SECTION 3D

Long-term care hospital services

RECOMMENDATION

The Secretary should eliminate the update to payment rates for long-term care hospital services for rate year 2008.

COMMISSIONER VOTES: YES 13 • NO 1 • NOT VOTING 0 • ABSENT 3

SECTION 3D

Long-term care hospital services

Section summary

In this section, we present information on providers of long-term care hospital (LTCH) services. LTCHs provide care to patients with clinically complex problems, such as multiple acute or chronic conditions, who need hospital-level care for relatively extended periods. Medicare is the predominant payer for LTCH services and accounts for more than 70 percent of LTCH discharges. Spending for LTCHs was $4.5 billion in 2005, a 22 percent increase over 2004.

Supply of facilities—The total number of LTCHs increased 10 percent between 2004 and 2005, the same annual rate of increase as between 2001 and 2004. The number of LTCH hospitals within hospitals (HWHs) was still growing rapidly in 2005: They increased at almost double the rate of freestanding facilities from 2004 to 2005 (over 12 percent vs. about 6 percent). However, CMS data for 2006 indicate that the growth rate for LTCHs has slowed relative to previous years.

Volume of services and beneficiaries' access to care—Under the prospective payment system (PPS), the number of LTCH cases grew at

In this section

the same rate as the number of LTCHs. Medicare spending grew even faster due to increases in payments from higher reported case mix. The number of cases increased 10 percent annually from 2003 to 2005 and Medicare spending grew at almost triple that pace—about 29 percent annually—during the same period. Although we have no direct indicators of beneficiaries' access to LTCHs, continued rapid growth in the volume of services suggests continued access to LTCH care for Medicare beneficiaries. In addition, the number of unique beneficiaries using LTCHs increased about 10 percent annually under the PPS, which suggests increased access to care.

Quality—The evidence on quality is mixed. On the positive side, risk-adjusted rates of death in the LTCH, death within 30 days of discharge, and 1 of 4 patient safety indicators showed improvement between 2004 and 2005. On the negative side, more patients were readmitted to acute care hospitals in 2005 than in 2004 and patients experienced more decubitus ulcers, infections, and pulmonary embolisms or deep vein thromboses. These negative quality indicators are worrisome. We want to see quality improve in all sectors, but especially when the number of patients treated in those facilities is increasing rapidly.

Access to capital—Rapid expansion of both for-profit and nonprofit LTCHs demonstrates good access to capital for this sector. Private equity firms invested more than $3 billion in the LTCH industry from 2004 to 2006.

Payments and costs—The Medicare margin for 2005 was almost 12 percent. CMS has made a number of policy changes that reduce payments for LTCHs. These payment policy changes include a zero update for 2007, recalibrating relative weights in 2006 and 2007 to reduce payments, and a new way of reimbursing LTCHs for patients with a shorter than normal stay that lowered payments. The margin is estimated to be between 0.1 percent and 1.9 percent in 2007. This range is based on different hypotheses about HWHs' behavior in response to the 25 percent rule (this rule provides less payment for certain patients these facilities admit from their host hospitals).

If HWHs do not change their behavior, the Medicare margin is estimated to be 0.1 percent. If they change behavior to avoid payment reductions, the margin is estimated to be 1.9 percent. There are a number of ways HWHs can change behavior to minimize the effect of the rule—for example, admitting more patients who were high-cost outliers in the acute care hospital (who are not subject to the rule), recruiting more patients from hospitals other than their host hospitals, and organizing as freestanding LTCHs.

The Commission is concerned about growth in LTCHs, especially because new LTCHs often locate in market areas where others already exist rather than in areas with none. LTCHs have shown themselves to be very responsive to changes in payments and should be able to accommodate cost changes in 2008. These findings, as well as the other factors the Commission considers—which are almost all positive—lead us to propose that the Secretary should eliminate the update to payment rates for LTCH services for 2008. We recommend to the Secretary rather than to the Congress because the Secretary has the authority to update payment rates for LTCHs. In recommending a zero update we believe it is important for the Secretary, in conjunction with industry representatives, to establish patient and facility criteria to better define these facilities and the patients appropriate for them. ■

Recommendation 3D

The Secretary should eliminate the update to payment rates for long-term care hospital services for rate year 2008.

COMMISSIONER VOTES:
YES 13 • NO 1 • NOT VOTING 0 • ABSENT 3

What is long-term care hospital care and where is it provided?

Patients with clinically complex problems, such as multiple acute or chronic conditions, may need hospital-level care for relatively extended periods. Some are treated in long-term care hospitals (LTCHs). To qualify as a LTCH for Medicare payment, a facility must meet Medicare's conditions of participation for acute care hospitals and have an average length of stay greater than 25 days for its Medicare patients. The hospital-level care and relatively long stay make these facilities expensive.

In 2005, 119,000 beneficiaries had about 134,000 admissions to LTCHs. Medicare spending for that care was $4.5 billion (Table 3D-1). CMS estimates that Medicare spending for LTCHs will be $5.3 billion in 2007 and will reach more than $6 billion in 2011 (CMS 2006b).

Since October 2002, Medicare has paid LTCHs prospective per discharge rates based primarily on the patient's diagnosis and the facility's wage index.[1] Before that, LTCHs were paid under the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) on the basis of their average costs per discharge, subject to an annually adjusted limit calculated for each facility.The prospective payment system (PPS) pays differently for patients who are high-cost outliers or have lengths of stay shorter than average. CMS changed the so-called short-stay outlier policy in 2006.[2] (This policy is discussed in detail in the text box on payment for short-stay outliers, p. 226.)

