CHAPTER 10

Long-term care hospital services

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

10 The Secretary should eliminate the update to the payment rate for long-term care hospitals for rate year 2012.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

CHAPTER 10

Long-term care hospital services

Chapter summary

Long-term care hospitals (LTCHs) furnish care to patients with clinically complex problems—such as multiple acute and chronic conditions—who need hospital-level care for relatively extended periods. To qualify as an LTCH for Medicare payment, a facility must meet Medicare's conditions of participation for acute care hospitals and have an average length of stay of greater than 25 days for its Medicare patients. Medicare is the predominant payer for most LTCHs, accounting for about two-thirds of LTCH discharges. In 2009, Medicare spent $4.9 billion on care furnished to roughly 400 LTCHs nationwide. About 116,000 beneficiaries had almost 131,500 LTCH stays.

Assessment of payment adequacy

Beneficiaries' access to care—We have no direct measures of beneficiaries' access to LTCH services. Instead, we consider the capacity and supply of LTCH providers and changes over time in the volume of services furnished.

- ***Capacity and supply of providers*—**In spite of the moratorium imposed by the Medicare, Medicaid, and SCHIP Extension Act of 2007 and subsequent amendments, the number of LTCHs increased 6.6 percent between 2008 and 2009, the largest growth seen since between 2004 and 2005. New LTCHs were able to enter the Medicare program because they met specific exceptions to the moratorium.

In this chapter

- Are Medicare payments adequate in 2011?
- How should Medicare payments change in 2012?
- Developing quality measures for LTCHs

- ***Volume of services*—**Controlling for the number of fee-for-service beneficiaries, we found that the number of LTCH cases rose 0.9 percent between 2008 and 2009, suggesting that access to care was maintained during this period.

***Quality of care*—**Unlike most other health care facilities, LTCHs do not submit quality data to CMS. Until such measures are available, the Commission uses unadjusted aggregate trends in rates of in-facility mortality, mortality within 30 days of discharge, and readmissions from LTCHs to acute care hospitals. We found stable or declining rates of readmission, death in the LTCH, and death within 30 days of discharge for most of the top 20 diagnoses in 2009.

***Providers' access to capital*—**The moratorium on new beds and facilities reduces opportunities in the near future for expansion and need for capital, although the largest LTCH chains continued with construction of new LTCHs that were already in the pipeline and thus exempt from the moratorium. In addition, these chains, which together own slightly more than half of all LTCHs, continued in 2010 to acquire other LTCHs as well as other post-acute care providers. Smaller LTCH chains and nonchain LTCHs, however, may not have the same level of access to capital as the large chains.

***Medicare payments and providers' costs*—**Between 2005 and 2008, growth in cost per case outpaced that for payments, as regulatory changes to Medicare's payment policies for LTCHs slowed growth in payment per case to an average of 1.5 percent per year. After the Congress provided temporary relief from some payment regulations that would have constrained payments, payments per case climbed 6.4 percent between 2008 and 2009. Cost per case, however, rose less than 2 percent.

The 2009 Medicare margin for LTCHs was 5.7 percent. We expect that LTCHs, anticipating the expiration of the Congress's legislative relief, will continue to constrain their cost growth. We expect it to continue at the current pace—roughly similar to the latest forecast of the market basket for 2012 of 2.3 percent—as long as Medicare continues to put fiscal pressure on LTCHs. As a result, we estimate LTCHs' aggregate Medicare margin will be 4.8 percent in 2011.

Development of quality measures for LTCHs

The Patient Protection and Affordable Care Act of 2010 mandates that CMS implement a pay-for-reporting program for LTCHs by 2014. A panel convened by the Commission to provide input into the development of LTCH quality measures suggested that CMS begin with a starter set of 10 to 12 measures based on those that most LTCHs already use for internal quality monitoring. Panelists discussed several possible outcome, patient safety, and process measures that would be appropriate for use but cautioned

that careful attention is needed so as not to create incentives for providers to avoid admitting certain types of cases. The quality measures developed for LTCHs must be comparable to those used in other post-acute settings. Ultimately, policymakers should be able to compare patient safety and outcomes across the post-acute care spectrum to measure value—that is, to determine whether beneficiaries are receiving high-quality care in the least costly setting consistent with their clinical conditions.

The Commission considers a pay-for-reporting program to be a first step toward pay for performance. As soon as possible, the Congress should create stronger incentives for LTCH providers to improve care delivery by implementing pay for performance. ■

Background

Patients with clinically complex problems, such as multiple acute and chronic conditions, may need hospital-level care for relatively extended periods. Some 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 and have an average length of stay of greater than 25 days for its Medicare patients. (By comparison, the average Medicare length of stay in acute care hospitals is about five days.) There are no other criteria defining LTCHs, the level of care they furnish, or the patients they treat.[1] Because of the relatively long stays and the level of care provided, care in LTCHs is expensive. Medicare is the predominant payer for most LTCHs, accounting for about two-thirds of LTCH discharges. In 2009, Medicare spent $4.9 billion on care furnished in an estimated 404 LTCHs nationwide. About 116,000 beneficiaries had almost 131,500 LTCH stays.

Since October 2002, Medicare has paid LTCHs prospective per discharge rates based primarily on the patient's diagnosis and the facility's wage index.[2] Under this prospective payment system (PPS), LTCH payment rates are based on the Medicare severity long-term care diagnosis related group (MS–LTC–DRG) patient classification system, which groups patients based primarily on diagnoses and procedures. MS–LTC–DRGs are the same groups used in the acute inpatient PPS but have relative weights specific to LTCH patients, reflecting the average relative costliness of cases in the group compared with that for the average LTCH case. LTCHs are paid outlier payments for patients who are extraordinarily costly. The PPS pays differently for short-stay outlier (SSO) cases (patients with shorter than average lengths of stay).[3] The SSO policy reflects CMS's contention that Medicare should pay adjusted rates for patients with relatively short lengths of stay to reflect the reduced costs of caring for these patients.[4]

LTCH discharges are concentrated in a relatively small number of diagnosis groups. In fiscal year 2009, the top 20 LTCH diagnoses made up 55 percent of all LTCH discharges (Table 10-1, p. 236). The most frequently occurring diagnosis was MS–LTC–DRG 207, respiratory diagnosis with ventilator support for 96 or more hours. Eight of the top 20 diagnoses, representing 31 percent of LTCH patients, were respiratory conditions. The share of respiratory conditions has increased slowly over time. Simultaneously, the share of rehabilitation cases and psychoses cases in LTCHs has dropped sharply. Between 2004 and 2009, rehabilitation cases declined from 4.1 percent to 1.2 percent of cases. Psychoses cases fell from 1.9 percent to 0.7 percent of cases.

The types of cases admitted by LTCHs are often treated in alternative settings. The Commission's analysis of claims data from 2001 found that, even among patients whose clinical characteristics placed them in the top 5 percent probability of using an LTCH, just 4 percent were admitted to these facilities in markets that had them (Medicare Payment Advisory Commission 2004). More recent research found that among all Medicare intensive care unit (ICU) patients receiving mechanical ventilation in 2006, only 8.7 percent were discharged to LTCHs (Kahn et al. 2010). In market areas without LTCHs, skilled nursing facilities (SNFs) are often used as a substitute. The Commission found that among acute care hospital patients with tracheostomies, 17 percent were discharged to freestanding SNFs in areas without LTCHs compared with 11 percent in areas with LTCHs. In areas without LTCHs, the very sickest patients may stay longer in the acute care hospital.

Nevertheless, nationwide there has been marked growth in both the number and the share of critically ill patients transferred from acute care hospitals to LTCHs. Kahn and colleagues found that, though the overall number of Medicare admissions to acute care hospital ICUs fell 14 percent between 1997 and 2006, the number of Medicare ICU patients discharged to LTCHs almost tripled. As a result, the share of critical care hospitalizations ending in transfer to an LTCH climbed from 0.7 percent in 1997 to 2.5 percent in 2006 (Kahn et al. 2010).[5] Yet little is known about the quality of care furnished in LTCHs and how it compares with that in other settings.

LTCH care may have value for very sick patients. Previous Commission research found that Medicare pays more for patients using LTCHs than for similar patients in other settings; however, the payment differences were not statistically significant when LTCH care was targeted to the most severely ill patients (Medicare Payment Advisory Commission 2004).[6] For patients with tracheostomies, Medicare spending for the episode of care was lower for those who used an LTCH than for those who did not. CMS-funded research by RTI International and a study funded by an industry association found similar results (National Association of Long Term Care Hospitals 2010, RTI International 2007).

