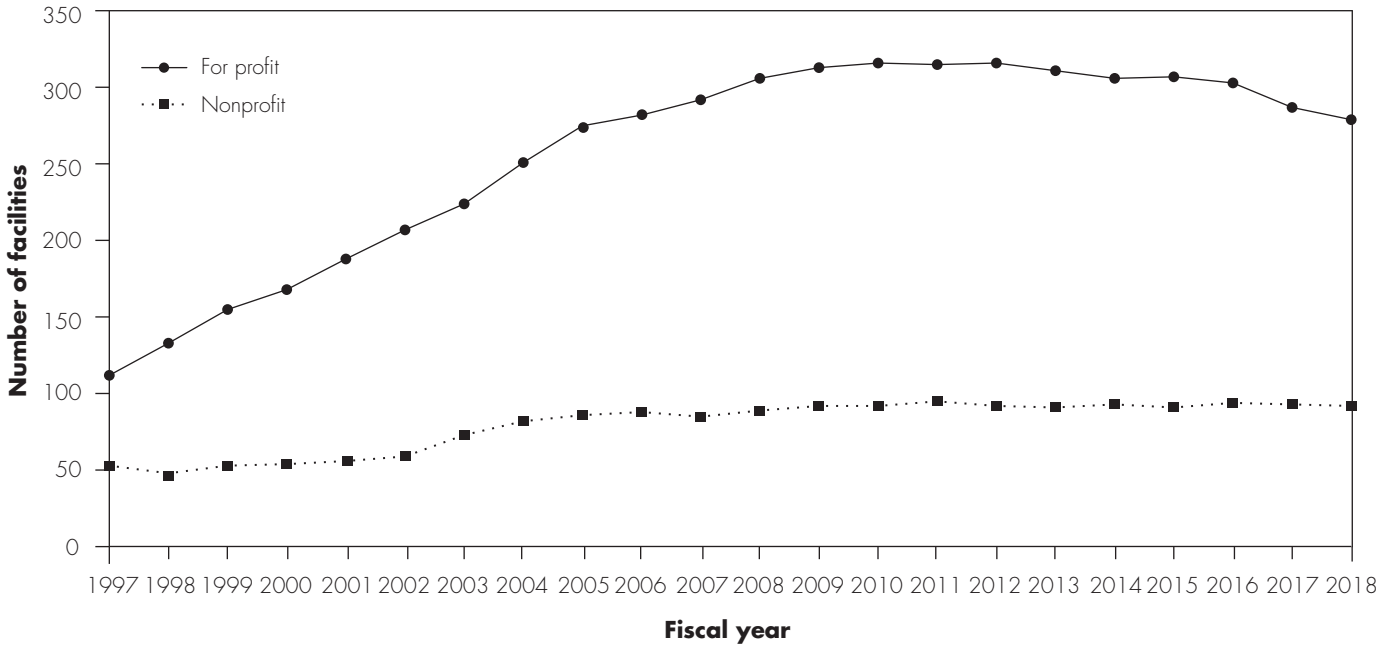
In 2016, payment per Medicare LTCH discharge totaled about $41,700, higher than the 2012 per discharge payment of about $39,500. Although a reduction in payments per discharge may have been expected from 2015 to 2016, the annual payment update (1.7 percent), timing of the policy phase-in, and the shift of cases to those that qualified for the standard LTCH PPS payment rate resulted in little change to total per discharge payments during this time.[13] The phase-in of this policy was based on each LTCH's cost reporting period, which varies across LTCHs. About half of LTCHs have cost reporting periods starting in the last quarter of the fiscal year, while 37 percent of LTCHs have periods beginning on September 1. For the latter LTCHs (which represent about half of LTCH cases), the dual payment-rate structure was in effect for only one month in fiscal year 2016. Therefore, as expected, aggregate payment per Medicare discharge decreased to $38,253 in 2017, reflecting the phased-in dual payment-rate structure across all LTCHs. Payment per case was higher for cases meeting the criteria, due to their greater complexity, even before the new policy was implemented. In 2017, Medicare paid about $46,127, on average, for cases that met the criteria compared with about $24,173 per discharge for cases that did not.

LTCH supply

The supply of LTCHs has changed significantly over the past two decades. In 1997, there were fewer than 200 LTCH facilities and 20,000 LTCH beds. The incentives of the cost-based payment system followed by the implementation of the LTCH PPS in 2003 encouraged rapid LTCH industry growth, largely due to growth in the number of for-profit entities. From 1997 to 2010, the number of nonprofit LTCHs almost doubled, from 53 to 96, while the number of for-profit facilities almost tripled, from 112 to 316 (Figure 10-3). The industry expanded to over 420 LTCHs paid under the LTCH PPS in 2010 through 2012. Yet at its peak in 2012, some areas of the country still had no LTCHs, underscoring the fact that medically complex patients can be treated appropriately in

FIGURE 10–3

The number of LTCH facilities peaked in 2012



Note: LTCH (long-term care hospital).

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

other settings or travel to receive care in an LTCH. After 2012, however, the LTCH industry began contracting, in part due to uncertainty regarding possible changes to Medicare's regulations and legislation governing LTCHs.

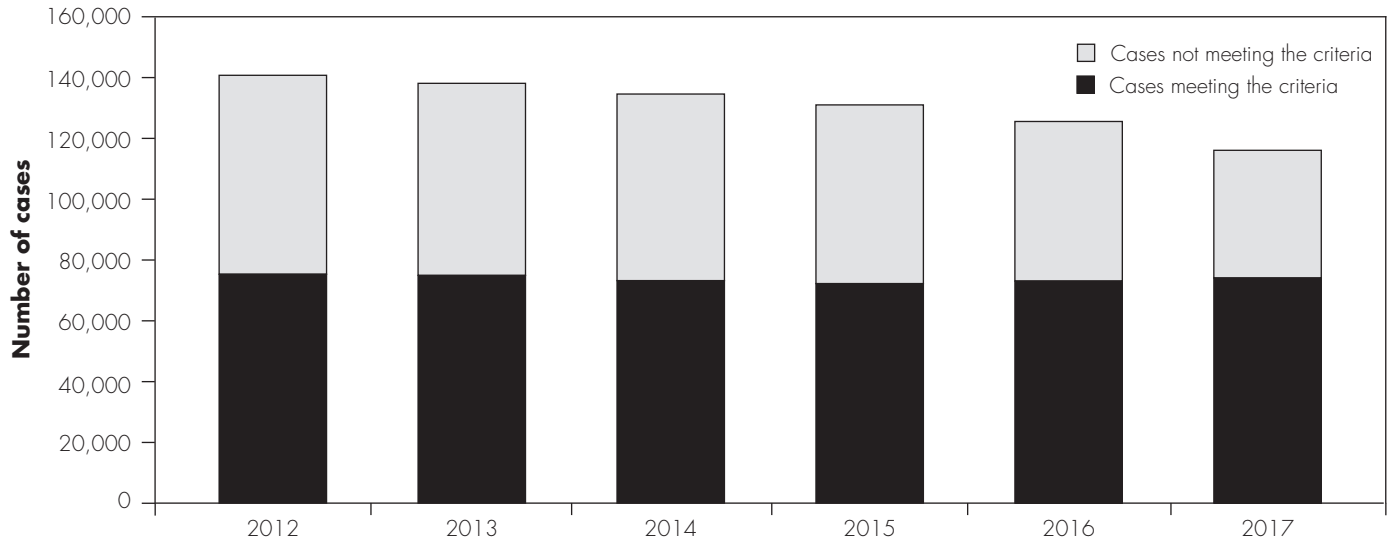
Since implementation of the dual payment-rate structure began on October 1, 2015, over 50 LTCHs have closed, representing over 10 percent of LTCH facilities and beds. Several LTCHs have also opened, resulting in a net loss of about 40 LTCHs.[14] The closures primarily occurred in market areas with multiple LTCHs. As of December 2018, there was at least 1 other LTCH in 29 of the 37 MedPAC areas where an LTCH closure occurred. In the remaining eight areas, the next closest LTCH was within about two driving hours of the LTCH that closed. Eighty-five percent of the closures were for-profit facilities. In aggregate, during their last year of operation, LTCHs that closed had a lower share of Medicare discharges that met the criteria (59 percent vs. 65 percent of cases at LTCHs that remained open in 2017) and a lower occupancy rate (43 percent vs. 64 percent at LTCHs that remained). The aggregate Medicare margin for closed facilities was also lower in the last year of operation relative to that of facilities that remained open in 2017 (about –10 percent compared with about –2 percent) due to higher standardized cost per discharge and lower average payment per case.

LTCHs' operational changes in response to implementation of the dual payment-rate structure

In response to the implementation of the dual payment-rate policy, LTCHs have changed several operations-related strategies—including admission patterns, facility capabilities, and staffing. In interviews, LTCH staff cited changes to their admissions practices, focusing on the extent to which cases that do not meet the criteria continue to be admitted to the facility.

Staff at several LTCHs reported that their facilities no longer admit cases that do not meet the criteria and therefore do not qualify to receive the standard LTCH payment rate. LTCH administrative staff explained that

FIGURE 10–4 **The share of LTCH discharges not meeting the criteria fell from 2012 to 2017**



Note: LTCH (Long-term care hospital). "Cases meeting the criteria" refers to Medicare discharges that meet the criteria specified in the Pathway for SGR Reform Act of 2013 for the standard LTCH prospective payment system rate. "Cases not meeting the criteria" refers to Medicare discharges that do not meet the criteria specified in the Pathway for SGR Reform Act of 2013.

Source: MedPAC analysis of Medicare claims data.

both financial and practical reasons drove these changes. Some administrative staff explained that, even with the blended rate under the partial phase-in of the policy, payments have not been adequate to cover their costs. Strategies the staff reported using to maintain a profitable average daily census of cases that meet the criteria include (1) expanding referral regions and (2) educating physicians and case managers at referring ACHs on the facility's capabilities and the types of patients they accept. LTCH administrators reported working to build additional relationships with case managers in the referring ACHs. To expand the mix of patients and payers, some LTCH staff reported increased attempts to contract with private payers, including Medicare Advantage plans. Several interviewees explained that focusing admissions on Medicare beneficiaries who meet the criteria is helpful to referring ACHs because this approach provides clear guidance regarding the types of patients who are appropriate for LTCH referral.