LTCHs specialize in providing care to patients with a wide variety of complex conditions, such as respiratory problems and skin ulcers. The top 15 diagnoses make up more than 60 percent of all discharges from these facilities in 2005 (Table 3D-2, p. 224). Six of the top 15 long-term care diagnosis related groups (LTC–DRGs) are respiratory conditions. LTCH cases are widely dispersed; only one case-mix group has more than 5 percent of cases in 2005.

LTCHs are not distributed evenly in the nation, as shown in the map in Figure 3D-1 (p. 225). These facilities are clustered in certain states—for example, Louisiana, Massachusetts, Michigan, Ohio, and Texas. LTCHs that entered the Medicare program starting in October 2003 frequently have located in markets where LTCHs already existed instead of opening in new markets. This is somewhat surprising because these facilities are supposed to be serving unusually sick patients and one would expect these patients to be rare. The clustering of LTCHs and the location of new facilities thus raises questions about the role these facilities play.

LTCHs can be either freestanding facilities or located within hospitals, in which case they are called hospitals within hospitals (HWHs). CMS has established several policies directed at ensuring that HWHs and satellite facilities operate independently from their host hospitals. One policy requires that a HWH or satellite facility be independent and not subject to influence by the host hospital or related organization. A second policy called the 25 percent rule pays less for certain patients a HWH admits from its host hospital (the text box on the 25 percent rule, p. 234, describes this policy). CMS describes several purposes for the policy. One purpose is to protect calculation of the inpatient PPS relative weights from distortions that may result from transfers of acute hospital

TABLE 3D–1 **Long-term care hospitals' volume and spending increased rapidly under PPS**

	TEFRA			PPS			Average annual change
	2001	2002	Change 2001–2002	2003	2004	2005	2003–2005
Number of cases	85,229	98,896	16.0%	110,396	121,955	134,003	10.2%
Medicare spending (in billions)	$1.9	$2.2	15.8	$2.7	$3.7	$4.5	29.1
Payment per case	$22,009	$22,486	2.2	$24,758	$30,059	$33,658	16.6
Length of stay (in days)	31.3	30.7	–1.9	28.8	28.5	28.2	–1.0

Note: PPS (prospective payment system), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982).

Source: MedPAC analysis of MedPAR data from CMS.

TABLE 3D–2

The top 15 LTC–DRGs made up more than 60 percent of cases in long-term care hospitals in 2005

LTC–DRG	Description	Discharges	Percentage
475	Respiratory system diagnosis with ventilator support	15,699	11.7%
271	Skin ulcers	6,470	4.8
87	Pulmonary edema and respiratory failure	5,900	4.4
79	Respiratory infections and inflammation	5,813	4.3
88	Chronic obstructive pulmonary disease	5,366	4.0
249	Aftercare, musculoskeletal system, and connective tissue	5,339	4.0
89	Simple pneumonia	5,206	3.9
12	Degenerative system disorders	5,138	3.8
466	Aftercare, without history of malignancy	4,976	3.7
462	Rehabilitation	4,832	3.6
416	Septicemia	4,678	3.5
127	Chronic heart failure	4,023	3.0
263	Skin graft and/or debridement for skin ulcer	3,946	2.9
316	Renal failure	2,558	1.9
430	Psychoses	2,398	1.8
	Top 15 LTC–DRGs	82,342	61.4
	Total	**134,003**	**100.0**

Note: LTC–DRG (long-term care diagnosis related group). LTC–DRGs are the case-mix system for these facilities.

Source: MedPAC analysis of MEDPAR data from CMS.

patients to HWHs. A second purpose is to ensure that HWHs do not function as virtual units of host hospitals by allowing an acute care hospital to benefit from both shorter patient stays and LTCH payments. Commissioners believe that facility and patient criteria for LTCHs would provide the best approach to ensuring that appropriate patients are treated in these facilities. While LTCHs seem to have value for very sick patients, they are too expensive to be used for patients who could be treated in less intensive settings.

MedPAC recommends facility- and patient-level criteria to better define long-term care hospitals