TABLE 10–1

The top 20 MS–LTC–DRGs made up more than half of LTCH discharges in 2009

MS–LTC–DRG	Description	Discharges	Percentage
207	Respiratory system diagnosis with ventilator support 96+ hours	15,378	11.7%
189	Pulmonary edema and respiratory failure	9,438	7.2
871	Septicemia or severe sepsis without ventilator support 96+ hours with MCC	6,857	5.2
177	Respiratory infections and inflammations with MCC	4,690	3.6
592	Skin ulcers with MCC	3,913	3.0
949	Aftercare with CC/MCC	3,576	2.7
208	Respiratory system diagnosis with ventilator support <96 hours	2,729	2.1
190	Chronic obstructive pulmonary disease with MCC	2,687	2.0
193	Simple pneumonia and pleurisy with MCC	2,613	2.0
593	Skin ulcers with CC	2,103	1.6
539	Osteomyelitis with MCC	2,102	1.6
573	Skin graft and/or debridement for skin ulcer or cellulitis with MCC	1,984	1.5
559	Aftercare, musculoskeletal system and connective tissue with MCC	1,971	1.5
862	Postoperative and post-traumatic infections with MCC	1,953	1.5
291	Heart failure and shock with MCC	1,860	1.4
166	Other respiratory system OR procedures with MCC	1,810	1.4
178	Respiratory infections & inflammations with CC	1,797	1.4
682	Renal failure with MCC	1,783	1.4
314	Other circulatory system diagnosis with MCC	1,748	1.3
919	Complications of treatment with MCC	1,747	1.3
	Top 20 MS–LTC–DRGs	72,739	55.3
	Total	131,446	100.0

Note: MS–LTC–DRG (Medicare severity long-term care diagnosis related group), LTCH (long-term care hospital), CC (complication or comorbidity), MCC (major complication or comorbidity). MS–LTC–DRGs are the case-mix system for these facilities. Columns may not sum due to rounding.

Source: MedPAC analysis of MedPAR data from CMS.

That similar patients are treated in different settings raises questions about parity across providers. The Commission has long held that payment for the same set of services should be the same regardless of where the services are provided. If LTCH patients can be (and are) appropriately treated in other facilities, then Medicare's payments should be neutral with respect to setting. The Commission is planning additional research on this issue, especially as better data become available to compare types of patients, quality of care, and outcomes—in addition to payments and costs—across acute and post-acute care settings to determine whether payments in each setting are sufficient.

Some LTCHs—both freestanding and those located within acute care hospitals—may function as de facto units of acute care hospitals. Research by the Commission and others has found that patients who use LTCHs have shorter acute care hospital lengths of stay than similar patients who do not use these facilities, suggesting that LTCHs substitute for at least part of the acute hospital stay (Medicare Payment Advisory Commission 2004, RTI International 2007).[7] The Commission has long been concerned about the nature of the services furnished by LTCHs and the possibility that acute care hospitals discharging patients to LTCHs may be unbundling services paid for under the acute care hospital PPS. To the extent that this practice occurs, Medicare pays twice for the same service—once to the acute care hospital and once to the LTCH. Further, early discharges from the acute care hospital may distort the acute inpatient PPS relative weights by reducing the costs of caring for certain types of cases in acute care hospitals that routinely discharge to LTCHs. To the extent that such distortion occurs, even after recalibration, acute care hospital payments may be too low for some patients in areas without LTCHs.

To discourage the inappropriate shifting of patients between acute care hospitals and nearby LTCHs, CMS established a policy—the so-called 25 percent rule—in fiscal year 2005.[8] The 25 percent rule uses payment adjustments to limit the percentage of Medicare patients who are admitted from an HWH's or satellite's host hospital and paid for at full LTCH payment rates.[9] Until criteria are developed defining the level of care and types of cases that are appropriate for LTCHs, the 25 percent rule may be a useful, if blunt, tool. But it is a flawed one. Under the 25 percent rule, an LTCH's decision to admit a patient may be based not only on the patient's clinical condition but also on how close the facility is to exceeding its threshold. In addition, as the Commission has previously noted, setting thresholds for only certain types of LTCHs is inequitable, especially given that the distinction between HWHs or satellites and freestanding LTCHs may not be meaningful.[10] Some HWHs admit patients from a wide network of referring acute care hospitals, while some freestanding LTCHs admit patients primarily from just one acute care hospital. Further, some LTCHs may appropriately admit patients from only a small number of acute care hospitals because they are located in areas with a dominant acute care hospital, such as a trauma or transplant center. As discussed in the text box (pp. 238–239), the Commission has favored using criteria to define the type of patient who is appropriate for admission to an LTCH but who also may be treated in other settings—such as a step-down unit of an acute care hospital, a specialized skilled nursing facility (SNF), or a specialized inpatient rehabilitation facility (IRF)—and to help ensure that beneficiaries receive appropriate, high-quality care in the least costly setting consistent with their clinical conditions.

Beginning in July 2007, CMS extended the 25 percent rule to apply to all LTCHs, thus limiting the percentage of patients who could be admitted to an LTCH from any one referring acute care hospital during a cost-reporting period without being subject to a payment adjustment. However, the Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA) and later amendments prevented the Secretary from phasing in application of the 25 percent rule to freestanding LTCHs (see text box on recent legislation affecting LTCHs, pp. 244–245).

Are Medicare payments adequate in 2011?

To address whether payments for the current year (2011) are adequate to cover the costs providers incur and how much providers' costs should change in the coming year (2012), we examine several indicators of payment adequacy. Specifically, we assess beneficiaries' access to care by examining the capacity and supply of LTCH providers and changes over time in the volume of services furnished, quality of care, providers' access to capital, and the relationship between Medicare payments and providers' costs.

Beneficiaries' access to care: Increase in capacity indicates favorable access

We have no direct measures of beneficiaries' access to LTCH services. Instead, we consider the capacity and supply of LTCH providers and changes over time in the volume of services they furnish.

Capacity and supply of providers: Number of LTCHs rose in 2009

As described in the text box (pp. 244–245) on recent legislation affecting LTCHs, the MMSEA and amendments imposed a limited moratorium on new LTCHs and new beds in existing LTCHs beginning July 2007 until December 28, 2012. We examined Medicare cost report data to assess the number of LTCHs and found that, in spite of the moratorium, the number of LTCHs filing Medicare cost reports increased 6.6 percent between 2008 and 2009, the largest growth seen since the period between 2004 and 2005 (Table 10-2, p. 240). New LTCHs were able to enter the Medicare program because they met specific exceptions to the moratorium. Most of these LTCHs had begun their qualifying period demonstrating an average Medicare length of stay greater than 25 days before December 30, 2007; had binding written agreements with unrelated parties for the construction, renovation, lease, or demolition of an LTCH, with at least 10 percent of the estimated cost of the project already expended by or before December 29, 2007; or had obtained a state certificate of need on or before December 29, 2007. A majority of the new LTCHs filing cost reports were for-profit facilities, and almost all of them were freestanding facilities. Preliminary analysis of Medicare's Provider of Service (POS) data indicates that far fewer LTCHs opened in 2010.

Medicare's POS file indicates that the number of Medicare-certified LTCHs in 2009 was about 6 percent higher than the number filing cost reports for that year. The two data sources differ for a number of reasons. Some Medicare-certified LTCHs may not yet have filed a cost report for 2009 when we undertook our analysis. In addition, LTCHs with very low Medicare patient volume may be exempt

Ensuring that appropriate patients are treated in long-term care hospitals

Previous research by the Commission found that the types of patients long-term care hospitals (LTCHs) treat are often cared for in alternative settings, such as acute care hospitals and skilled nursing facilities (SNFs) (Medicare Payment Advisory Commission 2004). The Commission found that Medicare pays more for patients using LTCHs than for similar patients using other settings; however, the payment differences narrowed considerably if LTCH care was targeted to the most severely ill patients. The Commission has therefore argued that, while LTCHs appear to have value for very sick patients, they are too expensive to be used for patients who could be treated in less intensive settings. As a result, in 2004, the Commission made the following recommendation:

The Congress and the Secretary should define long-term care hospitals by facility and patient criteria that ensure that patients admitted to these facilities are medically complex and have a good chance of improvement.

- **Facility-level criteria should characterize this level of care by features such as staffing, patient evaluation and review processes, and mix of patients.**
- **Patient-level criteria should identify specific clinical characteristics and treatment modalities.**

Facility-level criteria could include requirements such as a patient evaluation and review process, a patient assessment tool, and the availability of physicians. Patient-level criteria should identify specific clinical characteristics and treatments that are indicative of a need for intensive services.

In a comment letter to CMS on its rate year 2009 proposed rule on the LTCH prospective payment system, the Commission noted that, because the types of cases treated by LTCHs are also treated in other settings, CMS should seek to define the level of care appropriately furnished in LTCHs as well as in step-down units of many acute care hospitals and some specialized SNFs and inpatient rehabilitation facilities (Medicare Payment Advisory Commission 2008b).[11] The distinction is important because Medicare's goal is to ensure that beneficiaries receive appropriate, high-quality care in the least costly setting consistent with their clinical conditions. Further, the Commission has long held that payment for the same set of services should be the same regardless of where the services are provided (Medicare Payment Advisory Commission 2009).