In contrast, some LTCHs we interviewed continue to admit cases that do not meet the criteria while attempting to increase the share of admissions that meet the criteria. These facilities reported targeting admissions that have lower expected costs of treatment relative to the reduced payment rate. However, staff expressed concern about the viability of this approach as the policy becomes fully phased in during fiscal year 2020. Facilities reported various reasons for continuing to accept these cases: treating patients who would benefit from their services, maintaining relationships with referring ACHs, and believing that shorter stay cases that do not meet criteria could be financially profitable and help cover certain facility costs. Several facilities discussed their admission of patients with an expected short length of stay (seven days or less) and the expectation that the cost of treating these beneficiaries would be covered by the blended payment rate. Toward this end, one facility created treatment protocols that were designed to provide intense treatment and discharge after five to seven days. However, this facility reported challenges with executing these protocols because most of the cases admitted were more acute than expected and therefore required longer stays and more resources than were anticipated based on the treatment protocols.

While facilities differed in admitting cases that do not meet criteria, LTCH staff interviewed consistently reported operational and staffing changes that occurred because of the increased patient acuity that resulted from primarily admitting cases that do meet the criteria. Across most facilities we spoke with, staff discussed implementing operational and administrative changes to handle these higher acuity patients, including adding services or increasing staff capabilities. For example, LTCHs described adding ICU beds, bariatric beds, and telemetry services to accommodate the higher acuity of patients discharged from an ACH to the LTCH. To accommodate these higher average acuity patients, facilities have increased staff skill levels through additional training, including critical care training for registered nurses to ensure that ICU-level care can be provided. Facility staff also discussed increased training at all staff levels to facilitate more vigilant monitoring and earlier patient ambulation. Some facility staff discussed a focus on retaining staff through training programs for licensed practical nurses to become registered nurses. In addition to training, facility staff also reported hiring more nurses to increase nurse-to-patient ratios.

Even with the admission and operational changes, staff members at several LTCHs pointed to declining occupancy rates as an effect of the dual payment-rate policy. To mitigate occupancy declines, some facilities reported plans to repurpose beds as inpatient psychiatry, inpatient rehabilitation, or skilled nursing beds. Another facility stopped staffing one entire floor, essentially "closing" those beds to patients, while another facility reduced the number of beds it leases from its host ACH. Most ACHs and LTCHs we spoke with noted LTCH closures in their region; however, in markets with multiple LTCHs, these closures were sometimes strategic. For example, two major for-profit LTCH chains have shifted their portfolios through closures and sales since 2015. One chain reduced the number of LTCHs in its portfolio from 95 to 82, while the other reduced the number of LTCHs it operates from 109 to 104. During 2016, the two major LTCH chains acquired a total of eight LTCHs from each other. In addition, in October 2016, one of the major chains completed an agreement to sell 12 LTCHs (a total of 783 licensed beds) to a smaller chain (Kindred Healthcare 2016a, Kindred Healthcare 2016b, Select Medical 2016).

In general, LTCH officials interviewed agreed that they do not admit certain cases even if the beneficiary meets the criteria, which to some extent was true before the dual payment-rate structure was implemented. LTCHs reported admitting only patients they expected to discharge to a lower level of care within a four- to six-week period. For example, many facilities interviewed stated that they would not admit patients who are both ventilator dependent and on dialysis because of difficulty discharging these patients to the next level in the care continuum, even though these cases would meet the criteria based on ventilator use.

LTCH admission patterns

Between 2012—when Medicare FFS beneficiaries' use of LTCHs peaked—and 2015, Medicare cases dropped from just over 141,000 cases to about 131,000 cases, about a 2.4 percent reduction per year on average (Figure 10-4). The pace of the decline increased after the dual payment-rate structure was implemented. From 2015 through 2017, the number of LTCH cases dropped to about 116,000, an average reduction of about 6 percent per year. This reduction in discharges was largely due to fewer cases admitted to LTCHs that did not meet the criteria (nearly a 16 percent reduction). During this period, the volume of cases that met the criteria increased by 3 percent. However, because of the reduced volume of cases not meeting the criteria, the share of cases that met the criteria between 2015 and 2017 rose from about 55 percent to 64 percent.

LTCH use by type of market

In our analysis of geographic areas with the highest and lowest LTCH use, we found varying effects from the implementation of the dual payment-rate structure. In aggregate, LTCH use declined in high-use areas and rose in low-use areas. From 2012 through 2017, high-use areas experienced decreasing volume across all LTCH cases. However, the average annual reduction was lower from 2012 through 2015 than from 2015 through 2017. After the implementation of the dual payment-rate structure, from 2015 through 2017, LTCH volume in high-use areas dropped 6.3 percent annually, compared with a 4.6 percent decrease annually before the implementation of the dual payment-rate structure (from 2012 to 2015) (Table 10-2, p. 358). In that same period, the volume of cases that did not meet the criteria fell in high-use areas by almost 8 percent, compared with the 4 percent reduction in cases that did meet the criteria.

During the 2012 to 2017 period, the volume of cases meeting the criteria in low-use markets increased 6.4 percent annually. The growth in volume in low-use markets primarily occurred from 2015 through 2017, with

TABLE 10–2 **Changes in LTCH volume have varied by market area since 2012**

	Average annual change	
	2012–2015	2015–2017
Total		
Low-use areas	2.7%	6.8%
High-use areas	–4.6	–6.3
Cases that met the criteria		
Low-use areas	2.4	12.9
High-use areas	–5.4	–4.0
Cases that did not meet the criteria		
Low-use areas	3.5	–6.2
High-use areas	–4.1	–7.9

Note: LTCH (long-term care hospital). "Cases that met the criteria" refers to Medicare discharges that met the criteria specified in the Pathway for SGR Reform Act of 2013 for the standard LTCH prospective payment system rate. "Cases that did not meet the criteria" refers to Medicare discharges that did not meet the criteria specified in the Pathway for SGR Reform Act of 2013. "Low-use areas" were identified as the 20 areas of the country with the lowest per beneficiary LTCH use in 2015, requiring a minimum threshold of 25 fee-for-service Medicare LTCH cases. "High-use areas" were identified as the top 20 areas of the country with the highest per beneficiary LTCH use in 2015.

Source: MedPAC analysis of Medicare claims data.

an average annual increase of nearly 13 percent for cases that met the criteria (Table 10-2). During this time frame, the volume of cases that did not meet the criteria fell by 6.2 percent annually, contributing to the increasing share of LTCH patients from low-use markets who met the criteria in 2017 compared with 2015 (74 percent vs. 66 percent; data not shown). Consistent with other research, we found that beneficiaries admitted to LTCHs from low-use areas tended to have higher severity levels of illness, higher risk of mortality, and more frequent and longer ICU stays compared with beneficiaries from high-use areas, suggesting a higher threshold of illness for LTCH use in low-use areas (Makam et al. 2018a). For example, in 2017, the share of beneficiaries in low-use markets who were admitted to LTCHs after ICU stays of eight days or longer was more than double the share of beneficiaries in high-use markets who had similarly long ICU stays (56 percent vs. 21 percent; data not shown).

Changes in LTCH admission by type of LTCH

The share of cases that met the criteria and the degree to which these shares changed over time varied by LTCH facility characteristics (Table 10-3). We compared the share of beneficiaries meeting the criteria by LTCH location (large urban, other urban, and rural), ownership (for profit and nonprofit), region (New England, Middle Atlantic, South Atlantic, East North Central, East South Central, West North Central, West South Central, Mountain, Pacific), and facility size (number of beds).[15] Urban facilities and nonprofit facilities tended have a higher share of Medicare FFS beneficiaries meeting the criteria than did their rural and for-profit counterparts. These facilities also increased the share of discharges that met the criteria from 2015 through 2017 more than rural and for-profit facilities. The urban/rural differences are not surprising given the lower volume of patients appropriate for LTCH care in areas with lower population densities. Rural LTCHs may be less able to expand their referral area or the volume of patients who meet the criteria.

In terms of the U.S. Census divisions, the share of LTCH discharges meeting the criteria was lowest in the West South Central, New England, and Mountain regions. The contrast across regions widened from 2012 to 2017 when the Mountain and West South Central regions had

TABLE 10–3

Changes in the share of LTCH discharges that met the criteria varied by location, ownership, and facility size, 2012–2017

	Share of LTCH discharges	Share of discharges that met the criteria			Average annual percentage point change	
	2017	2012	2015	2017	2012–2015	2015–2017
Total	100%	53%	55%	64%	0.5	4.3
Location						
Large urban	53	56	58	64	0.5	3.3
Other urban	42	51	53	64	0.5	5.8
Rural	4	38	42	46	1.2	2.2
Ownership						
For profit	87	53	55	63	0.6	3.8
Nonprofit	12	55	56	70	0.6	6.6
Region						
New England	4	43	52	62	2.8	5.1
Middle Atlantic	7	60	65	76	1.7	5.6
South Atlantic	14	64	65	78	0.4	6.5
East North Central	13	61	63	75	0.5	6.1
East South Central	7	55	56	73	0.4	8.4
West North Central	5	57	58	78	0.5	9.9
West South Central	35	43	42	46	–0.3	1.7
Mountain	5	62	61	64	–0.4	1.7
Pacific	9	61	64	70	1.0	3.1
Facility size						
0 to 24 beds	3	46	48	61	0.9	6.5
25 to 124 beds	77	55	56	65	0.3	4.8
125+ beds	19	50	53	57	1.2	2.0

Note: LTCH (long-term care hospital). Components may not sum to 100 percent due to rounding. Government-owned LTCHs, representing about 1 percent of discharges, operate in a different financial context from other facilities, so their data are not presented separately here, although they are included in other groups (e.g., "Total"), as appropriate.

Source: MedPAC analysis of Medicare claims data.

lower than average annual increases in the share of LTCH discharges that met the criteria (1 percent average annual increase) compared with the national average (4 percent average annual increase). The number of LTCHs and LTCH beds in each region varied widely, both in aggregate and per capita (data not shown). This variation, in addition to differences in facility ownership and practice patterns across regions, could help explain some of the differences across regions of the country. In 2017, the share of LTCH discharges meeting the criteria equaled or exceeded 70 percent in two-thirds of the regions. However, the West South Central region (Arkansas, Louisiana, Oklahoma, and Texas), representing over one-third of all LTCH discharges, had a significantly lower share of discharges meeting the criteria (46 percent) than the rest of the country. If this region were excluded from the analysis, the share of discharges meeting the criteria on average would increase to 73 percent.