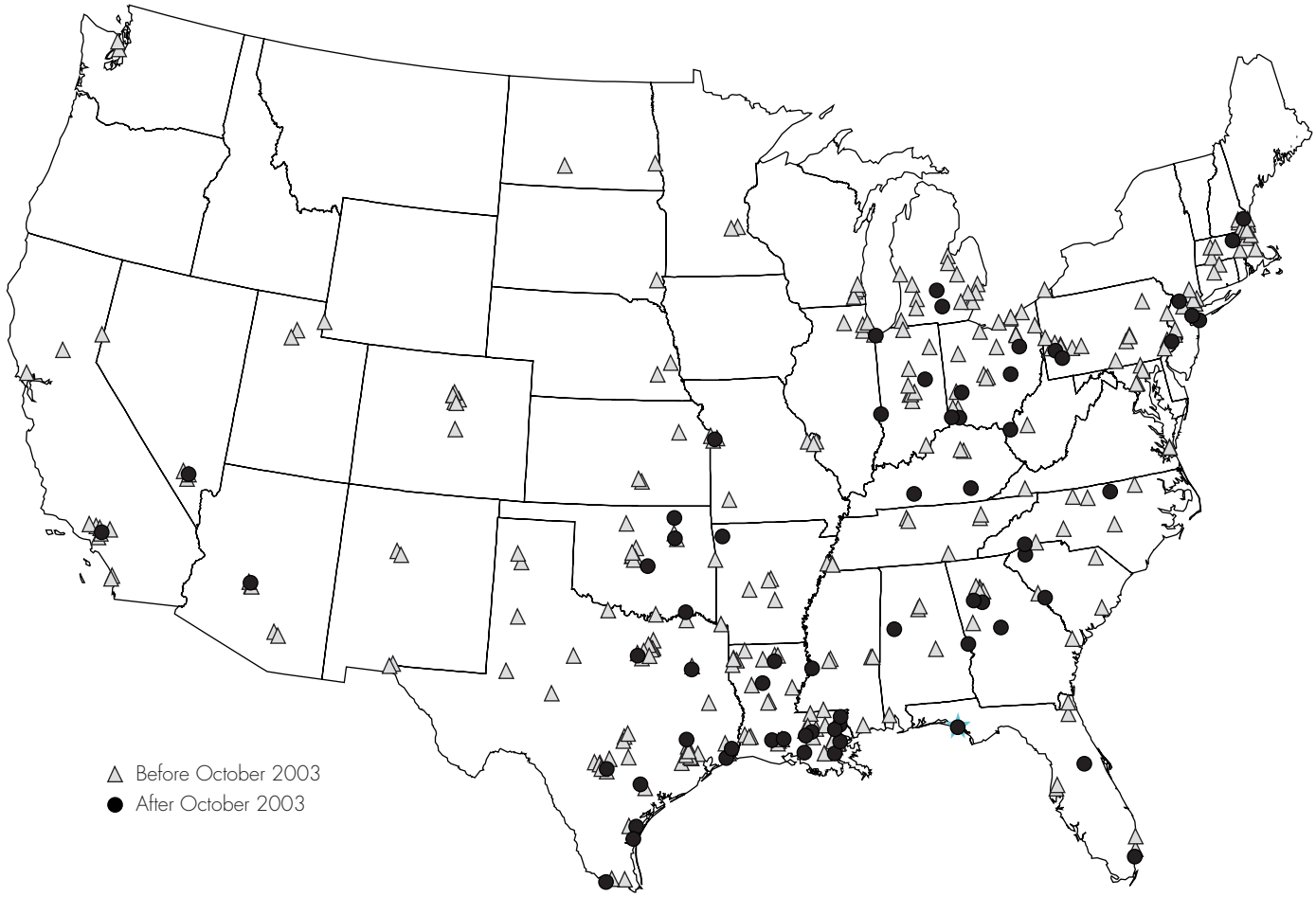
The Commission has called for criteria to differentiate LTCHs from other post-acute care settings. We believe facility and patient criteria are the best approach for targeting LTCH care to appropriate patients. Arbitrary rules may not achieve this end.

In response to the Commission's concerns about rapid growth in the number of LTCHs and questions about the role these facilities play, MedPAC conducted qualitative and quantitative research on these facilities (MedPAC 2004). Quantitatively we found that patients using LTCHs cost Medicare more than similar patients using alternative settings. The cost differences narrowed considerably if LTCH care was targeted to patients who were most likely to need this level of care. This study used data from before the PPS.

We also found that patients similar to those treated in LTCHs were most frequently treated in acute care hospitals or skilled nursing facilities (SNFs). A consequence of the growth of LTCHs may be that as LTCHs enter a market, other post-acute providers reduce their capacity to treat medically complex patients who generally are not profitable for them. In areas where LTCHs do not exist, alternative settings may be equipped and staffed to admit some patients with extensive medical needs because there is no other place for these patients to be treated. This is likely to be particularly the case

FIGURE 3D–1

New long-term care hospitals are often entering in areas with existing ones



Source: MedPAC analysis of Provider of Service file from CMS.

for SNFs, which have incentives in the payment system to avoid medically complex patients (see Chapter 3A). It is also credible to argue that LTCHs have located in some communities expressly because there are no other post-acute alternatives willing and able to treat medically complex patients.

We recommended defining LTCHs by facility and patient criteria to ensure patients admitted to these facilities are medically complex and have a good chance of improvement (MedPAC 2004). Patient-level criteria would identify specific clinical characteristics and treatments required by patients cared for in LTCHs. Facility-level criteria would delineate features of the care provided in LTCHs. We also recommended that quality improvement organizations (QIOs) review LTCH admissions for medical necessity and monitor whether facilities comply with the criteria. Results of a QIO medical record review, which found that 29 percent of 1,400 randomly selected LTCH Medicare admissions in 2004 did not need that level of care, underscore the value of implementing criteria for LTCHs. A more recent QIO study found that 5.9 percent of cases were not medically necessary (CMS 2006b).

Driven by MedPAC's recommendations, two industry associations have developed and proposed criteria for LTCHs. One set of criteria was designed to be used in screening patients to determine whether they are appropriate for admission to a LTCH (NALTH 2006). These criteria are clinical and have been validated by

Payments change for short-stay outliers in long-term care hospitals

A short-stay outlier (SSO) is a patient with a shorter-than-average length of stay. In the long-term care hospital (LTCH) payment system, lower payments are triggered for patients with a length of stay equal to or less than five-sixths of the geometric mean length of stay for the patient's long-term care diagnosis related group (LTC–DRG).[3] CMS's changes for SSOs will reduce Medicare payments to LTCHs by an estimated 3.7 percent.

Before July 2006, Medicare paid LTCHs the least of: 120 percent of the cost of the case, 120 percent of the LTC–DRG specific per diem amount multiplied by the patient's length of stay, or the full LTC–DRG payment. Beginning July 2006, CMS added another alternative for payment and changed an existing alternative to pay less for these cases. For an SSO patient, Medicare pays LTCHs the least of:

- 100 percent of the cost of the case,
- 120 percent of the LTC–DRG specific per diem amount multiplied by the patient's length of stay,
- the full LTC–DRG payment, or
- a blend of the inpatient prospective payment system amount for the DRG and 120 percent of the per diem payment amount.

For the new alternative, the blended payments, the LTCH per diem payment amount makes up more of the amount as the patient's length of stay comes closer to the geometric mean length of stay for the LTC–DRG. For example, if the geometric mean for LTC–DRG 14 is 25 days, payment for an SSO patient staying 20 days would be composed of a greater share of the LTCH payment than for a patient staying 16 days. Generally, for the same DRG, the LTCH payment is greater than the payment under the inpatient prospective payment system. ■

the QIO in Massachusetts (Masspro 2006). The second proposed set includes criteria such as required staffing levels, a high level of patients in specific LTC–DRGs, and an unspecified uniform screening tool to determine medical necessity for LTCH admission (Altman 2006).