(continued next page)

from filing cost reports. In both cases, the LTCHs would not be included in the cost report data we analyzed but would be present in the POS data. At the same time, POS data may overstate the total number of LTCHs because facilities that close may not be immediately removed from the file. The cost report data, therefore, provide a more conservative estimate of capacity and supply. It should be noted that the rate of increase in the number of facilities between 2008 and 2009 was almost the same in both data sources. Commission analysis revealed inaccuracies in ownership status in the POS data, so we opted to rely on cost report data to determine the distribution of facilities across the ownership and location categories shown in Table 10-2 (p. 240).

LTCHs are not distributed evenly across the nation (Figure 10-1, p. 241). Some areas have many LTCHs; others have none. The absence of LTCHs in many areas of the country suggests that medically complex patients can be treated appropriately in other settings, making it difficult to assess the need for LTCH care and therefore the adequacy of supply.

Many LTCHs that have entered the Medicare program since implementation of the LTCH PPS have located in markets where LTCHs already existed instead of in new markets with few or no LTCHs; this pattern continued in 2009.[12] The pattern is somewhat counterintuitive, because these facilities are supposed to be serving unusually sick patients, and one would expect such patients to be relatively rare. The clustering of LTCHs in certain markets raises questions about the role these facilities play in the continuum of care. An oversupply of LTCH beds

Ensuring that appropriate patients are treated in long-term care hospitals (cont.)

The Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA) changed the definition of LTCHs to include some of the facility criteria recommended by the Commission in 2004. In addition to meeting the conditions of participation applicable to acute care hospitals, LTCHs are now required to:

- Have a patient review process that screens patients both before admission and regularly throughout their stay to ensure appropriateness of admission and continued stay, although the law does not specify the patient criteria to be used to determine appropriateness;
- Have active physician involvement with patients during their treatment, with physician on-site availability on a daily basis to review patient progress and consulting physicians on call and capable of being at the patient's side within a period of time determined by the Secretary; and
- Have interdisciplinary treatment teams of health care professionals, including physicians, to prepare and carry out individualized treatment plans for each patient.

As this report went to press, the Secretary was drafting proposed regulations on the conditions of participation required for LTCHs, based on the facility criteria outlined in the MMSEA. More stringent conditions of participation will help ensure that LTCH providers are capable of furnishing appropriate care to these very sick patients. But patient criteria will also be crucial in determining whether LTCH care—or other medically complex care—is appropriate for individual beneficiaries. Beneficiaries who can be appropriately treated in lower acuity settings should not be admitted to LTCHs, because the cost of care in LTCHs is so high.

To develop useful patient criteria, CMS needs more data to compare types of patients, payments and costs, quality of care, and outcomes across facilities that furnish medically complex care and other post-acute care. Such data will provide the information needed to determine whether care is appropriate and of high quality and whether payments are sufficient. CMS's post-acute care payment reform demonstration—which tested the use of a single assessment tool in multiple post-acute care settings, including LTCHs—and the upcoming implementation of LTCH quality measures should begin to provide the data CMS needs. Ongoing CMS research on differences in LTCHs' and acute care hospitals' clinical composition, payments and costs, and outcomes will further enhance understanding in this area. ■

in a market may result in admissions to LTCHs of less complex cases that could be appropriately treated in other, less costly, settings.

Volume of services: Use of LTCHs by fee-for-service beneficiaries suggests access has been maintained

Beneficiaries' use of services suggests that access has not been a problem. Controlling for the number of fee-for-service beneficiaries, we found that the number of LTCH cases rose 0.9 percent between 2008 and 2009, suggesting that access to care was maintained during this period (Table 10-3, p. 242). A precise assessment of volume changes, however, is difficult because, as mentioned above, it is not clear that all patients treated in LTCHs require that level of care. Further, there is little evidence that patient outcomes in LTCHs are superior to those achieved in other settings. In the absence of such evidence, the Commission has argued that LTCH care is too expensive to be used for patients who can be treated appropriately in less intensive settings.

Compared with all Medicare beneficiaries, beneficiaries admitted to LTCHs are disproportionately under age 65, over age 85, disabled, and diagnosed with end-stage renal disease (Table 10-4, p. 243). They are also more likely to be African American. The higher rate of LTCH use by African American beneficiaries may be due to a greater incidence of critical illness in this population (Mayr et al. 2010). At the same time, African American beneficiaries may be more likely to opt for LTCH care given that they are less likely to choose withdrawal from mechanical ventilation in the ICU and to have do-not-resuscitate

TABLE 10–2

The number of LTCHs increased in 2009 despite the moratorium

								Average annual change		
Type of LTCH	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2003–2005**	**2005–2008**	**2008-2009**
All	277	315	366	372	382	379	404	14.9%	1.2%	6.6%
Urban	265	300	343	348	356	350	383	13.8	0.7	9.4
Rural	12	15	23	24	24	23	21	38.4	0.0	–8.7
Freestanding	186	201	227	230	232	233	248	10.5	0.9	6.4
Hospital within hospital	91	114	139	142	150	146	156	23.6	1.7	6.8
Nonprofit	60	70	83	82	81	80	78	17.6	–1.2	–2.5
For profit	200	227	262	269	280	281	308	14.5	2.4	9.6
Government	17	18	21	21	21	18	18	11.1	–5.0	0.0
Total certified beds	21,024	22,325	25,731	25,653	26,085	26,326	27,332	10.6	0.8	3.8

Note: LTCH (long-term care hospital). Numbers may not sum to total due to missing data.

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

orders (Borum et al. 2000, Diringer et al. 2001). The concentration of LTCHs in urban areas also may be a contributing factor (Kahn et al. 2010). Further, as noted, a disproportionate number of Medicare beneficiaries who use LTCHs are under age 65, a subgroup that is more likely to be African American.

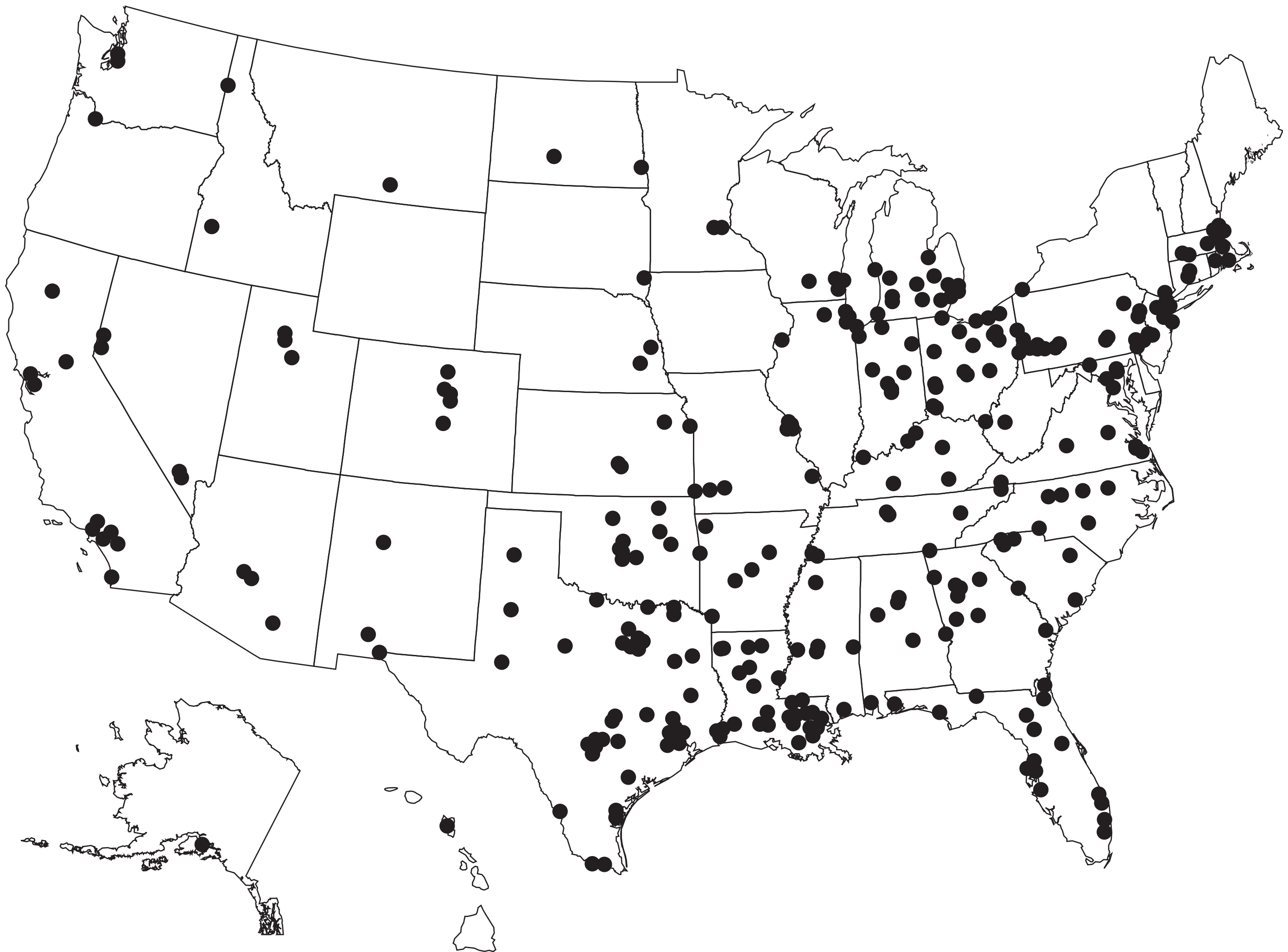
Among the beneficiaries admitted to LTCHs in 2009, 40 percent were dually eligible for Medicaid at some point during the year. Some of these patients may have become dually eligible over the course of a long spell of illness including an LTCH stay. We found that LTCH users who were dually eligible were more likely than nonduals to be admitted for infections such as septicemia, skin ulcers, and osteomyelitis. In part because mortality rates for these DRGs are lower, dual eligibles were less likely than nonduals to die during their LTCH stay (11.6 percent vs. 14.9 percent). Dual eligibles also were less likely to be SSOs (28.7 percent vs. 32.7 percent). In addition, we found that dual eligibles were more likely than non-dual eligibles to be admitted to for-profit LTCHs (84.2 percent vs. 79.4 percent). Among beneficiaries discharged alive, those who were dually eligible were more likely than nonduals to be transferred to SNFs (40 percent vs. 33 percent).