Midsize LTCHs, those with 25 to 124 beds, had the highest share of Medicare discharges that met the criteria (Table 10-3), a pattern that some interviewees attributed

TABLE 10–4 **The aggregate LTCH Medicare margin for all cases fell to –2.2 percent in 2017**

Type of LTCH	Share of discharges	Medicare margin					
		2012	2013	2014	2015	2016	2017
All	100%	7.6%	6.8%	5.2%	4.7%	3.9%	–2.2%
Urban	96	7.7	6.9	5.2	4.7*	4.0	–1.9
Rural	4	3.4	6.0	5.1	3.5*	–0.2	–13.6
Nonprofit	12	–0.2	–1.1	–2.2	–5.9	–5.7	–13.0
For profit	87	9.3	8.6	7.0	6.5	5.5	–0.3

Note: LTCH (long-term care hospital). Government-owned facilities, representing about 1 percent of discharges, 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"), where applicable.
*CMS adopted new core-based statistical area codes for LTCHs beginning fiscal year 2015; this change reclassified several facilities as urban that had previously been classified as rural, and therefore the margins across categories of urban and rural of facilities before 2015 should not be compared.

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

to these facilities being large enough for a broad range of referral sources but small enough to maintain a consistent occupancy rate, even with the implementation of the dual payment-rate structure. Notably, this analysis reflects only the partial implementation of the new rate structure. In 2017, the policy was phased in at 50 percent of the site-neutral payment rate and 50 percent of the LTCH PPS payment rate. Consistent with the goals of the dual payment-rate structure, the share of cases meeting the criteria across all categories of LTCHs has increased. We expect additional changes in LTCH use to occur as the policy becomes fully implemented.

LTCH financial performance under Medicare

From 2012 through 2015, LTCH cost per case rose by about 2 percent per year across all LTCHs and about 2 percent per year for the cohort of LTCHs that had a high share of Medicare cases meeting the criteria in 2017. However, starting in 2016, the trend in cost growth diverged. From 2015 to 2016, growth in cost per discharge was just 1.3 percent in aggregate, the slowest growth since 2011. In 2017, on average, LTCHs actually reduced costs per discharge by 1.1 percent. This reduction likely resulted from changes in LTCH cost structures, including reductions in length of stay for beneficiaries not meeting the criteria under the dual payment-rate structure.

Cost growth remained robust for LTCHs with a high share of Medicare cases meeting the criteria. For LTCHs with more than 85 percent of Medicare cases meeting the criteria, cost per case increased from 2015 to 2016 by 5.4 percent and from 2016 to 2017 by 5.6 percent, reflecting a 10-year high across this cohort of LTCHs. These cost increases are expected because of the growth in case mix and patient acuity associated with cases that meet the criteria. For this group of LTCHs, the share of cases meeting the criteria between 2015 and 2017 grew by almost 30 percentage points in aggregate, from 65 percent of cases to nearly 95 percent of cases.

Aggregate LTCH Medicare margins decreased in 2017

LTCH margins peaked in 2012 at 7.6 percent. In 2013, 2014, and 2015, CMS began implementing a downward payment adjustment intended to bring LTCH payments more in line with what would have been spent under the previous payment method (as mandated by the Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999), lowering the standard federal payment rate by about 3.75 percent in total. Because of these adjustments, the aggregate LTCH margin ultimately fell to 4.7 percent in 2015 (Table 10-4).

In 2016, as the phase-in of the dual payment-rate structure began, the aggregate LTCH margin fell to 3.9 percent, primarily because of lower Medicare payment for discharges not meeting the criteria (Table 10-4). Between 2015 and 2017, although there was a 9 percentage point

TABLE 10–5

From 2016 to 2017, Medicare margins fell for LTCHs with more than 85 percent of cases meeting the criteria

Type of LTCH	Share of discharges	Medicare margin					
		2012	2013	2014	2015	2016	2017
All	23%	10.5%	8.9%	6.5%	6.5%	6.2%	4.6%
Nonprofit	13	0.9	2.9	–1.8	–2.8	–2.8	–6.9
For profit	87	12.0	9.8	7.8	7.9	7.6	6.5

Note: LTCH (long-term care hospital). This analysis includes a cohort of LTCHs with more than 85 percent of Medicare cases meeting the criteria in 2017. "Cases meeting the criteria" refers to Medicare discharges that meet the criteria specified in the Pathway for SGR Reform Act of 2013 for the standard LTCH prospective payment system rate.

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

shift to cases that met the criteria (from 55 percent to 64 percent), LTCHs in aggregate received lower payments for 36 percent of cases (data not shown). Because the reduction in payments was greater than reductions in costs, the aggregate Medicare margin fell to –2.2 percent in 2017. Consistent with prior years, financial performance in 2017 varied across LTCHs. For-profit LTCHs (which accounted for more than three-quarters of all LTCHs and over 85 percent of LTCH discharges) had the highest aggregate Medicare margin at –0.3 percent (Table 10-4). The aggregate Medicare margin for nonprofit LTCHs (which accounted for less than 20 percent of all LTCHs and 12 percent of LTCH discharges) was –13.0 percent (Table 10-4).

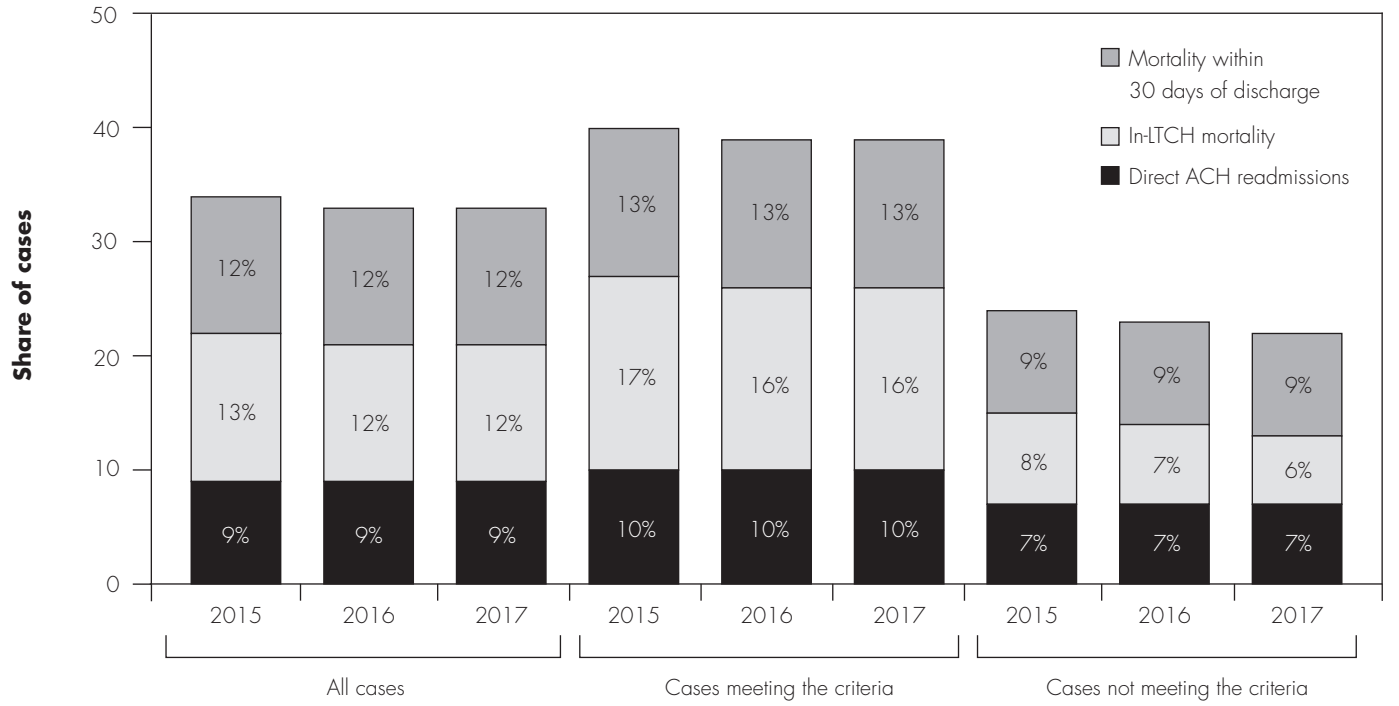
Since 2015, the Commission has calculated a margin for Medicare cases meeting the criteria using claims data combined with cost-to-charge ratios for each LTCH, as opposed to aggregate cost report data (Medicare Payment Advisory Commission 2016b). Using this methodology, the Medicare margin for cases meeting the criteria declined between 2015 and 2016 from 6.8 percent to 6.3 percent; in 2017, the margin for cases meeting the criteria declined by another 0.5 percentage point to 5.8 percent (data not shown). Because cases that meet the criteria are generally more profitable under the dual payment-rate structure than those that do not, we expect stronger financial performance under Medicare for LTCHs that treat higher shares of these cases. Indeed, the cohort of LTCHs with more than 85 percent of Medicare cases meeting the criteria in 2017 has historically had higher margins than LTCHs with a lower share of cases meeting the criteria, in part due to the high case mix and relatively high profitability on Medicare cases admitted. However, in 2017, the aggregate Medicare margin for LTCHs with more than 85 percent of Medicare cases meeting the criteria in 2017 was 4.6 percent, a 1.6 percentage point reduction from 2016 (Table 10-5). This reduced margin resulted from lower payment for cases that did not meet the criteria (representing up to 15 percent of cases at these facilities), combined with relatively high cost growth.

LTCH financial performance varied by ownership across LTCHs with a high share of cases meeting the criteria. From 2016 to 2017, cost per case increased four times more rapidly at nonprofit facilities with a high share of cases that met the criteria than at their for-profit counterparts (13 percent compared with 4 percent), resulting in a 4.1 percentage point decrease in the Medicare margin for nonprofit LTCHs (from –2.8 percent to –6.9 percent). Margins at for-profit LTCHs with a high share of Medicare cases meeting the criteria fell by 1.1 percentage points to 6.5 percent in 2017.[16]

Quality of care provided in LTCHs

The mandate requires the Commission to assess the effect that the dual payment-rate structure has had on quality of care in LTCHs. Overall, rates of unadjusted quality measures have remained stable since 2015. Because LTCHs were one of the last sectors to have a quality

FIGURE 10–5 **Rates of unadjusted quality measures have remained stable since 2015**



Note: LTCH (long-term care hospital), ACH (acute care hospital). "Cases meeting the criteria" refers to Medicare discharges that meet the criteria specified in the Pathway for SGR Reform Act of 2013 to qualify for the standard LTCH prospective payment system rate. "Cases not meeting the criteria" refers to Medicare discharges that do not meet the criteria specified in the Pathway for SGR Reform Act of 2013. "Direct ACH readmissions" includes discharges from the LTCH directly to an ACH.

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

reporting program, the Commission historically has assessed aggregate quality of care trends by examining three claims-calculated measures: unadjusted in-facility mortality rates, mortality within 30 days postdischarge, and readmissions from LTCHs to ACHs. For this report, we used these measures for LTCH discharges that met the new criteria as well as for all discharges in aggregate.