CMS contracted with the Research Triangle Institute (RTI) to study the feasibility of implementing our recommendations on criteria for LTCHs. In a recently released study, RTI reports findings from its site visits and data analyses. RTI also recommends steps to better define LTCHs and their patients and to identify patients who are better suited to other settings (RTI 2006). RTI's recommendations are similar to MedPAC's recommendations (see text box on the RTI study, p. 228.)

As discussed previously, the Commission sees criteria as the best way to target LTCH care to patients who need it. Implementation of criteria is urgent. Other approaches that are administratively less complex but more arbitrary increase the risk for unintended consequences. The Commission urgently suggests that CMS implement our criteria as soon as possible.

Are Medicare payments adequate in 2007?

We examine the following factors in determining the adequacy of Medicare payments to LTCHs:

- supply of facilities
- volume of services and access to care
- quality
- access to capital
- payments and costs

Our indicators of adequacy are positive. LTCHs have entered the Medicare program at a rapid rate and publicly announced plans to open more LTCHs, suggesting that payment rates are attractive. The expanding supply of LTCHs has resulted in increases in the volume of discharges and in the number of beneficiaries using these facilities: We see even more rapid increases in Medicare spending. Although we have no direct evidence on

TABLE 3D–3

Most types of LTCHs are growing under PPS

Type of LTCH	TEFRA 2001	TEFRA 2002	PPS 2003	PPS 2004	PPS 2005	Average annual change 2001–2004	Change 2003–2004	Change 2004–2005
All	269	286	317	353	388	9.5%	11.4%	9.9%
Urban	249	266	291	322	355	8.9	10.7	10.2
Rural	20	20	26	31	33	15.7	19.2	6.5
Freestanding	133	132	137	140	149	1.7	2.2	6.4
Hospital within hospital	136	154	180	213	239	16.1	18.3	12.2
Nonprofit	82	85	100	117	129	12.6	17.0	10.3
For profit	152	168	187	207	230	10.8	10.7	11.1
Government	35	33	30	29	29	–6.1	–3.3	0.0

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

Source: MedPAC analysis of Provider of Service files from CMS.

beneficiaries' access to LTCH care, the increased use of this type of care suggests that beneficiaries do have access. The rapid increase in supply also suggests that LTCHs have access to capital. Aggregate Medicare margins for 2005 are almost 12 percent for all LTCHs. Because of changes in payment policies and increases in costs, the estimated margin for 2007 ranges from 0.1 percent to 1.9 percent.

Change in supply of facilities

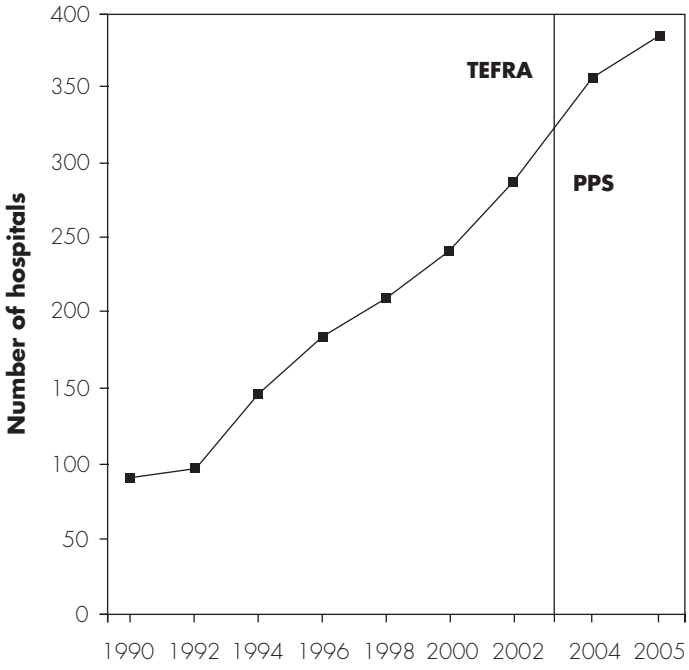
The number of LTCHs participating in the Medicare program has increased substantially. We examine growth of LTCHs over time, focusing on the changes before and after the PPS.

From 1990 to 2005, the number of LTCHs more than quadrupled from 90 to 388 (Figure 3D-2). The number of LTCHs continued to grow in 2005 at about the same pace as annual growth from 2001 to 2004, increasing another 9.9 percent from 2004 to 2005 (Table 3D-3). Thirty-six LTCHs entered the Medicare program between 2003 and 2004 and 35 entered between 2004 and 2005.

During the first three years of the PPS, HWHs have grown at the fastest pace of any group of hospitals—16.1 percent annually from 2001 to 2004, compared with an average of 1.7 percent for freestanding facilities (Table 3D-3). However, the mix has changed somewhat in the

FIGURE 3D–2

The number of long-term care hospitals continues rapid growth



Note: TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of Provider of Service file from CMS.

Research Triangle Institute major findings and recommendations

CMS contracted with the Research Triangle Institute (RTI) to assess the feasibility of adopting the Commission's recommendations to define long-term care hospitals (LTCHs) by facility and patient criteria. We saw criteria as the best way to ensure patients admitted to these facilities are medically complex and have a good chance of improvement. RTI's recommendations are much the same as ours (RTI 2006).