Quality of care: Meaningful measures not currently available while gross indicators show stability

Unlike most other health care facilities, LTCHs do not submit quality data to CMS. As we discussed in the Commission's March 2010 report, adopting existing acute care hospital quality indicators would not be appropriate or reliable for LTCHs, and LTCH-specific quality measures need to be developed (Medicare Payment Advisory Commission 2010). Until such measures are available, the Commission instead uses unadjusted aggregate trends in rates of in-facility mortality, mortality within 30 days of discharge, and readmissions from LTCHs to acute care hospitals. (We focus on examining trends, rather than levels, because levels can include planned readmissions as well as unplanned incidents and can be skewed by coding practices.) We consider these indicators for the top 20 LTCH diagnoses in 2009 (Table 10-1, p. 236). For most of these diagnoses, we found stable or declining rates of readmission, death in the LTCH, and death within 30 days of discharge. The highest rates of in-LTCH death in 2009 (28 percent) occurred in patients with primary respiratory system diagnoses with ventilator support (MS–LTC–DRGs 208 and 207). An additional 43 percent of patients with these diagnoses died within 30 days of discharge from the LTCH. These death rates speak to the

FIGURE 10–1

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



Note: Each dot represents the location of a long-term care hospital.

Source: MedPAC analysis of 2009 Provider of Service file and cost report data from CMS.

frailty of many LTCH patients and the complexity of their conditions.

The Commission has long been concerned about the lack of reliable quality measures for LTCHs and has urged CMS to collect the data necessary to compare quality and outcomes in LTCHs and across the post-acute care spectrum. The Patient Protection and Affordable Care Act of 2010 (PPACA) calls on CMS to design and implement a pay-for-reporting program for LTCHs by 2014. In October 2010, the Commission convened a panel to provide input into developing quality measures for the program. CMS's post-acute care demonstration may provide additional information on the use of patient assessment instruments in LTCHs as well as on costs and outcomes across post-acute care providers. A report to the Congress is planned for June 2011.

The Commission pointed out previously that providers may need a critical mass of medically complex patients to maintain treatment expertise and achieve a high quality of care (Medicare Payment Advisory Commission 2008a, Medicare Payment Advisory Commission 2008c, Medicare Payment Advisory Commission 2010). Research has shown that higher patient volume is associated with better outcomes for certain procedures, such as surgery for

TABLE 10–3

Medicare LTCH spending per FFS beneficiary continues to rise

	2003	2004	2005	2006	2007	2008	2009	Average annual change 2003–2005	2005–2008	2008–2009
Cases	110,396	121,955	134,003	130,164	129,202	130,869	131,446	10.2%	–0.8%	0.4%
Cases per 10,000 FFS beneficiaries	30.8	33.4	36.4	36.0	36.3	37.0	37.4	8.8	0.6	0.9
Spending (in billions)	$2.7	$3.7	$4.5	$4.5	$4.5	$4.6	$4.9	29.1	0.8	6.4
Spending per FFS beneficiary	$75.2	$101.3	$122.2	$124.3	$126.5	$130.4	$139.3	27.5	2.2	6.8
Payment per case	$24,758	$30,059	$33,658	$34,859	$34,769	$35,200	$37,465	16.6	1.5	6.4
Length of stay (in days)	28.8	28.5	28.2	27.9	26.9	26.7	26.4	–1.0	–1.8	–1.1

Note: LTCH (long-term care hospital), FFS (fee-for-service).

Source: MedPAC analysis of MedPAR data from CMS.

cancers of the pancreas and esophagus (Birkmeyer et al. 2002, Institute of Medicine 2000). Studies have also found a positive relationship between volume and outcomes for patients admitted to ICUs in acute care hospitals, notably those receiving mechanical ventilation (Durairaj et al. 2005, Kahn et al. 2006, Kahn et al. 2009). More research is needed to evaluate outcomes across different types of LTCHs. If LTCHs with higher patient volume can demonstrate better outcomes, it may be appropriate to view LTCHs (and other providers of medically complex care) as regional referral centers, serving wider catchment areas. The development of facility and patient criteria, which the Commission has long advocated, would be an important step in implementing this type of care model. Such criteria would describe the appropriate patient for this level of care—whether furnished in an LTCH, acute care hospital, specialized SNF, or IRF—and outline the staff credentials and service capabilities needed to furnish this level of care.

Providers' access to capital: Generally improved

Access to capital allows LTCHs to maintain and modernize their facilities. If LTCHs were unable to access capital, it might in part reflect problems with the adequacy of Medicare payments, since Medicare accounts for about half of LTCH total revenues.[13] However, at the present time, the availability of capital says more about regulations and legislation governing LTCHs than it does about current reimbursement rates. The moratorium on new beds and facilities imposed by the MMSEA and subsequent amendments reduces opportunities in the near future for expansion and need for capital, although the three largest LTCH chains continued with construction of new LTCHs that were already in the pipeline and thus exempt from the moratorium when it was imposed. In addition, these chains, which together own slightly more than half of all LTCHs, continued in 2010 to acquire other LTCHs as well as other post-acute care providers. As reported on 10-K forms filed with the Securities and Exchange Commission, all three chains have access to credit that they have tapped to finance these acquisitions. Smaller LTCH chains and nonchain LTCHs likely do not enjoy the same access to capital.

LTCH companies are increasingly diversified, vertically as well as horizontally, which may improve their ability to control costs and better position them for payment policy changes. For example, Kindred Healthcare has been actively pursuing a "cluster market" strategy, whereby the company owns SNFs and home health agencies, in addition to LTCHs, within a single market in order to

position itself as an integrated provider of post-acute care. Nevertheless, given the uncertainty surrounding payment policy for post-acute care services, the company reportedly is proceeding with caution (Kamp 2010).

Policymakers' increased scrutiny of Medicare spending on LTCH care and of the quality provided in these settings has heightened anxieties about the industry. Compared with last year, stock prices for publicly traded Select Medical Corp. (which owns 111 LTCHs) and RehabCare Group (which owns 30 LTCHs) are down substantially. Although Kindred Healthcare, the second largest LTCH chain, has seen its stock price rise recently following strong third-quarter results, some analysts consider the LTCH industry to be one of the riskiest of the health care provider settings.[14]

Medicare payments and providers' costs

In the first three years of the LTCH PPS, Medicare spending for LTCH services grew rapidly, climbing an average of 29 percent per year (Table 10-3). Subsequent changes in payment policies and growth in the number of beneficiaries enrolling in Medicare Advantage plans slowed spending growth between 2005 and 2008 to less than 1 percent per year. Between 2008 and 2009, however, spending jumped more than 6 percent. CMS estimates that total Medicare spending for LTCH services will be $5.2 billion in 2011 and will reach $6.3 billion by 2015 (Bean 2010).