CMS recently started publicly reporting some risk-adjusted quality measures for LTCHs. Although risk adjusted, these measures include all LTCH cases, regardless of whether they meet the criteria, and, where applicable, regardless of payer. Two years of data are now available for several of the outcome measures, including rates of pressure ulcers, catheter-associated urinary tract infections (CAUTIs), central line–associated bloodstream infections (CLABSIs), and 30-day unplanned readmissions.

Aggregate unadjusted quality measures

From 2012 through 2017, the Commission's analysis of claims data found stable or improving rates of unadjusted hospital readmissions (discharges from the LTCH directly to an ACH) and unadjusted mortality rates. For calculating mortality rates, we considered deaths that occurred in the facility and 30 days postdischarge from the LTCH. These rates are not risk adjusted, meaning patient characteristics were not taken into account when calculating rates. Thus, these results should be interpreted with caution. Nonetheless, a trend analysis beginning in 2014 found consistency in the rates of unadjusted readmission and unadjusted mortality in LTCHs over time.

In aggregate, in 2017, 9 percent of LTCH discharges were readmitted to an ACH directly from the LTCH, 12 percent died in the LTCH, and another 12 percent died within 30

TABLE 10–6

Trends in selected risk-adjusted quality measures from the CMS LTCH Quality Reporting Program have been mixed

Measure	Fiscal year 2016	Fiscal year 2017
Pressure ulcer	1.8%	1.3%
30-day unplanned readmission*	24.6%	25.0%
Catheter-associated urinary tract infection (standardized infection ratio)	0.94	0.98
Central line–associated bloodstream infection (standardized infection ratio)	0.94	0.87

Note: LTCH (long-term care hospital). The standardized infection ratio is a measure of the share of actually observed cases with the infection compared with the expected number of cases after adjusting for certain risk factors. A ratio of 1.0 indicates the rate is equal to what was expected, below 1.0 indicates the rate is lower than expected, and above 1.0 indicates the rate is higher than expected.
*The 30-day unplanned readmission measure is based on data collected from claims data over a two-year period. The most recently published unique time periods include discharges occurring January 1, 2013, through December 31, 2014, and January 1, 2014, through December 31, 2015. These data do not reflect data from fiscal year 2016 or fiscal year 2017.

Source: CMS LTCH Compare website.

days of discharge from the LTCH (Figure 10-5). The rates have been relatively stable since 2015.

Not unexpectedly, given differences in patient severity, the unadjusted rates for the three quality measures varied depending on whether cases met the criteria, but the rates were also relatively stable over time. In 2017, for cases meeting the criteria, 10 percent were readmitted to the ACH directly from the LTCH, 16 percent died in the LTCH, and 13 percent died within 30 days of discharge from the LTCH. Thus, combined, almost 40 percent of LTCH patients meeting the criteria in 2017 were directly readmitted to an ACH or died in the LTCH or within 30 days of LTCH discharge.

By comparison, cases not meeting the criteria had lower rates of readmission and mortality. These rates were consistent from 2015 to 2017, but the share of cases where the patient died in the LTCH appeared to drop. Six percent of cases not meeting the criteria died during the LTCH stay in 2017, down from 8 percent in 2015. Since these measures are not adjusted for patient risk factors, this decrease could be attributable to improvements in quality, changes in case mix, or changes in admission patterns. We will monitor these cases as the dual payment-rate structure is fully phased in.

Adjusted measures for quality reporting

Medicare's LTCH Quality Reporting Program (QRP) for fiscal year 2019 includes 16 measures calculated from 3 sources. CMS currently reports some of these measures on its LTCH Compare website, which is updated quarterly. The data elements needed to calculate the LTCH quality measures are collected from a patient assessment instrument called the Continuity Assessment Record and Evaluation Data Set, the Centers for Disease Control and Prevention's internet-based surveillance system (National Health Care Safety Network), and Medicare claims data. CMS has published two years of data for four outcome measures, including rates of pressure ulcers, CAUTIs, CLABSIs, and 30-day all-cause unplanned readmissions. For several measures, CMS compares each facility's risk-adjusted rate with the national rate.

We reviewed the risk-adjusted national rates of pressure ulcers, CAUTIs, CLABSIs, and 30-day unplanned readmissions across a two-year period. The rate of pressure ulcers reported by LTCHs in 2017 continued to be low at 1.3 percent (Table 10-6). The risk-adjusted 30-day unplanned readmission rate was about 25 percent and remained stable between fiscal years 2016 and 2017.[17] CMS has replaced this measure with a potentially preventable 30-day postdischarge readmission measure; however, these data are not yet available. For fiscal year 2017, the standardized ratios of CAUTIs and CLABSIs were both lower than expected at 0.98 and 0.87, respectively (less than 1.0 using the share of actual cases observed with the infection compared with the expected number of cases). These ratio figures mean that the rate of CAUTIs was about 2 percent lower than expected, while the rate of CLABSIs was about 13 percent lower than expected after adjusting for certain risk factors. We

TABLE 10–7

Medicare spending for PAC remained stable but increased for hospice services since 2012

	2012	2013	2014	2015	2016	2017
All PAC	$58.4	$58.9	$59.3	$60.5	$59.8	$59.6
SNF	28.2	28.7	29.1	29.7	29.1	28.8
HHA	18.2	18.1	18.0	18.4	18.3	18.4
IRF	6.7	6.9	7.2	7.4	7.7	7.9
LTCH	5.3	5.2	5.0	5.0	4.7	4.5
Hospice	15.1	15.1	15.1	15.9	16.8	17.9

Note: PAC (post-acute care), SNF (skilled nursing facility), HHA (home health agency), IRF (inpatient rehabilitation facility), LTCH (long-term care hospital). Data include spending for beneficiaries discharged from an acute care hospital to a post-acute care provider and beneficiaries directly admitted to a post-acute care provider from the community.

Source: MedPAC analysis of the denominator files and CMS Office of the Actuary.

urge caution in interpreting the precise ratios and changes since 2016, given that the changes in facilities' testing and reporting for such infections could have altered the rate without any meaningful change in the number of those infections. We will continue to monitor trends in the rates of these measures and newly adopted measures as they become available for analysis.

The rates for certain risk-adjusted quality measures varied by hospital characteristics. For example, using data collected during fiscal year 2017, we found that a larger share of for-profit facilities scored better than the national average on rates of CAUTIs and CLABSIs than did nonprofit LTCHs. However, data collected from 2014 through 2015 show a larger share of nonprofit LTCHs had better rates of unplanned readmissions than the national rate for for-profit LTCHs. We did not find this difference between nonprofit and for-profit facilities in the facility-adjusted rate of pressure ulcers or across any of the measures when we examined them by facility size.

Impacts of changes in payment policy on the use of other PAC and hospice services

The mandate requires the Commission to assess the effect that the dual payment-rate structure has had on the use of other PAC and hospice services. The dual payment-rate structure provides a financial incentive for LTCHs to serve a larger share of beneficiaries who meet the criteria while reducing or eliminating admissions for beneficiaries who do not meet the criteria. This incentive may result in increased use of other PAC or hospice services in place of LTCH services. However, given the relatively low volume of ACH discharges to LTCHs, patterns of use for other PAC and hospice providers have remained stable since fiscal year 2016.

Medicare spending for PAC and hospice services

Medicare's Office of the Actuary estimates that, in 2017, Medicare spent almost $60 billion on PAC services, including spending for beneficiaries admitted from the community (Table 10-7). Spending on SNF services ($28.8 billion) and home health services ($18.4 billion) accounted for 80 percent of total PAC spending in 2017. The remainder comprised spending on IRF and LTCH services, which totaled $7.9 and $4.5 billion, respectively. Meanwhile, Medicare spending for hospice care was $17.9 billion in 2017. Since 2012, Medicare spending for PAC has remained relatively stable, rising just 2 percent between 2012 and 2017, while spending on hospice has increased rapidly, climbing 19 percent over the period.

Supply and use of PAC and hospice services since 2012

The supply of SNFs, HHAs, and IRFs has remained fairly stable since 2012 (Table 10-8). In 2017, consistent with

TABLE 10–8 **Between 2012 and 2017, the number of PAC and hospice providers remained stable**

	Number of providers			Share of ACH discharges using PAC services within seven days of discharge		
	2012	2016	2017	2012	2016	2017
All PAC	28,768	29,078	28,710	36%	38%	36%
SNF	15,139	15,263	15,277	51	50	52
HHA	12,026	12,204	11,844	36	37	35
IRF	1,166	1,188	1,178	9	9	10
LTCH	437	423	411	3	3	3
Hospice	3,720	4,382	4,488	3	4	4

Note: PAC (post-acute care), ACH (acute care hospital), SNF (skilled nursing facility), HHA (home health agency), IRF (inpatient rehabilitation facility), LTCH (long-term care hospital). The provider counts include all facilities or providers, including those not paid under the prospective payment system.

Source: MedPAC analysis of the Provider of Services file and CMS Office of the Actuary Medicare Trustees report.