RTI's study has a number of major findings, many of which are similar to our findings from an earlier study (MedPAC 2004). RTI's study followed implementation of the LTCH prospective payment system (PPS) while our study used data from before implementation of the PPS. RTI found that:

- Living in a state where many LTCHs are available was the most important predictor of whether a beneficiary was admitted to an LTCH; having a severity level of 3 or 4 was the next most important factor predicting LTCH admission.
- LTCHs may be substituting for some of the later days of care typically provided in an acute hospital. RTI plans to investigate this issue further in the next phase of its research. Inpatient rehabilitation facilities appear to be substitutes for LTCHs, but skilled nursing facilities (SNFs) and home health care appear to be complements, which means SNF and home health care, when used, generally follow an LTCH stay.
- LTCHs appear to be costing Medicare more for most patients. Based on descriptive statistics, care in these facilities makes up 37 percent to 68 percent of the total episode payments (all Medicare spending for acute and post-acute care in a 180-day episode of care).

RTI's study examined important issues that MedPAC has not yet studied and found distortions in the LTCH PPS. The major findings for the study are:

- The base rate, which predates the most recent changes to the payment system, overpays LTCHs by almost 17 percent, based on 2004 cost reports.
- Among most common long-term care diagnosis related groups, average margins range from –0.1 percent to 27.7 percent; median margins range from 6.1 percent to 22.3 percent.
- Profitability is concentrated in the respiratory-related cases, including ventilator support, pulmonary edema, chronic obstructive pulmonary disease, and pneumonia.
- Bias in the relative weights causes systematic understatement of payments for cases using relatively more ancillary services and overpayment for cases using relatively fewer ancillary services.

last year. From 2004 to 2005, HWHs grew 12.2 percent after increasing 18.3 percent between 2003 and 2004. Freestanding LTCHs grew at 2.2 percent between 2003 and 2004 but increased 6.4 percent between 2004 and 2005.

Policymakers expected the 25 percent rule to slow down the entry of HWHs into the Medicare program. CMS finalized the rule in August 2004, and it has been phased in since 2005 (see text box on the 25 percent rule, p. 234). Although the rate of increase for HWHs slowed from 18.3 percent between 2003 and 2004 to 12.2 percent between 2004 and 2005, it remained extremely high in 2005. The impact of the 25 percent rule on the growth of facilities is unclear. For example, in 2006, the state of New Jersey approved 18 LTCHs to add to the 9 LTCHs that already exist but we cannot say with certainty that they will all be built (Washburn 2006). In addition, the pace of growth for freestanding LTCHs reportedly continues to increase (Irving Levin Associates 2006). However, CMS data for 2006 indicate that the growth rate for LTCHs has slowed relative to that in previous years.

Research Triangle Institute major findings and recommendations (continued)

The results of the study led RTI to recommend ways to better define LTCHs. Both MedPAC and RTI recommended that LTCHs:

- be restricted to admitting medically complex patients who have a good chance of improving;
- have staffing requirements to ensure appropriate staff are available for treating medically complex cases;
- have interdisciplinary teams, staff with expertise or specialized training, a higher level of nurse staffing, and one physician in charge of each case;
- have daily physician on-site review of each case; and
- continue to be required to have an average length of stay of greater than 25 days for Medicare patients.

We also recommended that quality improvement organizations (QIOs) review LTCH admissions for medical necessity and monitor whether facilities comply with the criteria. RTI recommends that CMS clarify QIO roles in overseeing the appropriateness of LTCH admissions.

One difference between MedPAC's and RTI's recommendations has to do with one of the ways we suggested medically complex patients should be defined. We suggested that LTCHs have a high percentage of patients (for example, 85 percent) who demonstrate a high level of severity. RTI's recommendation goes further and recommends that CMS develop a list of criteria to measure medical severity for hospital admissions and establish a technical advisory group to recommend a small set of criteria and recommend measurement levels. All these recommendations are similar to the Commission's recommendation for admission criteria that include patients' specific clinical characteristics and need for specific treatments; this recommendation encompasses our suggestion for a standard patient assessment instrument.

RTI's recommendations also include measures that would make the LTCHs more similar to acute care hospitals. For example, they recommend that CMS:

- allow LTCHs to open certified distinct-part units for psychiatric or rehabilitation patients and restrict them to one unit per type, and
- apply transfer rules to cases discharged from LTCHs to other post-acute care settings.

Finally, RTI recommends that CMS take administrative action to better identify hospitals within hospitals and satellites. ■

Change in volume of services and access to care

Under the PPS, the number of LTCH cases grew with the supply of facilities and Medicare spending grew even faster (Table 3D-1, p. 223). The number of cases increased 10.2 percent annually from 2003 to 2005 and Medicare spending grew at triple that pace—29.1 percent annually—during the same period. This faster increase in spending reflects a real increase in case mix, improvement in coding, and increases in payment rates such as market basket updates. Spending grew at the fastest pace from 2003 to 2004, at 37 percent. CMS estimates that Medicare spending for LTCHs will be $5.3 billion in 2007, a 17.8 percent increase over 2005 (CMS 2006b).

We have no direct indicators of beneficiaries' access, but assessment of access is difficult in any case because there are no criteria for LTCH patients and it is not clear whether the patients treated in LTCHs are appropriate for that level of care. Continued rapid growth in the volume of LTCH services and beneficiaries' use of them suggest access to LTCH care for Medicare beneficiaries has increased under the PPS. The number of beneficiaries using LTCHs has continued to increase since implementation of the PPS, at 10 percent annually. During the same period, the supply of LTCHs and the number of cases treated in LTCHs both increased 10 percent.

TABLE 3D–4 **LTCHs' readmissions are rising**

	2004	2005	Percentage change 2004–2005
Death in LTCH	12.8%	12.3%	–4%
Death within 30 days of LTCH discharge	22.8	22.6	–1
Readmission to acute care hospital	11.5	11.9	3

Note: LTCH (long-term care hospital). Rates for 2004 and 2005 are adjusted to reflect 2001 case mix.