In the first years of the PPS, LTCHs appeared to be responsive to changes in payment, adjusting their costs per case when payments per case changed. Payment per case increased rapidly after the PPS was implemented, climbing an average 16.6 percent per year between 2003 and 2005. Cost per case also increased rapidly during this period, albeit at a somewhat slower pace (Figure 10-2, p. 246). Between 2005 and 2008, however, growth in cost per case outpaced that for payments, as regulatory changes to Medicare's payment policies for LTCHs slowed growth in payment per case to an average of 1.5 percent per year. After the Congress delayed implementation of some of CMS's recent regulations of payment policies, payments per case climbed 6.4 percent between 2008 and 2009. Cost per case, however, rose less than 2 percent.

Another factor that has influenced payment growth under the PPS is growth in the reported patient case-mix index, which measures the expected costliness of a facility's patients (Centers for Medicare & Medicaid Services 2006, Centers for Medicare & Medicaid Services 2007, Centers for Medicare & Medicaid Services 2008, Centers for Medicare & Medicaid Services 2009, Centers for Medicare & Medicaid Services 2010). Although some part of the increase in LTCHs' case-mix index is due to growth in the intensity and complexity of patients admitted to LTCHs, experience suggests that the introduction of new case-mix classification systems and subsequent refinements to those systems usually lead to more complete documentation and coding of the diagnoses, procedures, services, comorbidities, and complications that are associated with payment (Centers for Medicare & Medicaid Services 2009, Medicare Payment Advisory Commission 2009, RAND Corporation 1990). A new case-mix classification system (such as the long-term care diagnosis related groups (LTC–DRGs) introduced with the PPS in 2003) or refinements to a system (such as the MS–LTC–DRGs implemented in October 2007) can thus raise the average case-mix index even though patients are no more resource intensive than

TABLE 10–4

Characteristics of Medicare beneficiaries using LTCHs, 2009

Characteristic	Percent of: LTCH users	Percent of: All beneficiaries
Sex		
Female	52%	55%
Male	48	45
Race		
White, non-Hispanic	74	83
African American, non-Hispanic	19	10
Hispanic	3	3
Other	4	4
Age (in years)		
<65	23	17
65–74	30	44
75–84	30	27
85+	17	12
Eligibility status		
Aged	77	83
Disabled	22	17
ESRD only	1	0.5

Note: LTCH (long-term care hospital), ESRD (end-stage renal disease). Columns may not sum due to rounding.

Source: MedPAC analysis of MedPAR and administrative data from CMS.

Provisions of recent legislation for long-term care hospitals

The Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA) included several provisions related to long-term care hospitals (LTCHs), including a moratorium on new LTCHs, changes to the 25 percent rule, and changes to the short-stay outlier policy. Subsequent amendments in the American Recovery and Reinvestment Act of 2009 (ARRA) and the Patient Protection and Affordable Care Act of 2010 (PPACA) revised some of the MMSEA's provisions and added new ones.

Moratorium on new LTCHs

The MMSEA as amended by ARRA and PPACA imposes a moratorium on new facilities and new beds in existing facilities until December 29, 2012. Exceptions to the moratorium are allowed 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 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) existing LTCHs that are located in a state with only one other LTCH and that seek to increase beds after the closure or decrease in the number of beds of the state's other LTCH.

The 25 percent rule

The MMSEA as amended by ARRA and PPACA rolls back the phased-in implementation of the 25 percent rule for hospitals within hospitals (HWHs) and satellites, limiting the proportion of Medicare patients who can be admitted from an HWH's or a satellite's host hospital during a cost-reporting period to not more than 50 percent and holding it at this level until October 1, 2012 (July 1, 2012 for satellites). (The applicable threshold for HWHs and satellites in rural and urban areas with a single or dominant acute care hospital is 75 percent.)[15] In addition, the Secretary is prohibited from applying the 25 percent rule to freestanding LTCHs before cost-reporting periods beginning on July 1, 2012.

(continued next page)

they were previously. Such classification system changes can therefore lead to unwarranted increases in payments to providers. CMS estimated that the case-mix increase attributable to documentation and coding improvements was 1.3 percent between 2007 and 2008 and 2.5 percent between 2008 and 2009. (Centers for Medicare & Medicaid Services 2009, Centers for Medicare & Medicaid Services 2010).[16]

After the LTCH PPS was implemented in 2003, margins rose rapidly for all LTCH provider types, climbing between 2002 and 2005 from –0.1 percent to 11.9 percent (Table 10-5, p. 247). At that point, margins began to fall, as growth in payments per case leveled off. However, in 2009, LTCH margins began to increase again, reaching 5.7 percent.

Financial performance in 2009 varied across LTCHs. The aggregate Medicare margin for for-profit LTCHs (which account for 83 percent of all Medicare discharges from LTCHs) was 7.3 percent, compared with –0.2 percent for nonprofit facilities (which account for 16 percent of all Medicare LTCH discharges). Rural LTCHs' aggregate margin was –3.7 percent, compared with 6.0 percent for their urban counterparts. Rural providers account for about 4 percent of all LTCH discharges. They tend to be smaller than urban LTCHs, caring for a smaller volume of patients on average, which may result in poorer economies of scale.

We looked closely at the characteristics of established LTCHs with the highest and lowest margins.[17] A quarter of all LTCHs had margins in excess of 15.7 percent, while another quarter had margins below –3.9 percent. High-

Provisions of recent legislation for long-term care hospitals (cont.)

Short-stay outliers

The MMSEA as amended by ARRA and PPACA prohibits the Secretary from further reducing payments for LTCH cases with the shortest lengths of stay (so-called "very short-stay outliers") until December 29, 2012.

Budget neutrality

When the LTCH prospective payment system (PPS) was implemented in fiscal year 2003, CMS set payments at a level calculated to be equal to the estimated aggregate payments that would have been made if the LTCH PPS had not been implemented. This budget-neutrality adjustment was required by statute. CMS cautioned, however, that when data were available on actual payments made in the first year of the PPS, an additional adjustment to the LTCH PPS rates might be necessary so that the effect of any significant differences between actual payments and estimated payments for the first year of the PPS would not be perpetuated for future years, and the agency provided for the possibility of this adjustment by July 1, 2008 (Centers for Medicare & Medicaid Services 2008). The MMSEA as amended by ARRA and PPACA prohibits the Secretary from applying any budget-neutrality adjustment until December 29, 2012.

CMS report to the Congress on LTCH facility and patient criteria

The MMSEA requires the Secretary to conduct a study on the use of LTCH facility and patient criteria to determine medical necessity and appropriateness of admission to and continued stay at LTCHs, considering both the Secretary's ongoing work on the subject and Commission recommendations (Medicare Payment Advisory Commission 2004). The report was due to the Congress in July 2009. As this report goes to press, CMS's report is still pending.

Pay for reporting

PPACA requires CMS to implement a pay-for-reporting program for LTCHs by 2014. The program should require LTCHs to report a specified list of quality measures—to be determined by CMS—each year in order to receive a full update to Medicare payment rates in the ensuing year.

Reductions in payment

PPACA specifies that any annual update to the LTCH standard rate shall be reduced by a quarter of a percentage point in 2010 and by half of a percentage point in 2011. For rate years 2012 through 2019, any update shall be reduced by the specified productivity adjustment. ■

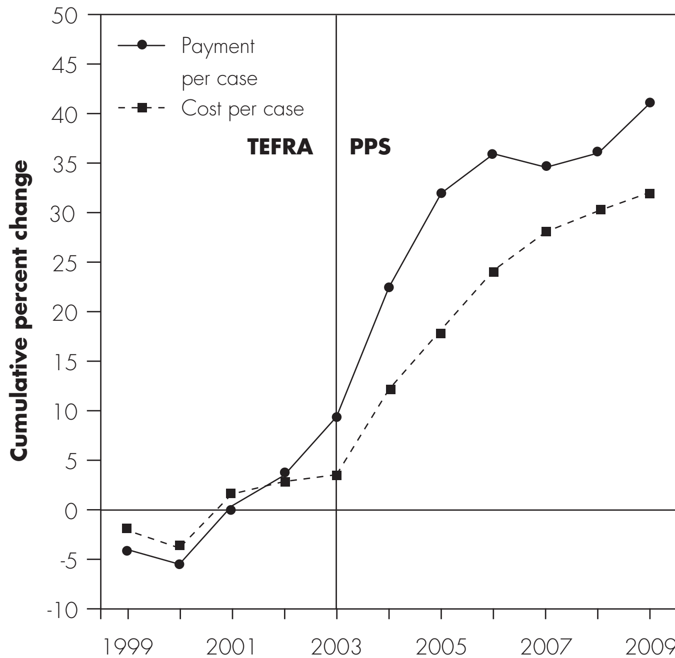
margin LTCHs were much more likely to be for profit than were their low-margin counterparts (Table 10-6, p. 247). As with SNFs and home health agencies, lower unit costs—rather than higher payments—were the primary driver of differences in financial performance between LTCHs with the lowest and highest Medicare margins (those in the bottom and top 25th percentiles of Medicare margins). Low-margin LTCHs had standardized costs per discharge that were almost 50 percent higher than high-margin LTCHs ($37,647 vs. $26,122). The average Medicare length of stay was one day longer in low-margin than in high-margin facilities.