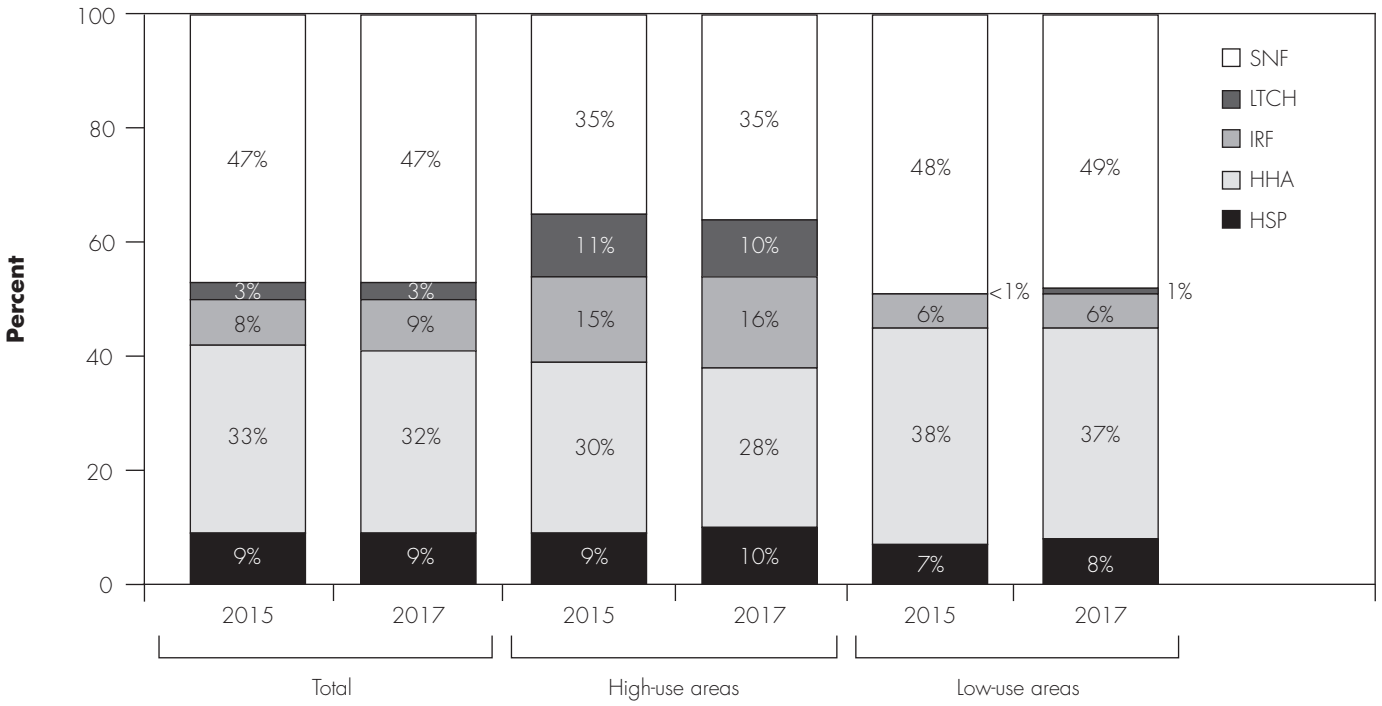
2012, home health and skilled nursing facility providers accounted for about 95 percent of PAC providers (or about 27,000 providers). The overall share of ACH discharges bound for PAC has also remained stable since 2012. In 2017, about 36 percent of Medicare FFS beneficiaries used PAC services within seven days of their ACH discharge. Of these, 52 percent were discharged to SNFs, 35 percent to home health care, 10 percent to IRFs, and 3 percent to LTCHs.

Between 2012 and 2017, the supply of hospice providers grew by 21 percent, from 3,720 to 4,488 providers.[18] In 2017, 4 percent of all Medicare FFS beneficiaries used hospice services within seven days of their ACH discharge compared with about 3 percent in 2012.

In aggregate, PAC and hospice use vary by market characteristics, including areas with historically high and low LTCH use.[19] In 2017, in areas of the country with high LTCH use, beneficiaries discharged from ACHs who were not discharged home were discharged to LTCHs, IRFs, and hospice more frequently than in areas with low LTCH use (Figure 10-6, p. 366). Since the implementation of the dual payment-rate structure in 2016, we would expect to see any changes in response to the policy between 2015 and 2017 (the most recent data). However, we observed minimal changes in the share of ACH discharges to PAC and hospice over this period. Instead, although largely consistent over time, we observed discharge pattern differences between markets with high LTCH use and low LTCH use. In 2017, in areas with high LTCH use, the share of hospitalized beneficiaries—excluding those discharged to home—who were discharged to LTCHs was 10 percent and to SNFs, 35 percent. By contrast, in areas with low LTCH use, the share of hospitalized beneficiaries discharged to LTCHs was 1 percent and to SNFs, 49 percent, which suggests that LTCHs and SNFs could be substitutes for certain types of cases, depending on the market and the capabilities of the SNFs in the market. In 2017, 37 percent of ACH discharges receiving PAC in low-use areas were discharged with HHA services compared with 28 percent from high-use areas. ACH discharges in high-use areas who were not discharged home used hospice services somewhat more commonly than their counterparts in low-use areas (10 percent vs. 8 percent). However, underlying case mix and care delivery differences could exist across these areas, contributing to differences in the use of PAC and hospice. Indeed, 25 percent of ACH discharges from high-use areas had an ICU stay that exceeded three days and 6 percent exceeded eight days. In contrast, 19 percent of ACH discharges from low-use areas had an ICU stay that exceeded three days and 5 percent exceeded eight days (data not shown). For this reason, we also considered the ACH discharge destination by beneficiary characteristics, including length of time spent in an ICU and severity of illness.

FIGURE 10–6

ACH discharge patterns to PAC and hospice in areas with high and low use of LTCH remained stable from 2015 to 2017



Note: ACH (acute care hospital), PAC (post-acute care), LTCH (long-term care hospital), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility), HHA (home health agency), HSP (hospice). "High-use areas" were identified as the top 20 areas of the country with the highest per beneficiary LTCH use in 2015. "Low-use areas" were identified as the 20 areas of the country with the lowest per beneficiary LTCH use in 2015, requiring a minimum threshold of 25 fee-for-service Medicare LTCH cases.

Source: MedPAC analysis of Medicare claims data.

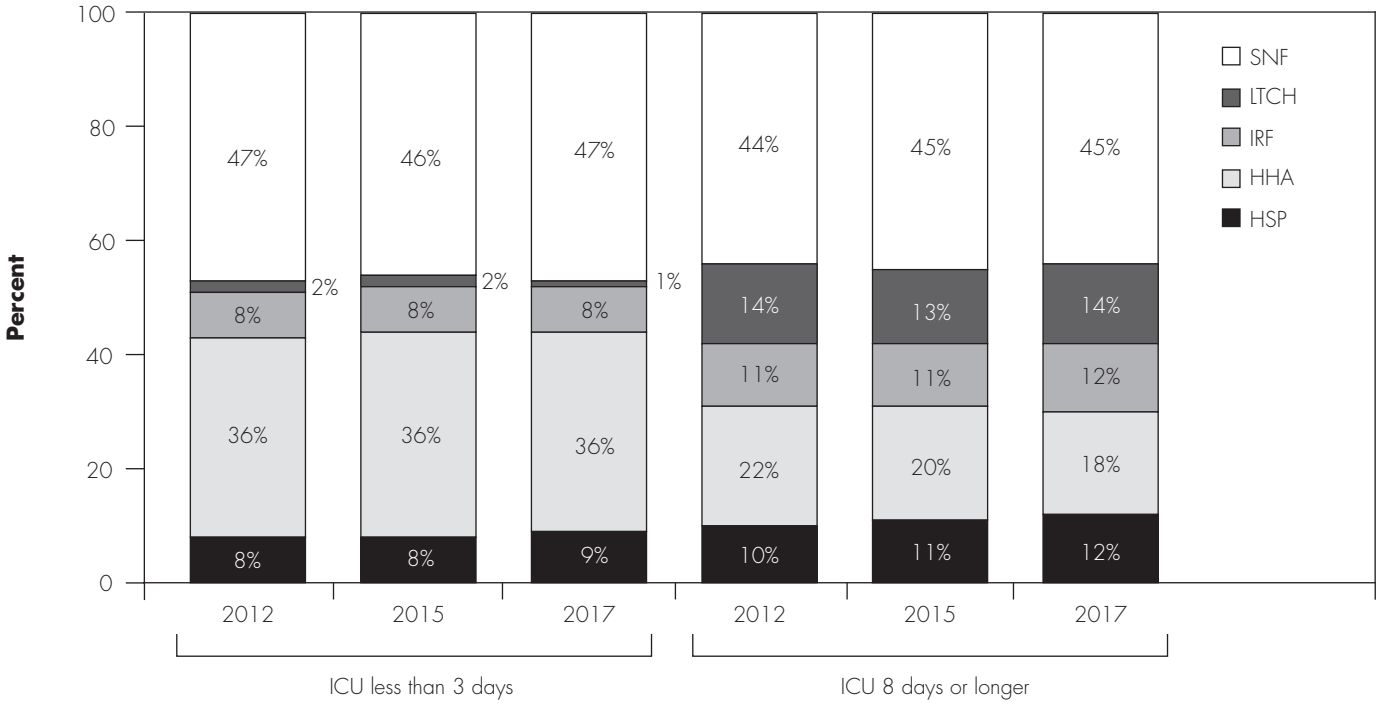
Characteristics of PAC and hospice users

Beneficiaries who spend more time in an ICU are more likely to be discharged to PAC or hospice services than beneficiaries who spend few or no days in an ICU. The length of time that a beneficiary spends in an ICU is associated with case complexity; a long ICU stay may be an indicator of chronic critical illness (Gage et al. 2011). We found that, in 2017, 36 percent of beneficiaries with an ICU stay less than three days were discharged to PAC or hospice compared with 69 percent of beneficiaries with eight or more days in an ICU (data not shown).

In aggregate, the mix of PAC and hospice use differed by the beneficiary's length of stay in an ICU (Figure 10-7). For example, in 2017, 36 percent of beneficiaries with ICU stays of less than three days who received PAC or hospice services were discharged using home health. However, the share was 18 percent for beneficiaries with ICU stays of eight days or longer. The number of days a beneficiary spent in the referring hospital's ICU had an opposite correlation with LTCH use: 1 percent of beneficiaries with less than three ICU days were discharged to an LTCH compared with 14 percent of beneficiaries with eight or more ICU days. These patterns did not change meaningfully from 2012 through 2017.

We also considered changes in PAC and hospice use since 2012 by market area and by a beneficiary's length of stay in the ACH ICU. In general, we find small changes in the share of discharges to other PAC and hospice from 2012 through 2017. During that period, the largest change

FIGURE 10–7 **Discharge to PAC and hospice care by ICU use remained stable from 2012 to 2017**



Note: PAC (post-acute care), ICU (intensive care unit), SNF (skilled nursing facility), LTCH (long-term care hospital), IRF (inpatient rehabilitation facility), HHA (home health agency), HSP (hospice). "ICU less than 3 days" includes acute care hospital (ACH) stays with fewer than three ICU days, including no ICU use. "ICU 8 days or longer" includes ACH stays with eight days or more ICU days.

Source: MedPAC analysis of Medicare claims data.

in discharge patterns from ACHs occurred for LTCH use from 2015 to 2017: The share of beneficiaries with less than a three-day ICU stay in the ACH who were discharged to an LTCH declined by almost 10 percent annually across market areas with historically high and low LTCH use. However, the share of beneficiaries discharged to an LTCH rose to 13 percent for those who had had an ICU stay in an ACH lasting eight days or longer in markets with historically low LTCH use. Although this 13 percent increase is notable, it reflects just a 1 percentage point change, owing to the relatively low volume of discharges to LTCHs in low-use areas.[20] We did not find a corresponding increase in the use of LTCH for beneficiaries with long ICU stays in areas with historically high LTCH use.