Source: MedPAC analysis of MedPAR data from CMS.

Changes in quality of care

We use four types of measures of quality for LTCHs that can be calculated from routinely collected administrative data: death in the LTCH, death within 30 days of discharge from the LTCH, readmissions to acute care hospitals, and selected Agency for Healthcare Research and Quality (AHRQ) patient safety indicators (PSIs) that measure adverse events. We use the universe of LTCH patients, not a sample. The evidence based on these measures is mixed. On the positive side, risk-adjusted rates of death in the LTCH and within 30 days of discharge decreased between 2004 and 2005. On the negative side, risk-adjusted readmissions to acute care hospitals and three of four PSIs increased between 2004 and 2005. The other PSI improved. The negative quality indicators are worrisome. We want to see quality improve in all sectors, but especially when a rapidly increasing number of patients are treated in those facilities.

Death in the facility, death within 30 days of discharge, and readmission to the acute care hospital are generally used as gross indicators of quality. The risk-adjusted share of patients who died in the LTCH and who died within 30 days of discharge decreased between 2004 and 2005, by 4 percent and 1 percent, respectively (Table 3D-4). However, the share of LTCH patients readmitted to the acute care hospital increased 3 percent from 2004 to 2005. We focus on examining trends in these indicators, rather than levels, because levels can reflect both planned and unplanned incidents as well as coding practices.

Last year, we investigated whether the AHRQ PSIs developed for acute care hospitals might be useful to assess patient safety for LTCHs. AHRQ has 25 hospital-level PSIs to identify potentially preventable adverse events resulting from acute hospital care. We used LTCH claims for 2003, 2004, and 2005 to calculate these PSIs. Four of them had results that appeared to be appropriate based on the number of cases and face validity—decubitus ulcers, infection due to medical care, postoperative pulmonary embolism (PE) or deep vein thrombosis (DVT), and postoperative sepsis. Patients in LTCHs frequently have lengthy stays and may be more likely to develop decubitus ulcers than patients in some other settings. Six of the 10 most frequent LTCH diagnoses are respiratory related, so postoperative PE and DVT appear to be risks for these patients.

We used all LTCH claims to identify patients with the four PSIs. We excluded patients from the analysis who had any diagnosis before transfer to the LTCH that would trigger the PSIs. Therefore, changes in rates are not the result of LTCHs admitting more patients who had these conditions in the acute hospital. They are also risk adjusted so these indicators should not reflect a changing patient population over time. Changes in the PSI risk-adjusted rates per 1,000 LTCH patients are shown in Table 3D-5. These rates suggest that safety for LTCH patients under PPS payment has deteriorated. The rates for three of the four PSIs increased from 2004 to 2005 although the rate for one PSI, postoperative sepsis, declined. Nevertheless, we need to be cautious about interpreting the PSIs; they were not developed for LTCHs.

AHRQ is testing validity for selected PSIs in collaboration with volunteer acute care hospitals (AHRQ 2006). That test of PSIs should be completed in 2007 (Farquhar 2006).

Additional measures of quality for LTCHs are needed. The PSIs, available from routinely collected administrative data, can be calculated for overall safety in LTCHs. Because the incidence of these problems is low, they may not be suitable for measuring quality for individual hospitals. Additional measures of quality at the hospital-specific level, probably not available from administrative data, could come from the industry. One association and a large chain report independent efforts to develop quality indicators and are in the process of collecting data. If the data for these indicators were available, CMS might use them to monitor LTCH care. For example, both organizations plan to measure rates of weaning from ventilators, pneumonia contracted while on a ventilator, decubitus ulcers acquired in the LTCH, bloodstream infections, falls, and use of restraints. However, the specific measures for these indicators differ widely between the two organizations.

TABLE 3D–5

Three of four patient safety indicators for long-term care hospitals worsened from 2004 to 2005

Patient safety indicator	Risk-adjusted rates per 1,000 eligible discharges 2003	2004	2005	Percentage change 2004–2005	Observed adverse events 2005	Total number of patients 2005
Decubitus ulcer	228.6	148.3	152.2	2.6%	16,601	104,027
Infection due to medical care	19.4	27.9	31.6	13.3	3,835	117,765
Postoperative PE or DVT	53.5	54.3	55.9	2.9	872	15,526
Postoperative sepsis	125.3	164.0	160.6	–2.1	1,535	9,012

Note: PE (pulmonary embolism), DVT (deep vein thrombosis).

Source: MedPAC analysis of MedPAR data from CMS.

Long-term care hospitals' access to capital

Since the LTCH PPS was implemented, continued rapid expansion of for-profit and nonprofit LTCHs demonstrates good access to capital for this sector. For-profit LTCHs increased by 11.1 percent between 2004 and 2005; nonprofits increased 10.3 percent during the same period (Table 3D-3, p. 227).

More than 60 percent of LTCHs are for profits and more than 60 percent of those are owned by two chains: Kindred Healthcare and Select Medical. For-profit chains can access capital through the equity market as well as by borrowing. Private equity firms have invested in the LTCH industry. For example, Welsh, Carson, Anderson, and Stowe spent $2.3 billion in 2005 acquiring Select Medical and taking it private (Nathanson 2005). TA Associates, another private equity firm, purchased Triumph HealthCare, an owner of six LTCHs in 2004; in 2005, Triumph purchased a chain of 13 LTCHs, making it the third largest chain (TA Associates 2005, 2004). Private equity investment in the industry suggests that LTCHs have access to capital.

Payments and costs

To access the adequacy of Medicare payment, we examine payments and costs. We also calculate an aggregate Medicare margin for LTCHs.

Evidence from cost reports suggests that the growth in cost per case slowed in 2003, the first year of the PPS, by about 1 percent (Figure 3D-3, p. 232). This decrease may have occurred in response to providers' uncertainty about the effect of the new payment system. After the first year of the PPS, payments increased rapidly, by 6 percent in 2003, by 12.6 percent in 2004, and by 9.4 percent in 2005.