High-cost outlier payments per discharge for low-margin LTCHs were more than double those of high-margin LTCHs ($3,887 vs. $1,455). At the same time, SSOs made up a larger share of low-margin LTCHs' cases (35 percent vs. 27 percent). Low-margin LTCHs thus cared for disproportionate shares of patients who were both high-cost outliers and patients who had shorter stays. Both types of patients can have a negative effect on LTCHs' margins. LTCHs lose money on high-cost outlier cases since, by definition, they generate costs that exceed payments.[18] Payments for SSOs can not be more than 100 percent of the costs of the case.

Low-margin LTCHs served fewer patients overall (an average of 410 in 2009 compared with 533 for high-margin LTCHs). Poorer economies of scale may therefore have affected low-margin LTCHs' costs. We observed the same correlation in rural facilities, as described above. This finding suggests that a critical mass of patients might be needed not only to maintain expertise and achieve a high quality of care, as discussed above, but also to

FIGURE 10–2

LTCHs' per case payment rose more quickly than costs in 2009



Note: LTCH (long-term care hospital), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system). Percent changes are calculated based on consistent two-year cohorts of LTCHs.

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

achieve economies of scale. If so, then the proliferation of LTCHs in some markets might be cause for concern. The referral center model of care for medically complex patients described above may be able to provide more value for the Medicare program by demonstrating better outcomes with greater efficiency. However, if analyses of quality data show that small LTCHs can provide comparable outcomes, policymakers may want to consider whether a low-volume payment adjustment is warranted.

To estimate 2011 payments and costs with 2009 data, the Commission considered policy changes effective in 2010 and 2011. Those that affect our estimate of the 2011 Medicare margin include:

- a market basket increase of 2.5 percent for 2010, offset by an adjustment of 0.5 percent for past coding improvements and, as required by PPACA, a 0.25 percentage point reduction, for a net update of 1.74 percent;
- a 0.25 percentage point increase, as required by PPACA, for the first six months of fiscal year 2010 (i.e., for discharges occurring on or after October 1, 2009, and before April 1, 2010), which increases payments for discharges occurring during the period;
- a market basket increase of 2.5 percent for 2011, offset by an adjustment of 2.5 percent for past coding improvements and, as required by PPACA, a 0.50 percentage point reduction, for a net update of –0.49 percent;
- adjustments to outlier payments in 2010 and 2011, which increase payments; and
- changes to the wage index in 2010, which decrease payments.

We estimate that LTCHs' aggregate Medicare margin will be 4.8 percent in 2011.

How should Medicare payments change in 2012?

The Secretary has the discretion to update payments for LTCHs; there is no congressionally mandated update. In anticipation of the expiration of temporary legislative relief from some of CMS's payment regulations, LTCHs should continue to constrain their cost growth. We expect growth in costs to continue at the current pace—roughly similar to the latest forecast of the market basket for 2012 of 2.3 percent—as long as Medicare continues to put fiscal pressure on LTCHs.

Update recommendation

On the basis of our review of payment adequacy for LTCHs, the Commission recommends that the Secretary eliminate the update to the LTCH payment rates.

RECOMMENDATION 10

The Secretary should eliminate the update to the payment rate for long-term care hospitals for rate year 2012.

RATIONALE 10

In sum, the supply of facilities and beds increased in 2009, and the number of cases per fee-for-service beneficiary was stable, suggesting that access to care has been maintained. The limited quality trends we measure appear stable. LTCHs appear to have access to the capital they

TABLE 10–5

The aggregate average LTCH Medicare margin rose in 2009

Type of LTCH	Share of discharges	2002	2003	2004	2005	2006	2007	2008	2009
All	100%	–0.1%	5.2%	9.0%	11.9%	9.7%	4.8%	3.5%	5.7%
Urban	96	–0.1	5.2	9.2	11.9	9.9	5.0	3.8	6.0
Rural	4	–0.5	4.5	2.6	10.1	4.9	–0.7	–2.8	–3.7
Freestanding	70	0.1	5.6	8.4	11.3	9.3	4.3	3.1	4.9
Hospital within hospital	30	–0.5	4.2	10.6	13.1	10.8	5.8	4.4	7.6
Nonprofit	16	0.1	1.9	6.9	9.0	6.6	1.3	–2.4	–0.2
For profit	83	–0.1	6.3	10.0	13.1	10.9	5.9	5.1	7.3
Government*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: LTCH (long-term care hospital), N/A (not available). Columns may not sum to 100 percent due to rounding or missing data.
*Margins for government-owned providers are not shown. They operate in a different context from other providers, so their margins are not necessarily comparable.

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

need, although the moratorium on LTCH growth should now begin to limit opportunities for expansion. Margins for 2009 were positive, and we expect they will remain so. These trends suggest that LTCHs are able to operate within current payment rates. We will closely monitor our payment update indicators and will be able to reassess our recommendation for the LTCH payment update in the next fiscal year.

IMPLICATIONS 10

Spending

- Because CMS typically uses the market basket as a starting point for establishing updates to LTCH payments, this recommendation decreases federal program spending by between $50 million and $250 million in one year and by less than $1 billion over five years.

Beneficiary and provider

- This recommendation is not expected to affect Medicare beneficiaries' access to care or providers' ability to furnish care.

Developing quality measures for LTCHs

Unlike most other health care facilities (such as hospitals, nursing homes, and home health agencies), LTCHs do not submit data to CMS about the quality of the care they furnish. The Commission has long been concerned

TABLE 10–6

LTCHs in the top quartile of Medicare margins in 2009 had much lower costs

Characteristics	High-margin LTCHs	Low-margin LTCHs
Mean total discharges (all payers)	533	410
Medicare patient share	66%	64%
Average length of stay (in days)	26	27
Mean per discharge:		
Standardized costs	$26,123	$37,647
Medicare payment	$38,635	$37,094
High-cost outlier payments	$1,455	$3,887
Share of:		
Cases that are SSOs	27%	35%
Medicare cases from primary-referring ACH	39	38
LTCHs that are for profit	92	70

Note: LTCH (long-term care hospital), SSO (short-stay outlier), ACH (acute care hospital). Includes only established LTCHs—those that filed valid cost reports in both 2008 and 2009. Top margin quartile LTCHs were in the top 25 percent of the distribution of Medicare margins. Bottom margin quartile LTCHs were in the bottom 25 percent of the distribution of Medicare margins. Standardized costs have been adjusted for differences in case mix and area wages. SSO-adjusted case-mix indexes have been adjusted for differences in SSOs across facilities. Average primary-referring ACH referral share indicates the mean share of patients referred to LTCHs in the quartile from the ACH that refers the most patients to the LTCH.

Source: MedPAC analysis of LTCH cost reports and MedPAR data from CMS.

about the lack of reliable quality measures for LTCHs and has urged CMS to collect the data necessary to compare quality and outcomes in LTCHs and across the post-acute care spectrum.

To remedy this problem, the Congress mandated in PPACA that CMS implement a pay-for-reporting program for LTCHs by 2014. Such a policy has been in place for short-term acute care hospitals since 2003. Under Medicare's Hospital Inpatient Quality Reporting Program, CMS requires hospitals to report a specified list of quality measures each year in order to receive a full update to Medicare payment rates in the ensuing year. This program creates incentives for providers not only to report the quality of their care but also to take steps to improve it and raise their quality scores. CMS makes some of the quality data available to consumers on Medicare's Hospital Compare website. More than 95 percent of short-term hospitals opt to participate in the program. For fiscal year 2011, CMS requires 46 measures that cut across some of the most common diagnoses for Medicare inpatient care, such as heart failure, pneumonia, and heart attacks. (Some of the measures are calculated by CMS using Medicare claims data, while others are affirmatively reported to CMS through the abstraction of data from a medical record that pertains to each of the quality measures.) Because many of the measures used in short-term hospitals do not apply to LTCH patients, CMS needs to identify a separate set of quality measures for use in LTCHs.

In developing quality measures for LTCHs, CMS should be mindful of the measures that are already being used in other post-acute settings and should strive, when feasible and appropriate, to replicate those measures in the LTCH quality measurement set. Results from CMS's post-acute care demonstration, which tested the use of a uniform assessment tool in different post-acute settings, should provide much needed information about the extent to which consistent quality and outcome measures can be used in different settings. Ultimately, policymakers must be able to compare quality of care and patient outcomes across the post-acute care spectrum to measure the value Medicare gets from the money it spends and to help ensure that beneficiaries receive appropriate, high-quality care in the least costly setting consistent with their clinical conditions.