PAC use and the mix of PAC settings also varied based on the beneficiary's ACH diagnosis. Among the 6 ACH MS–DRGs with a share of LTCH discharges exceeding 10 percent, 4 included the use of mechanical ventilation for 96 or more hours. The combined six diagnosis groups constituted 1.5 percent of ACH live discharges but 29 percent of discharges to LTCHs in 2017. About 62 percent of discharges requiring a tracheostomy and more than 96 hours of ventilator support in an ACH (the average of MS–DRGs 004 and 003) were discharged to an LTCH, as were about 16 percent of beneficiaries, who were discharged to LTCHs with either septicemia or respiratory failure requiring mechanical ventilation for more than 96 hours in the preceding ACH stay (the average of MS–DRGs 870 and 207) (Table 10-9, p. 368).

Over the 2012 to 2017 period, the use of LTCHs remained fairly stable by ACH primary diagnosis. For example, the share of beneficiaries with principal ACH diagnoses of skin conditions or procedures, including wound and skin

TABLE 10–9

In 2017, the majority of ACH discharges requiring tracheostomy with mechanical ventilation support were discharged to an LTCH

ACH MS–DRG	Description	Live discharges	Postdischarge PAC and hospice use					
			LTCH	SNF	IRF	HHA	HSP	None
004	Tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth & neck without major OR procedure	12,076	65%	10%	2%	3%	3%	16%
003	ECMO or tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth and neck with major OR procedure	12,314	59	10	7	4	3	17
870	Septicemia or severe sepsis with MV 96+ hours	20,464	16	27	5	5	17	29
207	Respiratory system diagnosis with ventilator support 96+ hours	12,911	15	26	6	7	14	31
853	Infectious and parasitic diseases with OR procedure with MCC	67,886	10	31	6	12	6	35
463	Wound debridement and skin graft except hand, for musculo-connective tissue disorders with MCC	5,813	10	40	7	11	3	30
	All MS–DRGs	8,864,084	1	19	3	13	4	60

Note: ACH (acute care hospital), LTCH (long-term care hospital), MS–DRG (Medicare severity–diagnosis related group), PAC (post-acute care), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility), HHA (home health agency), HSP (hospice), MV (mechanical ventilation), OR (operating room), ECMO (extracorporeal membrane oxygenation), MCC (major complication or comorbidity). "None" indicates that the beneficiary did not receive PAC or hospice services within seven days of discharge from the acute care hospital.

Source: MedPAC analysis of Medicare claims data.

debridement, who were discharged to an LTCH dropped slightly (Table 10-10). In contrast, the share of patients with certain ACH diagnoses or procedures increased annually by 1 percentage point from 2012 to 2015 and by 2 percentage points annually from 2015 to 2017, including those having a tracheostomy with 96 or more hours of mechanical ventilation support. However, because this trend is consistent before and after the implementation of the dual payment-rate policy, it is not clear that the changes in discharge pattern are in response to the policy. We found minimal changes across the PAC and hospice providers since 2012 (data not shown). We will continue to monitor changes in the share of ACH discharges to LTCHs by MS–DRG.

Discharge patterns varied substantially across high-use and low-use areas. In areas with high LTCH use, three-quarters of beneficiaries who had a tracheostomy with mechanical ventilator support of 96 or more hours in an ACH were discharged to an LTCH, while 4 percent were discharged to a SNF (Table 10-11, p. 370). In contrast, in areas with low LTCH use, about one-quarter of beneficiaries with this diagnosis were discharged to an LTCH, while more than a third were discharged to a SNF. This finding may bolster other research identifying a decline in SNF use for certain beneficiaries when an LTCH opens in a market, suggesting some degree of substitution (Einav et al. 2018, Kahn et al. 2010, Koenig et al. 2013).

We find differences by ACH MS–DRGs over time across different types of market areas. From 2012 through 2015, for the six ACH MS–DRGs with a share of LTCH discharges exceeding 10 percent—with the exception of wound debridement (ACH MS–DRG 463)—the changes in the share of discharges to LTCHs and SNFs were generally less than 1 percentage point per year regardless of market type (Table 10-12, p. 371). However, from

TABLE 10–10

Since 2012, there has been little change in the share of ACH discharges to LTCH and SNF services by select MS–DRGs

ACH MS–DRG	Description	Average annual percentage point change			
		LTCH		SNF	
		2012–2015	2015–2017	2012–2015	2015–2017
004	Tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth & neck without major OR procedure	1	2	0	–1
003	ECMO or tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth and neck with major OR procedure	1	0	0	–1
870	Septicemia or severe sepsis with MV 96+ hours	0	1	0	0
207	Respiratory system diagnosis with ventilator support 96+ hours	0	1	0	0
463	Wound debridement and skin graft except hand, for musculo-connective tissue disorders with MCC	–1	–2	0	2
853	Infectious and parasitic diseases with OR procedure with MCC	0	–1	0	–1
570	Skin debridement with MCC	0	–1	0	1
	All ACH MS–DRGs	1	1	0	0

Note: ACH (acute care hospital), LTCH (long-term care hospital), SNF (skilled nursing facility), MS–DRG (Medicare severity–adjusted diagnosis related group), MV (mechanical ventilation), OR (operating room, ECMO (extracorporeal membrane oxygenation), MCC (major complication or comorbidity). Includes all live discharges.

Source: MedPAC analysis of Medicare claims data.

2015 to 2017, the discharge patterns for beneficiaries with certain diagnoses and procedures appeared to change. For example, from 2015 to 2017 in areas of high LTCH use, there was an increase in the share of beneficiaries who had a tracheostomy with mechanical ventilator support for 96 or more hours in an ACH and were discharged to an LTCH. Similarly, in areas of low LTCH use, use increased for beneficiaries who had a tracheostomy in the ACH (ACH MS–DRG 004) and were discharged to an LTCH, while the use of SNFs declined for these patients. From 2015 to 2017 in areas of high LTCH-use, there were decreases in the share of beneficiaries with skin procedures, including wound or skin debridement, in the ACH (ACH MS–DRGs 463 and 570) who were discharged to an LTCH. In areas with low LTCH use, however, there was no change in the share of beneficiaries discharged to LTCHs who had these skin procedures in the ACH. In the future, additional data might be helpful in determining whether these changes reflect data anomalies or a shift in ACH discharge patterns.

Changes in the use of PAC and hospice services are difficult to detect even when isolating the analysis to particular MS–DRGs in certain areas with high and low use of LTCHs. We will continue to monitor changes in ACH discharge patterns as the dual payment-rate structure continues to be implemented.

Necessity of the 25 percent rule

The mandate requires the Commission to assess the need to apply the 25 percent rule that CMS eliminated in its fiscal year 2019 final rule. CMS established the 25 percent rule as a response to incentives inherent in Medicare's IPPS and LTCH payment policies. Under the IPPS, fixed

TABLE 10–11

Large differences in PAC use by ACH MS–DRGs for beneficiaries from MedPAC areas with high and low use of LTCHs, 2017

ACH MS–DRG	Description	High-use areas		Low-use areas	
		LTCH	SNF	LTCH	SNF
004	Tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth & neck without major OR procedure	75%	4%	28%	39%
003	ECMO or tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth and neck with major OR procedure	69	4	24	35
870	Septicemia or severe sepsis with MV 96+ hours	30	19	3	36
207	Respiratory system diagnosis with ventilator support 96+ hours	31	18	5	35
570	Skin debridement with MCC	31	17	2	41
463	Wound debridement and skin graft except hand, for musculo-connective tissue disorders with MCC	28	24	2	47
853	Infectious and parasitic diseases with OR procedure with MCC	25	19	2	39

Note: PAC (post-acute care), ACH (acute care hospital), MS–DRG (Medicare–severity diagnosis related groups), LTCH (long-term care hospital), SNF (skilled nursing facility), MV (mechanical ventilation), OR (operating room), ECMO (extracorporeal membrane oxygenation), MCC (major complication or comorbidity). "High-use areas" were identified as the top 20 areas of the country with the highest per beneficiary LTCH use in 2015. "Low-use areas" were identified as the 20 areas of the country with the lowest per beneficiary LTCH use in 2015, requiring a minimum threshold of 25 fee-for-service Medicare LTCH cases.
Source: MedPAC analysis of Medicare claims data.

per case payments encourage ACHs to reduce their costs by shortening lengths of stay and shifting costly patients to LTCHs and other PAC providers. The incentive to reduce the length of stay in an ACH combined with the profit incentives inherent in the LTCH payment system together contributed to the strong growth in LTCH facilities and admissions after 2003.

Establishment and implementation of the 25 percent rule

In 2005, CMS established a policy that set a limit on the share of an LTCH's cases that could be admitted from a single ACH, the "25 percent rule." The 25 percent threshold policy was intended to help ensure that LTCHs did not function as units of ACHs and that decisions about admission, treatment, and discharge in both ACHs and LTCHs were made for clinical rather than financial reasons. The rule reduced payments for some LTCHs that exceeded the threshold, creating disincentives for LTCHs to admit a large share of their patients from a single ACH. After the threshold was reached, Medicare paid the LTCH the lesser of the LTCH PPS rate or an amount equivalent to the applicable acute care hospital PPS rate.

The 25 percent rule was never fully applied. The Medicare, Medicaid, and SCHIP Extension Act of 2007—as amended by the Patient Protection and Affordable Care Act of 2010, the Health Care Education Reconciliation Act of 2010, and the Pathway for SGR Reform Act of 2013—substantially changed the implementation of the 25 percent rule. Together, these laws rolled back the phased-in implementation of the 25 percent rule for hospitals-within-hospitals and satellites to 50 percent until cost reporting periods beginning on or after October 1, 2016, and prevented application of the rule to freestanding LTCHs until cost reporting periods beginning on or after July 1, 2016. In addition, the Pathway for SGR Reform Act of 2013 also permanently exempted certain colocated LTCHs from the 25 percent rule. In its fiscal year 2017 final rule, CMS aligned the timing of the implementation of the 25 percent rule for freestanding, hospitals-within-hospitals, and satellite LTCHs. However, through the 21st

TABLE 10–12

Annual percentage point change in the share of ACH discharges subsequently admitted to a SNF or LTCH, by market type, 2012–2017

		Average annual percentage point change							
		Areas with high LTCH use				Areas with low LTCH use			
		LTCH		SNF		LTCH		SNF	
ACH MS–DRG	Description	2012–2015	2015–2017	2012–2015	2015–2017	2012–2015	2015–2017	2012–2015	2015–2017
004	Tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth & neck without major OR procedure	–1	2	0	0	1	3	0	–3
003	ECMO or tracheostomy with MV support 96+ hours or primary diagnosis except face, mouth and neck with major OR procedure	–1	1	0	0	1	0	–1	–1
870	Septicemia or severe sepsis with MV 96+ hours	–1	–1	1	1	0	1	0	0
207	Respiratory system diagnosis with ventilator support 96+ hours	–1	2	0	1	0	1	0	0
570	Skin debridement with MCC	–1	–1	–1	3	0	0	–1	2
463	Wound debridement and skin graft except hand, for musculo-connective tissue disorders with MCC	–3	–2	1	2	0	0	0	2
853	Infectious and parasitic diseases with OR procedure with MCC	–1	–2	0	1	0	0	0	–1

Note: ACH (acute-care hospital), SNF (skilled nursing facility), LTCH (long-term care hospital), MS–DRG (Medicare severity–diagnosis related group), MV (mechanical ventilation), OR (operating room), ECMO (extracorporeal membrane oxygenation), MCC (major complication or comorbidity). High LTCH use areas were identified as the top 20 areas of the country with the highest per beneficiary LTCH use in 2015. Low LTCH use areas were identified as the 20 areas of the country with the lowest per beneficiary LTCH use in 2015, requiring a minimum threshold of 25 fee-for-service Medicare LTCH cases. Includes all live discharges.