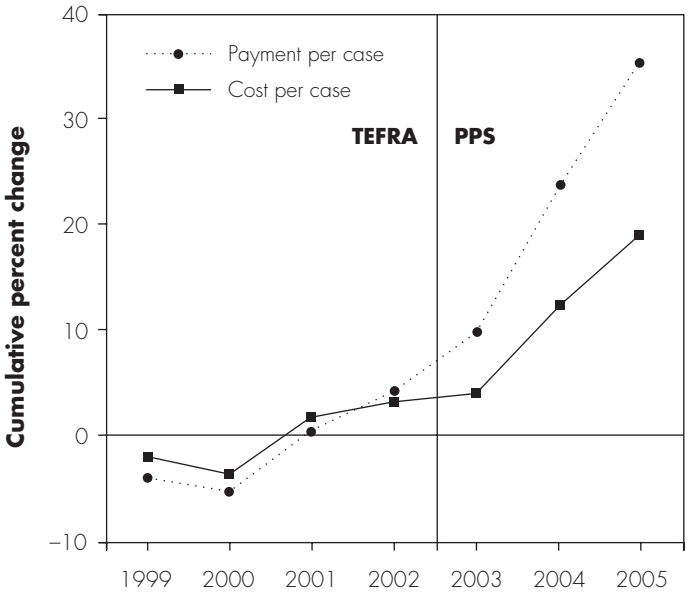
Costs per case in the second and third years of the PPS (2004 and 2005) appear to track closely with the increase in payments. Costs per case increased 8.4 percent in 2004 when payments per case increased 12.6 percent; costs per case increased 6 percent in 2005 when payments per case increased 9.4 percent. This parallel trend suggests that LTCHs may be very responsive to any changes in payments and that their costs per case may change when payments per case change. It is also important to bear in mind that LTCHs have a large amount of discretion about which patients to admit to these facilities. On site visits, LTCH representatives told us that they frequently visit acute care hospitals to assess potential patients.

Much of the growth in payments was due to an increase in the reported case mix of patients. A CMS study found that the observed case-mix index (CMI) increase between 2003 and 2004 was 6.75 percent (CMS 2006b). This study suggested that the real CMI increase contributed about one-third of the CMI change. Most of the change represented improvements in documentation and coding rather than increases in patients' severity of illness. Unlike previous years when LTCHs received market basket updates, for 2007 CMS gave LTCHs a zero update to correct for coding changes.

The Medicare margin is the difference between Medicare payments and costs, as a percentage of Medicare payments. Conceptually, this margin represents the percentage of revenue the providers keep. LTCHs' Medicare margins under TEFRA were generally less than zero or zero (Table 3D-6, p. 233). The TEFRA margins are consistent with the payment system, which linked payments to costs. After CMS implemented the PPS in 2003, margins rose rapidly for all groups of LTCHs. The

FIGURE 3D–3

LTCHs' payments are rising faster than their costs since the PPS



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

Source: MedPAC analysis of cost reports from CMS.

Medicare margin for LTCHs based on 2005 cost reports is almost 12 percent.

HWHs and for-profit LTCHs have higher margins than freestanding and nonprofit LTCHs. Government-owned LTCHs are few in number, have few Medicare patients, and operate under different budget and economic constraints than other LTCHs.

A number of payment policy changes affect our estimate of the 2007 Medicare margin. In general, the changes for 2006 increased Medicare's payments for LTCHs; the changes for 2007 decreased payments. The changes for 2006 include:

- a full market basket update and an increase resulting from changes in the outlier threshold for an estimated total increase of 5.7 percent (CMS 2005b); and
- an adjustment of an estimated –4.2 percent to payment that results from changes to the case-mix groups and relative weights, implemented in a non-budget-neutral manner (CMS 2005a).

The changes for 2007 are:

- a market basket increase of 3.4 percent offset by an adjustment for coding improvement, for a net zero update (CMS 2006b);
- a change in the short-stay outlier policy, which we estimate to change payments by –3.7 percent (discussed in the text box on the short-stay outlier policy, p. 226);
- an adjustment of an estimated –1.3 percent that results from changes to the case-mix groups and relative weights, implemented in a non-budget-neutral manner (CMS 2006a); and
- lower payments due to the 25 percent rule for HWHs (we estimate –1.9 percent) (discussed in the text box on the 25 percent rule, p. 234).

Using policies discussed previously and 2008 policy, we estimate LTCHs' aggregate Medicare margin to be between 0.1 percent and 1.9 percent in 2007. This range is based on different hypotheses about HWHs' behavior in response to the 25 percent rule. If HWHs do not change their behavior, the Medicare margin is estimated to be 0.1 percent. If they change behavior to avoid payment reductions, the margin is estimated to be 1.9 percent. There are a number of ways HWHs could change behavior to minimize the effect of the rule—for example, admitting more patients who were high-cost outliers in the acute care hospital and not subject to the rule, recruiting more patients from hospitals other than their host hospitals, and organizing as freestanding LTCHs. Furthermore, CMS may not have the tools to enforce the 25 percent rule at this time, especially because identifying HWHs is challenging.

How should Medicare payments change in 2008?

For LTCHs, there is no mandated update to payments. The Secretary has the discretion to update payments for LTCHs.