The Commission considers a pay-for-reporting program to be a first step toward pay for performance. As soon as possible, the Congress should change the incentives of the LTCH payment system by basing a portion of provider payment on performance on quality and outcomes measures. Linking a portion of payment to performance will create stronger incentives for LTCH providers to improve care delivery.

Panel on quality measures for LTCHs

In October 2010, the Commission convened a panel to provide insight into the development of LTCH quality measures. Panel participants included clinicians, LTCH administrators and medical directors, experts in quality measurement development, and researchers with knowledge of best practices in caring for post-ICU patients in LTCHs and other settings. Panelists unanimously agreed that quality measures were needed in the LTCH setting.

Participants suggested that Medicare begin with a starter set of 10 to 12 measures based on the measures that most LTCHs already use for internal quality monitoring. Panelists discussed several possible outcome, patient safety, and process measures that would be appropriate for use—including unplanned readmissions, incidence of infections and pressure ulcers, falls with injury, and staffing ratios—but cautioned that careful attention must be paid to avoid creating incentives for providers to engage in patient selection. A challenge in adapting these measures to a nationally consistent set of measures is that many LTCH providers define the specifications for these measures—such as definitions of numerators, denominators, and patient inclusion and exclusion criteria—differently. Measure specifications need to be standardized before the measures can be used to compare quality across facilities and over time.

Outcome measures

Panelists discussed several possible outcome measures but cautioned that careful attention must be paid to avoid creating incentives for providers to cherry-pick. Measurements need to be thoughtfully defined and inclusion and exclusion criteria thoroughly described. Panelists agreed that many LTCHs have at least some leeway in patient selection (some LTCHs have a great deal of leeway), but this flexibility differs substantially across market areas.

Unplanned readmission to acute care hospital Panelists agreed that planned readmissions to the acute care hospital are common for LTCH patients, but the rate of unplanned readmissions is an important indicator of quality. Panelists discussed the merits of a measure that takes into account the timing of a readmission. For example, a readmission to

the acute care hospital shortly after admission to the LTCH may indicate that the patient was discharged too soon, whereas a readmission after several weeks in the LTCH may indicate a problem with quality of care. Panelists noted that differences in facility characteristics that may have little to do with quality of care can affect the rate of unplanned readmission. For example, some LTCHs have ICUs; these facilities may be much less likely than other LTCHs to readmit patients to the acute care hospital. LTCHs located within acute care hospitals may also have different readmission patterns compared with their freestanding counterparts. Participants cautioned against creating adverse incentives that would discourage LTCHs from appropriately readmitting patients. In addition, panelists noted that use of this measure might affect decisions about which patients to admit to the LTCH.

Ventilator weaning Panelists agreed that weaning from the ventilator is a goal for ventilator-dependent patients, who make up about 12 percent of LTCH patients on average. However, panelists voiced concern about how the measure would be defined. There is no widely accepted measure of weaning success; studies of weaning from ventilator dependency define "successful" weaning differently, ranging from 3 days to being ventilator-free at discharge. In addition, panelists reported that there are differences across facilities in the types of patients who are considered appropriate candidates for weaning. Thus, the measure might be vulnerable to gaming. Finally, panelists agreed that the ability to wean successfully (however it is defined) differs widely across patients, so adequate risk adjustment is required to avoid creating incentives for facilities to avoid certain types of patients. There was general consensus that a first step in moving toward an outcome measure for ventilator weaning might be use of a structural measure such as whether the facility had a protocol in place to guide ventilator weaning. Panelists also supported the idea of using a process measure such as time to first spontaneous breathing trial.

Functional improvement Panelists agreed that the goal for some LTCH patients is to improve functional status. Functional status can be measured with a patient assessment tool. Here, too, panelists cautioned that care needs to be taken to clearly identify the types of cases to be included in the denominator; otherwise, the measure might be vulnerable to gaming. Including all of an LTCH's patients in the denominator, however, might create incentives for providers to avoid certain types of patients, since not all LTCH patients are likely candidates for functional improvement.

Mortality rate With adequate risk adjustment, in-facility mortality and mortality within 30 days of discharge could also be used as gross measures of LTCH quality. Some studies of LTCH outcomes also have examined one-year survival rates.

Patient safety measures

Panelists were asked what patient safety issues are prevalent within the LTCH environment and which safety measures CMS could feasibly track. The results of the panel discussion are summarized in Table 10-7 (p. 250).

Health-care-associated infections Panelists unanimously agreed that infections—including central-line infections, ventilator-associated pneumonia, and urinary tract infections—were a primary concern. LTCH patients are very susceptible to infection due to the presence of diabetes, advanced age, exposure to broad spectrum antibiotics that can result in antibiotic resistance, indwelling catheters and feeding tubes, and ventilation by tracheostomy (Scheinhorn et al. 2007).

Decubitus ulcers Several panelists also noted that LTCH patients, because of the nature of their illness and the overall level of debility, are at very high risk for pressure ulcers. Use of this measure would require a "present on admission" indicator to avoid disincentives to admit patients with pressure ulcers.

Falls causing injury Panelists were careful to point out that, in a rehabilitative environment, controlled falls during therapy are to be expected. However, falls causing injury are an indication of poor quality of care.

Polypharmacy Polypharmacy—the use of multiple medications by a patient—was identified as a significant problem for many LTCH patients, affecting both patient safety and quality of life and the effectiveness of care. Panelists reported that many patients are admitted to LTCHs on many duplicative and even contraindicated prescription drugs. While multiple medications often are required to treat complex medical conditions, the use of multiple medications can increase patients' risk of adverse drug reactions—as well as falls, delirium, cognitive decline, and depression—and can delay recovery by extending the period of immobility. Panelists agreed that LTCHs must critically evaluate patients' medications on admission to the facility to ensure optimal drug therapy. A measure of the number of medications patients are prescribed was suggested in order to measure outliers.[19] Panelists also suggested using a separate

TABLE 10–7

Prevalent patient safety issues in LTCHs and potential measures

Patient safety issue	Potential measures
Infections	
Central-line infections	Central-line infections per 1,000 patient days
Ventilator-associated pneumonia	Ventilator-associated pneumonia per 1,000 patient days
Urinary tract infections (UTIs)	UTIs per 1,000 patient days
Pressure ulcers	Pressure ulcers per 1,000 patient days
Falls with injury	Falls with injury per 1,000 patient days
Polypharmacy	Average number of medications per patient (to identify outliers) Medication evaluation Contraindicated medication use Medication errors per 1,000 patient days Adverse medication reactions per 1,000 patient days Delirium rate
Facility clinical staffing	Staffing measures (e.g., RNs per patient day, RTs per patient day, annual turnover rate of direct care staff, physician staffing 24/7)
Use of electronic health records (EHRs)	Presence of EHR in facility; meaningful use of EHR in patient care workflows

Note: LTCH (long-term care hospital), RN (registered nurse), RT (respiratory therapist).

Source: MedPAC panel on LTCH quality measures, October 2010.

measure to evaluate the occurrence of adverse reactions to medications and contraindicated medications (e.g., Beer's criteria).

Facility clinical staffing and use of electronic health records Panelists agreed that ensuring patient safety necessitated a higher level of staffing than in other long-term care settings as well as a higher level of expertise among staff. Low staff turnover was also considered to be optimal. Participants stressed that the ratio of registered nurses to patients was more important than the ratio of all staff (or even all nurses) to patients. The ratio of respiratory therapists to patients was also thought to be important.

Panelists also discussed the importance of having a physician in the LTCH at all times. Panelists overwhelmingly agreed that physician presence in the LTCH was vital to preventing readmissions to the acute care hospital and to ensuring an overall high quality of care. Participants noted that smaller LTCHs, lacking economies of scale, might have more difficulty paying for physician coverage on a 24-hour basis.

Panelists also suggested that the adoption and use of electronic health records (EHRs) may help improve the quality of care delivered to patients and increase the efficiency of care delivery. Participants discussed using two EHR measures: structural (is an EHR in place) and process (is the EHR integrated into the facility's workflow—i.e., is it being meaningfully used).[20]

Process measures affecting quality of life

In addition to quality-of-care measures, the panel discussed the importance of measuring quality of life for patients. Such measures might ensure that facilities engage patients and their families in advanced-care planning and end-of-life discussions. Panelists mentioned the need for patient activities. Panelists also discussed depression in LTCH patients and its effect on quality of life. While all agreed that proper assessment and treatment were essential, some participants pointed out the difficulty in

Building on long-term care hospitals' existing internal quality measures

Panelists agreed that many, if not most, long-term care hospitals (LTCHs) already collect information internally to measure quality and that a reasonable short-term step could be to build on these internal efforts to develop a small but consistent set of measures that could be used for all LTCHs. Some LTCHs go beyond internal quality measurement to report quality measures to central bodies, such as professional associations and corporate offices. Typical measures currently being collected include:

- use of restraints (physical and chemical)
- pain management (patient reported)
- line-related bloodstream infections
- hospital-acquired pressure wounds
- falls and falls with injury
- ventilator weaning rate
- mortality rate
- ventilator-associated pneumonia rate
- discharge to acute care hospital (readmission)
- discharge to community
- discharge to skilled nursing facility
- length of stay
- urinary tract infection rate in patients with catheters
- deep vein thrombosis rate ■

diagnosing depression in critically ill patients and noted that, given the length of time needed for antidepressant medication to work, it would be difficult for LTCHs to measure the effectiveness of treatment.