Source: MedPAC analysis of Medicare claims data.

Century Cures Act, the Congress delayed implementation of the 25 percent threshold policy until fiscal year 2018. CMS further delayed implementation until fiscal year 2019 in its 2018 final rule and subsequently eliminated the rule altogether in fiscal year 2019.

The Commission has provided comments to CMS and the Congress in response to the 25 percent rule since 2004 (Medicare Payment Advisory Commission 2011, Medicare Payment Advisory Commission 2004a). Before the implementation of the dual payment-rate policy, the Commission viewed the 25 percent policy as a blunt but necessary instrument to help ensure that LTCHs did not function as units of ACHs (Medicare Payment Advisory Commission 2014). Further, the Commission recognized that the 25 percent threshold policy also did little to promote optimal care for beneficiaries. Under the rule, an LTCH's decision to admit a patient might be based not only on the patient's clinical condition but also on how close the facility is to exceeding its threshold.

The 25 percent rule and the dual payment-rate structure

Even under the LTCH dual-payment structure, ACHs continue to have an incentive to unbundle care (reduce their costs by shortening lengths of stay and shifting costly patients to LTCHs (and other PAC providers)). For this reason, in the context of the March 2014 recommendation to the Congress, the Commission asked that CMS continue to apply the 25 percent rule (Medicare Payment Advisory Commission 2014). In 2018, the Commission requested that the Secretary refrain from permanently eliminating this policy until the Commission examined the continued need for the 25 percent threshold policy under the dual payment-rate structure (Medicare Payment Advisory Commission 2018a).

Our analysis of data through 2017 suggests that, since 2016, the trends in LTCH use have begun to shift toward cases meeting the criteria. LTCHs that have closed after the implementation of the dual payment-rate policy admitted a lower share of patients meeting the criteria compared with LTCHs that remained open. Combined, these trends indicate a general shift away from lower severity cases and an underlying change in admission patterns in LTCHs, reducing the necessity for the 25 percent rule. The Commission expects additional changes in ACH referrals to LTCHs as the dual payment-rate structure is fully phased in, further reducing the need for the 25 percent rule. However, given the responsiveness of the LTCH industry to payment policy changes, the Commission will monitor changes in referral patterns to LTCHs, including understanding variation in ICU use across ACHs. The Secretary and the Congress could contemplate several policies to further reduce the likelihood of overusing LTCHs, including increasing the ICU requirement to more closely align with the Commission's March 2014 recommendation to the Congress and increasing the share of cases meeting the criteria necessary for the facility to receive the standard LTCH PPS rate.

Conclusion

The Pathway for SGR Reform Act of 2013 mandated that the Commission explore the effect of the LTCH dual payment-rate structure on LTCHs and their quality of care and on the use of other PAC and hospice services. In response to the mandate, the Commission's analysis generally found reductions in LTCH use, especially for cases not meeting the criteria; however, the impact of this policy across other settings was difficult to ascertain given the short period that the policy has been in effect (at a 50 percent phase-in) and the low volume of LTCH cases generally.

The Commission found reductions in LTCH spending, in the volume of beneficiary use of LTCHs, and in the number of LTCH facilities from 2015 through 2017. Even with overall reductions in volume, the Commission found that the share of LTCH cases meeting the criteria increased since the implementation of the dual payment-rate structure, while fewer beneficiaries not meeting the criteria were being admitted to LTCHs. Through our interviews, we found that LTCHs are increasingly focused on a more acute and medically complex population, as intended by the new dual payment-rate structure. Although nearly 50 LTCHs have closed since fiscal year 2016, most of these closures occurred in markets with competition from other LTCHs. Our analysis found that the facilities that closed had lower occupancy, a lower share of beneficiaries who met the criteria, lower payments per case, and higher costs per case than facilities that remained open. Because the payment rate for cases not meeting the criteria is substantially lower than that for beneficiaries who meet the criteria, an LTCH's financial stability under Medicare relies, in part, on the share of its cases meeting the criteria. LTCHs with more than 85 percent of their Medicare population meeting the criteria continued to have positive financial performance under Medicare in 2017.

The LTCH Quality Reporting Program is relatively new, with few risk-adjusted measures currently appropriate for longitudinal comparisons. However, our examination of unadjusted measures, even after focusing on cases that met the criteria, did not find evidence that the quality of care provided in LTCHs has been negatively affected by the dual payment-rate structure.

Given the relatively small number of LTCH referrals, it remains challenging to identify meaningful changes in discharge patterns of PAC and hospice in response to the implementation of the dual payment-rate structure. We did, however, observe some small differences in certain MS–DRGs, including those involving wound care and, in some markets, tracheostomy.

Although the Commission was asked to opine on the necessity of continuing to apply the 25 percent rule, this policy was eliminated in fiscal year 2019 and no longer applies to the LTCH PPS. However, before the

implementation of the dual payment-rate policy, the Commission viewed the 25 percent policy as a blunt but necessary instrument to help ensure that LTCHs did not function as units of ACHs, but also recognized that the 25 percent rule did little to promote optimal care for beneficiaries. Even under a dual-payment structure, incentives remain for ACHs to unbundle care that is paid for under the IPPS. However, substantial changes in referral patterns that have occurred and closures of LTCHs with lower shares of cases meeting the criteria indicate strong behavioral shifts even with a partial policy phase-in. Because we expect continued changes in admission patterns as the policy becomes fully phased in, the dual payment-rate structure may obviate the need for the 25 percent rule.

The Commission reiterates two concerns regarding the dual payment-rate structure specified in the Pathway for SGR Reform Act of 2013. First, the Commission's March 2014 recommendation to the Congress included an eight-day ICU stay threshold requirement for payment under the standard LTCH payment rate. Because the current policy continues to pay the higher LTCH standard payment rate for cases with three or more ICU days, the Commission remains concerned that cases otherwise cared for in lower cost settings are being discharged to the higher cost LTCH. Second, for purposes of payment equity across provider types, the defined level of payment should equalize payment across provider types; instead, because the defined payment level for site-neutral cases is the lesser of an IPPS-comparable rate or 100 percent of the cost of the case, LTCHs may receive a lower payment than what would have been received for a similar IPPS discharge (Medicare Payment Advisory Commission 2015).

In sum, the Commission observed changes in the LTCH setting consistent with the policy objectives of the dual payment-rate structure that was implemented for cost reporting periods beginning on or after October 1, 2015. Given the decades of concern regarding increases in LTCH use and the relatively high cost of LTCH services without a clear benefit for some cases, the trends in the LTCH sector align with the Commission's recommended patient-specific criteria for LTCHs. Changes in the trends of LTCH use and spending after implementation of the policy were expected, and the Commission expects to see further continuation of these trends as the dual payment-rate structure becomes fully implemented (in 2020). Given the current partial policy phase-in and elimination of the 25 percent rule, the Commission will continue to monitor changes in use and trends across PAC and hospice, facility closures, and quality. The Commission also continues to pursue a unified PAC PPS, which could eliminate the need for the dual payment-rate structure for LTCHs in the future. ■

Endnotes

1 The Medicare, Medicaid, and SCHIP Extension Act of 2007 also requires LTCHs to have a patient review process that screens patients to ensure the appropriateness of admission and continued stay, physician on-site availability on a daily basis, and interdisciplinary treatment teams of health care professionals. The Pathway for SGR Reform Act of 2013 specifies that, beginning in fiscal year 2020, LTCHs will also be required to maintain a certain share of beneficiaries who qualify to receive the standard LTCH payment rate.

2 We based our analysis of the top 6 referring ACH MS–DRGs on a threshold of more than 500 discharges to LTCHs in 2017. Using a threshold of 100 discharges to LTCHs would include 3 additional ACH MS–DRGs: MS–DRG 573, skin graft for skin ulcer or cellulitis with major complication or comorbidity (MCC) (19 percent of cases discharged to LTCHs); MS–DRG 11, tracheostomy for face, mouth, and neck diagnosis or laryngectomy with MCC (12 percent); and MS–DRG 570, skin debridement with MCC (10 percent).

3 We define MedPAC areas as metropolitan statistical areas within a state or rest-of-state nonmetropolitan areas, depending on where beneficiaries reside (Medicare Payment Advisory Commission 2017b).

4 More information on the PPS for LTCHs is available at http://medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_18_ltch_final_v2_sec.pdf?sfvrsn=0.

5 As a reference point, in 1993, Medicare spending on LTCHs was $398 million, but grew more than fourfold to $2.2 billion in 2002 (Medicare Payment Advisory Commission 2007).

6 RTI, under contract to CMS, reported a similar finding (Gage et al. 2007). RTI reviewed LTCH Medicare costs and payments for the two years before and two years after implementation of the LTCH PPS. Immediately after the PPS was implemented, LTCH margins were found to be much higher than margins in the 2001 to 2002 period under the prior payment system. RTI attributed higher overall LTCH margins to the fact that the initial base LTCH PPS rate was set substantially too high.

7 LTCHs' (and other providers') Medicare margins under TEFRA were generally zero or negative. The TEFRA margins are consistent with the payment system since providers were paid the cost of services.

8 For additional information, refer to the Commission's March 2018 report to the Congress (Medicare Payment Advisory Commission 2018d).

9 An HWH is an LTCH that occupies space in a building also used by another hospital or on the campus of another hospital. HWHs have their own provider numbers and operate independently from their host hospitals. A satellite is an HWH that operates under the same Medicare number as another LTCH at a separate location.