LTCHs have continued to enter the Medicare program rapidly through 2005, suggesting that payment rates are attractive. Frequently, LTCHs entering the program locate in market areas where there already are LTCHs, raising questions about whether there are sufficient numbers of very sick patients to justify increasing supply. The increasing supply of LTCHs has resulted in increases in

TABLE 3D–6

All types of LTCHs' Medicare margins increased under PPS

	TEFRA					PPS		
Type of LTCH	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
All LTCHs	0.2%	–1.6%	–1.7%	–1.6%	0.4%	5.3%	8.9%	11.8%
Freestanding*	–0.7	–1.7	–1.3	–1.2	0.0	5.4	7.9	10.9
Hospital within hospital*	1.7	–1.6	–2.1	–2.1	–0.5	5.1	9.7	12.8
Urban*	0.6	–1.6	–1.6	–1.6	–0.2	5.4	9.0	11.8
Rural*	–18.8	–5.7	–3.4	–3.2	–3.1	1.3	5.1	12.5
Nonprofit	–0.8	–1.1	–2.5	–1.5	0.2	2.1	6.4	9.3
For profit	2.5	–1.0	–1.0	–1.5	–0.2	6.4	10.1	13.1
Government	–19.1	–15.7	–8.0	–4.8	–3.0	0.5	–4.9	–1.5

Note: LTCH (long-term care hospital), PPS (prospective payment system), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982).
*These numbers have been updated since the printed version of this report was published.

Source: MedPAC analysis of cost report data from CMS.

volume of discharges and Medicare spending. Although we have no direct indicators of beneficiaries' access to LTCHs, the rise in the number of LTCHs and more beneficiaries using these facilities suggest their increased access to care. The increase in LTCHs and private equity firms' investment in the industry suggest that LTCHs have access to capital. Medicare margins are almost 12 percent in 2005 and are estimated to be between 0 percent and 2 percent in 2007, depending on HWHs' response to the 25 percent rule. Therefore, we conclude that payments to LTCHs are adequate.

Update recommendation

LTCHs should be able to accommodate cost changes in rate year 2008 with the Medicare margin they have in 2007; therefore, we recommend:

RECOMMENDATION 3D

The Secretary should eliminate the update to payment rates for long-term care hospital services for rate year 2008.

RATIONALE 3D

It is important to keep payments to LTCHs tightly controlled in an attempt to keep growth in line in this sector, especially because LTCHs frequently locate in markets where LTCHs already exist. Tightly controlled payments will also put pressure on the LTCH industry and CMS to implement facility and patient criteria to better define these facilities and appropriate patients, as we have recommended. The number of LTCHs, discharges, and spending has grown rapidly under the PPS. The Commission concluded that medically complex patients who have a good chance of recovery are appropriately treated in these facilities. In addition, since there currently are no criteria for LTCH patients, we cannot be sure that patients treated in these facilities are actually appropriate. LTCHs have demonstrated that they are able to respond quickly to changes in payment policy. Moreover, these facilities have a large amount of discretion over which patients they admit.

IMPLICATIONS 3D

Spending

- This recommendation decreases federal program spending relative to current law 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 providers' ability to provide care to Medicare beneficiaries. ■

The rule for long-term care hospitals within hospitals limits admissions from host hospitals

The so-called 25 percent rule affects long-term care hospitals within hospitals (HWHs) and satellites. This rule provides less payment for certain patients who are admitted from the host hospital to the HWH each year.

The policy is being phased in over three years and will be fully implemented by fiscal year 2008, the year for which we are recommending an update. The HWHs will be paid long-term care hospital (LTCH) prospective payment system (PPS) rates for patients admitted from the host acute care hospital when those patients are within the applicable threshold (25 percent or 50 percent). The threshold is the maximum share of cases HWHs can admit from their host hospital. Patients from the host hospital who are outliers under the acute hospital PPS before their transfer to the HWH do not count toward the threshold since they are not subject to the rule. For patients admitted from the host hospital above the applicable threshold, the LTCH will be paid the lesser of the LTCH PPS rate or an amount equivalent to the acute hospital PPS rate.

The threshold was 75 percent for fiscal year 2006. It is 50 percent for fiscal year 2007 and will be 25 percent for fiscal year 2008. For example, in 2007, if a HWH admits 60 percent of its cases from its host hospital that are not high-cost outliers in the hospital, the HWH will be paid the inpatient PPS rate (if it is lower than the LTCH rate) for the 10 percent of cases that exceed the threshold.[4]

There are some permanent exceptions to the 25 percent rule. For rural HWHs, the applicable threshold is 50 percent per year. When a HWH is the only LTCH in an urban area or is located in a hospital that dominates (has one-quarter or more of all acute care cases) for a city, it also has a threshold of 50 percent of cases.

We estimate that this policy will reduce all Medicare payments to LTCHs by 1.9 percent if behavior does not change, because the program will pay lower rates when the HWH admits too many patients from the host hospital. However, the impact of this policy may be reduced by HWHs changing their behavior. This policy creates incentives for HWHs to admit more patients who were high-cost outliers in their host hospital, find patients at other acute hospitals, or organize as freestanding facilities. In addition, it is not clear that CMS currently has the tools necessary to enforce this rule. ■

Endnotes

1 LTCHs began receiving payments under the new prospective payment system (PPS) at the beginning of their 2003 cost reporting periods. During a five-year transition period, they are paid a blend of the PPS rate and their updated facility-specific rate. For example, in the first year of the PPS, payments were made up of 20 percent PPS rates and 80 percent facility-specific rates; in the second year, payments were made up of 40 percent PPS rates and 60 percent facility-specific rates. For cost reporting years in or after June 2006, all LTCHs are paid entirely at PPS rates.

2 For more detail on the PPS for LTCHs, see http://www.medpac.gov/publications/other_reports/Sept06_MedPAC_Payment_Basics_LTCH.pdf.

3 A geometric mean is derived by multiplying all numbers in a set and raising that product to the exponent of one divided by the number of cases in the set.

4 During the year, the HWH will be paid the LTCH rate. During retrospective settlement at the end of a HWH's cost report year, if the HWH is determined to be overpaid, CMS will collect the overpayment from future payments.

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