Finally, panelists discussed the importance of pain management to quality of life but expressed concern about how Medicare might measure it. Some participants also pointed out that there can be a trade-off between management of pain and management of side effects. Some pain might be unavoidable in order to reduce the side effects of medications.

Risk adjustment

Perhaps surprisingly, the panel's consensus was that there is minimal need for risk adjustment for some of the suggested LTCH quality measures, particularly for outcome measures with very low incidence. They suggested that the growing use of the "present on admission" indicator will obviate the need for risk adjustment for measures of health-care-associated conditions, such as central-line infections and severe decubitus ulcers. However, for metrics that depend on patient characteristics, such as ventilator weaning and mortality rates, adequate risk adjustment is needed so as not to create incentives for providers to avoid certain types of patients.

Data collection for quality measurement

The potential burden on providers and CMS in collecting, reporting, and analyzing data needed for quality measurement is an issue about which the Commission has expressed concerns for a number of years (Medicare Payment Advisory Commission 2005). To minimize the burden of collection and analysis, when possible, quality measures should be based on data that are already collected (see text box). The need to collect additional information should be balanced against the information's value to the provider, to patients, and to the Medicare program. In the short term, adding new information to claims and other administrative data may be burdensome, but in the longer run this approach will be easier than other methods, such as manually extracting data from medical records. As providers become accustomed to collecting and reporting information to CMS, and CMS establishes a system for receiving and analyzing the data, the data burden should lessen and the reliability of the data should improve.

The LTCH panel noted that it would be most feasible to include in the LTCH "starter set" those measures that can be calculated from administrative data that Medicare already receives, such as LTCH claims and the Medicare Provider and Analysis Review file data. An expanded set of measures could be introduced when CMS implements the Continuity Assessment Record and Evaluation (CARE) tool that will be designed to measure the health and functional status of Medicare patients across post-acute care settings. The panelists thought new LTCH quality measures should be developed and implemented in conjunction with the CARE tool rather than be based on an interim assessment tool or medical record abstraction (the most resource intensive of all data collection methods). ■

Endnotes

1 The Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA) also requires LTCHs to have: a patient review process that screens patients to ensure appropriateness of admission and continued stay, active physician involvement with patients during their treatment with physician on-site availability on a daily basis, and interdisciplinary treatment teams of health care professionals. However, CMS has not yet issued regulations conforming to the law.

2 More information on the prospective payment system for LTCHs is available at: http://medpac.gov/documents/MedPAC_Payment_Basics_10_LTCH.pdf.

3 The amount Medicare pays to LTCHs for an SSO case is the lowest of: 100 percent of the cost of the case, 120 percent of the MS–LTC–DRG specific per diem amount multiplied by the patient's length of stay, the full MS–LTC–DRG payment, or a blend of the acute care PPS amount for the DRG and 120 percent of the MS–LTC–DRG per diem payment amount. Effective July 2007, CMS implemented a different standard for the very shortest SSO cases, which would have further reduced payments for these cases. The MMSEA, as amended by the American Recovery and Reinvestment Act of 2009 and the Patient Protection and Affordable Care Act of 2010, prohibits the Secretary from applying the very SSO standard until December 29, 2012. SSO cases that are very costly may qualify for high-cost outlier payments. About 32 percent of all LTCH discharges are SSOs, but this share varies across types of cases.

4 SSOs are identified as those patients with a length of stay less than or equal to five-sixths of the geometric mean length of stay for the patient's MS–LTC–DRG. A geometric mean statistic is useful for analyzing data that are skewed.

5 Kahn and colleagues found that the share of Medicare critical acute care hospitalizations ending in transfer to skilled nursing facilities (SNFs) and inpatient rehabilitation facilities (IRFs) also has increased, while the percentage of critical acute care hospitalizations ending in discharge to the home has decreased. Among critical acute care patients receiving intensive ventilator support, discharges to SNFs and IRFs have remained relatively constant, while discharges to LTCHs have increased (Kahn et al. 2010).

6 In the Commission's analysis, episodes did not include the costs of readmission to the acute care hospital. That could have resulted in an understatement of the average costs of patients who did not use LTCHs, because these patients were more likely than LTCH users to be readmitted to the hospital. However, we compared LTCH users and nonusers without readmissions and found similar results: LTCH users without readmissions cost Medicare more for the total episode than patients without readmissions who used alternative settings. Among patients most likely to use LTCHs, we found a positive but statistically insignificant difference in total episode spending between LTCH users and nonusers without readmissions.

7 About 80 percent of Medicare LTCH patients are admitted from an acute care hospital. The remaining 20 percent do not have a preceding acute care hospital stay.

8 CMS implemented the 25 percent rule to discourage acute care hospitals from unbundling services covered under the inpatient PPS and to discourage inappropriate payments under the LTCH PPS (Centers for Medicare & Medicaid Services 2004).

9 HWHs and satellites are paid LTCH PPS rates for patients admitted from the host acute care hospital until the percentage of discharges from the host hospital exceeds the threshold for that year. After the threshold is reached, the LTCH is paid the lesser of the LTCH PPS rate or an amount equivalent to the acute care hospital PPS rate for patients discharged from the host acute care hospital. Patients from the host hospital who are outliers under the acute hospital PPS before their discharge to the HWH or satellite do not count toward the threshold and continue to be paid at the LTCH PPS rate even if the threshold has been reached.

10 This inequity is exacerbated by CMS's interpretation of Section 114 of the MMSEA, under which different thresholds are applied to HWHs and satellite LTCHs depending on how long they have been operating.

11 The hospital industry generally uses the term "step-down unit" to describe an acute care hospital unit for patients who need more monitoring than is typically provided in a medical or surgical unit but who do not require the intensity of care provided in an ICU.

12 New LTCHs often are located in states without certificate-of-need programs.

13 The Medicare revenue share varies across different types of LTCHs. For-profit LTCHs had an aggregate Medicare share of 60 percent in 2009 compared with 36 percent in not for profits. The share of revenues from Medicare also differs across geographic regions, ranging from a high of 69 percent in the west–south–central region (Arkansas, Louisiana, Oklahoma, and Texas) to a low of 28 percent in the mid-Atlantic region (New Jersey, New York, and Pennsylvania).

14 As this report went to press, Kindred Healthcare announced plans to acquire RehabCare Group for $900 million in cash and stock. The combined company will be one of the largest post-acute care companies in the U.S., with 118 LTCHs and 226 nursing and rehabilitation facilities.

15 The law treats "grandfathered" facilities (those that were operating as of September 30, 1999) differently depending on whether the facility is a satellite or an HWH. Grandfathered satellites continued to operate under the 75 percent threshold established for rate year 2008, transitioning to a 50 percent threshold in 2009 and a 25 percent threshold in 2010. By comparison, grandfathered HWHs have no threshold applied under the law.

16 CMS reduced the update to the LTCH base payment rate in fiscal years 2010 and 2011 to offset, in part, payment increases due to documentation and coding improvements between 2007 and 2009.

17 Many new LTCHs operate at a loss for a period of time after opening. For this analysis of high- and low-margin LTCHs, we examined only LTCHs that submitted valid cost reports in both 2008 and 2009.

18 LTCHs are paid outlier payments for patients who are extraordinarily costly. High-cost outlier cases are identified by comparing their costs with a threshold that is the MS–LTC–DRG payment for the case plus a fixed loss amount (in 2011 the fixed loss amount is $18,785). Medicare pays 80 percent of the LTCH's costs above the threshold.

19 Panelists noted that some patients, particularly post-transplant patients and patients in renal failure, require multiple medications to appropriately treat their conditions.

20 ARRA provided payment incentives to encourage short-term acute care hospitals to adopt EHR technology. Hospitals that meet specified criteria indicating the meaningful use of EHR technology will receive payments beginning in fiscal year (FY) 2011 and continuing each year until FY 2017. The Commission estimates that the average smaller short-term acute care hospital (with fewer than 400 beds) will receive payments of about $1.6 million in FY 2011 if meaningful use criteria are met. LTCHs are not eligible for these payments.

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