10 Exceptions to the moratorium that MMSEA and subsequent legislation allowed were for (1) LTCHs that began their qualifying period (demonstrating an average Medicare length of stay greater than 25 days) on or before December 29, 2007; (2) entities that had a binding or written agreement with an unrelated party for the construction, renovation, lease, or demolition of an LTCH, with at least 10 percent of the estimated cost of the project already expended on or before December 29, 2007; (3) entities that had obtained a state certificate of need on or before December 29, 2007; (4) existing LTCHs that had obtained a certificate of need for an increase in beds issued on or after April 1, 2005, and before December 29, 2007; and (5) LTCHs that were located in a state with only one other LTCH and that sought to increase beds after the closure or decrease in the number of beds of the state's other LTCH.

11 The Pathway for SGR Reform Act of 2013, as amended by the Protecting Access to Medicare Act of 2014, allowed exceptions to the moratorium for (1) LTCHs that began their qualifying period (demonstrating an average Medicare length of stay greater than 25 days) on or before April 1, 2014; (2) entities that had a binding or written agreement with an unrelated party for the construction, renovation, lease, or demolition of an LTCH, with at least 10 percent of the estimated cost of the project already expended on or before April 1, 2014; and (3) entities that had obtained a state certificate of need on or before April 1, 2014.

12 Beginning in fiscal year 2020, CMS will implement a revised SNF PPS that redistributes payments from cases that receive a high level of rehabilitation therapy to cases with higher levels of medical complexity. The redistribution of SNF payments will also include payment increases for cases with the highest nontherapy ancillary costs and comorbidities and for cases where the beneficiary has a tracheostomy that requires ventilator or respirator support. Because of these changes in payment, in the years after the implementation of the revised SNF PPS, we expect an increasing willingness for SNFs to provide care to more medically complex patients, including those patients who are considered the most chronically critically ill.

13 In 2016, the net payment update resulted from a 2.4 percent market basket increase reduced by a 0.5 percentage point adjustment for productivity and an additional 0.2 percentage point reduction mandated by statute.

14 The LTCH closure analysis for this report included data from the December 2018 update to the Provider of Services file. This number differs from our payment adequacy analysis because the data reflect changes that occurred during fiscal year 2018 and part of fiscal year 2019.

15 Regions presented are census divisions as defined by the United States Census Bureau. For more information, see https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

16 Only one rural facility had more than 85 percent of its Medicare cases meeting the criteria in 2017; therefore, we did not consider a breakdown of margins by urban versus rural location to be meaningful.

17 This rate of about 25 percent is higher than the Commission's unadjusted measure of direct LTCH to ACH readmissions for a combination of reasons. First, the Commission's measure includes only direct LTCH to ACH admissions and does not include a 30-day window. Second, the CMS measure requires a one-day period after LTCH discharge before ACH admission to be counted for the measure, eliminating any direct LTCH to ACH admissions.

18 For additional detail, refer to the June 2018 data book, Chart 8-1 (Medicare Payment Advisory Commission 2018b).

19 These areas are identified as the 20 areas with the highest and lowest per beneficiary LTCH use in 2015. Low-use areas require a minimum threshold of 25 FFS Medicare LTCH cases to be included in the analysis.

20 In areas with historically low LTCH use, the volume of discharges increased from 1,170 in 2015 to 1,450 in 2017.

References

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2013. Medicare program; hospital inpatient prospective payment systems for acute care hospitals and the long term care hospital prospective payment system and proposed fiscal year 2014 rates; quality reporting requirements for specific providers; hospital conditions of participation; Medicare program; FY 2014 hospice wage index and payment rate update; hospice quality reporting requirements; and updates on payment reform. Proposed rules. *Federal Register* 78, no. 91 (May 10): 27486–27823.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006. Medicare program; prospective payment for long-term care hospitals RY 2007; annual payment rate updates, policy changes, and clarification. Final rule. *Federal Register* 71, no. 92 (May 12): 27798–27939.

Dalton, K., A. Kandilov, D. Kennell, et al. 2012a. *Determining medical necessity and appropriateness of care for Medicare long-term care hospitals (LTCHs): Final report.* Prepared under contract by Kennell and Associates, Inc., and Research Triangle International for the Centers for Medicare & Medicaid Services. Baltimore, MD: CMS.

Dalton, K., D. Kennell, S. Bernard, et al. 2012b. *Determining medical necessity and appropriateness of care for Medicare long-term care hospitals (LTCHs): Report on site visits to IPPS critical care services and LTCHs.* Prepared under contract by Kennell and Associates, Inc., and Research Triangle International for the Centers for Medicare & Medicaid Services. Baltimore, MD: CMS.

Demiralp, B., S. Soltoff, and L. Koenig. 2019. Hospital patients with severe wounds: Early evidence on the impact of Medicare payment changes on treatment patterns and outcomes. *Journal of Medical Economics* 22, no. 3 (March): 266–272.

Einav, L., A. Finkelstein, and N. Mahoney. 2018. *Long-term care hospitals: A case study in waste*. NBER working paper no. 24946. Cambridge, MA: National Bureau of Economic Research.

Gage, B., N. Pilkauskas, K. Dalton, et al. 2007. *Long-term care hospital (LTCH) payment system monitoring and evaluation: Phase II report*. Prepared under contract to the Centers for Medicare & Medicaid Services. Waltham, MA: RTI International.

Gage, B., L. Smith, M. Morley, et al. 2011. *Post-Acute Care Payment Reform Demonstration: Report*. Prepared under contract to the Centers for Medicare & Medicaid Services. Baltimore, MD: CMS. http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Reports/Research-Reports-Items/PAC_Payment_Reform_Demo_Final.html.

Kahn, J. M., N. M. Benson, D. Appleby, et al. 2010. Long-term acute care hospital utilization after critical illness. *Journal of the American Medical Association* 303, no. 22 (June 9): 2253–2259.

Kahn, J. M., R. M. Werner, G. David, et al. 2013. Effectiveness of long-term acute care hospitalization in elderly patients with chronic critical illness. *Medical Care* 51, no. 1 (January): 4–10.

Kandilov, A., and K. Dalton. 2011. *Utilization and payment effects of Medicare referrals to long-term care hospitals (LTCHs)*. Prepared under contract to the Centers for Medicare & Medicaid Services. Research Triangle Park, NC: RTI International.

Kennell and Associates Inc. 2010. *Determining medical necessity and appropriateness of care for Medicare long-term care hospitals*. Prepared under contract to the Centers for Medicare & Medicaid Services. Prepared under contract to the Centers for Medicare & Medicaid Services. Falls Church, VA: Kennell and Associates, Inc.

Kindred Healthcare. 2016a. Kindred completes sale of 12 LTAC hospitals to Curahealth, advancing LTAC portfolio optimization strategy. News release. October 3. http://investors.kindredhealthcare.com/phoenix.zhtml?c=129959&p=irol-newsArticle_Print&ID=2208657.

Kindred Healthcare. 2016b. Kindred Healthcare updates strategy and reports third quarter 2016 results. News release. November 7. http://investors.kindredhealthcare.com/phoenix.zhtml?c=129959&p=irol-newsArticle_Print&ID=2220343.

Koenig, L., B. Demiralp, J. Saavoss, et al. 2015. The role of long-term acute care hospitals in treating the critically ill and medically complex: An analysis of nonventilator patients. *Medical Care* 53, no. 7 (July): 582–590.

Koenig, L., J. Saavoss, S. Sankaran, et al. 2013. *The effects of long-term care hospitals on outcomes, utilization and payments for Medicare beneficiaries: Final report*. Prepared under contract to the National Association of Long Term Hospitals by KNG Health Consulting LLC. West Hartford, CT: NALTH.

Liu, K., C. Baseggio, D. Wissoker, et al. 2001. Long-term care hospitals under Medicare: Facility-level characteristics. *Health Care Financing Review* 23, no. 2 (Winter): 1–18.

Makam, A. N., O. K. Nguyen, B. Kirby, et al. 2018a. Effect of site-neutral payment policy on long-term acute care hospital use. *Journal of the American Geriatrics Society* 66, no. 11 (November): 2104–2111.

Makam, A. N., O. K. Nguyen, L. Xuan, et al. 2018b. Factors associated with variation in long-term acute care hospital vs skilled nursing facility use among hospitalized older adults. *JAMA Internal Medicine* 178, no. 3 (March 1): 399–405.

Makam, A., O. Nguyen, L. Xuan, et al. 2018c. Long-term acute care hospital use of non-mechanically ventilated hospitalized older adults. *Journal of the American Geriatrics Society* 66, no. 11 (November): 2112–2119.

Medicare Payment Advisory Commission. 2019. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2018a. Comment letter to CMS on the proposed rule on the hospital inpatient prospective payment system and the long-term care hospital prospective payment system for FY 2019, June 22. http://www.medpac.gov/docs/default-source/publications/06222018_medpac_2019_ipps_comment_sec.pdf?sfvrsn=0.

Medicare Payment Advisory Commission. 2018b. *A data book: Health care spending and the Medicare program*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2018c. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2018d. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2017a. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2017b. *Report to the Congress: Regional variation in Medicare Part A, Part B, and Part D spending and service use*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2016a. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

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

Medicare Payment Advisory Commission. 2015. Comment letter to CMS on the IPPS and LTCH payment update. http://medpac.gov/docs/default-source/comment-letters/medpac-comment-on-cms-s-proposed-rule-on-the-hospital-inpatient-prospective-payment-system-and-long-.pdf?sfvrsn=0.

Medicare Payment Advisory Commission. 2014. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2013. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2011. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2007. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2004a. Comment letter to CMS on proposed changes to the hospital inpatient prospective payment systems and fiscal year 2005 rates, July 9. http://www.medpac.gov/docs/default-source/comment-letters/070904_nprm_JA_comment.pdf?sfvrsn=0.

Medicare Payment Advisory Commission. 2004b. *Report to the Congress: New approaches in Medicare*. Washington, DC: MedPAC.

Morley, M., N. Coomer, B. Gage, et al. 2011. *Post-acute care episode risk adjustment using CARE assessment data*. Report prepared for the Assistant Secretary for Planning and Evaluation. Waltham, MA: RTI International.

National Association of Long Term Care Hospitals. 2017. *State of the long term care hospital sector: Access to care for Medicare beneficiaries*. Prepared by KNG Health Consulting for the National Association of Long Term Care Hospitals. West Hartford, CT: NALTH.

Nierman, D. M., and J. E. Nelson. 2002. Chronic critical illness. *Critical Care Clinics* 18, no. 4: xi–xii.

Select Medical. 2016. Select Medical Holdings Corporation announces results for third quarter ended September 30. https://www.selectmedical.com/-/media/project/selectmedical/dotcom/usa/page-assets/ir/earnings-news-releases/03-select-medical-holdings-corporation-announces-2016-third-quarter-results-november-3-2016.pdf?t=20181112224804.