DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of Inspector General

Washington, D.C. 20201

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TO: Kerry Weems
Acting Administrator
Centers for Medicare & Medicaid Services

FROM: Daniel R. Levinson Daniel R. Levinson
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SUBJECT: Memorandum Report: "Long Term Care Hospitals Short-Stay Outliers," OEI-01-07-00290

This memorandum report provides information on long term care hospitals (LTCH) short-stay outliers. Short-stay outliers are LTCH stays that end before they reach five-sixths of the average length of stay for the patient's diagnosis (LTC-DRG). Specifically, we reviewed LTCH claims for fiscal years (FY) 2003 to 2006 to determine the extent and nature of short-stay outliers in LTCHs. We also reviewed data from the Quality Improvement Organization (QIO) medical record reviews of LTCH claims for FYs 2005 and 2006 to analyze the payment error rates for short-stay outliers.

Short-stay outliers decreased annually from 40 percent of LTCH stays discharged in FY 2003 to 27 percent of stays discharged in FY 2006. Despite the decline in short-stay outliers, some discharge patterns raise questions. From FY 2003 through FY 2006, LTCHs discharged over a third of short-stay outlier patients at least 10 days before they reached the short-stay outlier threshold. During this period, LTCHs increasingly discharged patients within 2 days after the patients qualified for full LTC-DRG payments. The discharge patterns to post-acute care facilities for short-stay outlier patients differed from discharge patterns of other LTCH patients. However, for FYs 2005 and 2006, short-stay outlier payment errors mirror those of all other LTCH claims. Almost all of the payment errors that QIOs identified with LTCH claims were inaccurate LTC-DRGs and inappropriate LTCH admissions.

BACKGROUND

Over the past decade, the number of LTCHs has increased rapidly. Between 1995 and 2005, the number of LTCHs more than doubled, increasing from 178 to 383. During this period, Medicare payments to LTCHs increased from $836 million to $4.6 billion.[1]

[1] Medicare Payment Advisory Commission. "Long-Term Care Hospitals Payment System." September 2006.

Long Term Care Hospital Characteristics

LTCHs treat patients with complex medical conditions that require prolonged post-acute hospital-level care. Common LTCH treatments include comprehensive rehabilitation, respiratory therapy, head trauma treatment, and pain management.

Pursuant to Federal law, LTCHs must have an average inpatient length of stay greater than 25 days.[2] Federal regulations identify no additional requirements to distinguish LTCHs from general acute care hospitals. LTCHs can be freestanding facilities or hospitals-within-hospitals (HwH).[3] A freestanding LTCH occupies an entire building or campus. HwHs are colocated with another hospital-level provider (referred to as the host hospital), either sharing a building or on the campus of its host.[4] The Centers for Medicare & Medicaid Services (CMS) reduces payments to HwHs that readmit more than 5 percent of the patients they discharge to their host hospitals in a fiscal year.[5] CMS applies an additional payment adjustment if the LTCH HwH admits patients in excess of a specified threshold from its host hospital.[6]

A 2004 Medicare Payment Advisory Commission (MedPAC) report found that LTCHs are usually the most costly post-acute care setting. For patients with the most common LTCH diagnoses, MedPAC found that LTCHs have reimbursement rates that are up to 4.4 times higher than estimated rates for inpatient rehabilitation facilities and up to 12 times higher than estimated rates for skilled nursing facilities.[7] Furthermore, CMS found that LTCH Medicare payments for FY 2003 were about 8 percent higher than LTCHs' Medicare costs.[8]

LTCH Payment

In FY 2003, CMS implemented a prospective payment system for LTCHs.[9] In this system, LTCHs classify patients into LTC-DRGs based on the clinical characteristics of the patient. CMS assigns relative weights to each LTC-DRG that reflect the typical cost associated with treating patients with

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[2] Section 1886(d)(1)(B)(iv) of the Social Security Act defines a long term care hospital (LTCH) as "a hospital which has an average inpatient length of stay (as determined by the Secretary of the Department of Health and Human Services) of greater than 25 days." See also 42 CFR § 412.23(e)(3)(iii), which states that facilities seeking to convert to LTCHs must submit Medicare discharge data related to average length of stay gathered during 5 of the 6 months immediately preceding the conversion.

[3] An LTCH may also establish a "satellite facility," which is part of a hospital located within or on the campus of another hospital-level provider. 42 CFR § 412.22(h).

[4] 42 CFR § 412.22(e).

[5] 42 CFR § 412.532.

[6] 42 CFR § 412.534.

[7] Medicare Payment Advisory Commission. June 2004. "Report to the Congress: New Approaches in Medicare." Chapter 5: "Defining Long Term Care Hospitals," p. 122.

[8] Preliminary data for fiscal year (FY) 2004 revealed an even higher margin of about 13 percent for that year. Testimony of Herb Kuhn, Deputy Administrator for the Centers for Medicare & Medicaid Services (CMS) before the Committee on Ways and Means, Subcommittee on Health, U.S. House of Representatives, 110th Cong., March 15, 2006. Available online at http://waysandmeans.house.gov/hearings.asp?formode=view&id=5262. Accessed December 31, 2007.

[9] Before FY 2003, Medicare paid LTCHs based on the average cost per discharge.

that diagnosis. For each patient, CMS pays LTCHs an annually adjusted base payment that is multiplied by the LTC-DRG relative weight.

Although LTC-DRGs are identical to the DRGs that Medicare uses to pay general acute care hospitals, CMS applies a larger standard Federal payment rate to LTC-DRGs based upon the resources typically required to treat patients with an average length of stay greater than 25 days.[10] In FY 2007, the base payment for LTCHs was $38,086, compared to a standard base payment of $5,309 for general acute care hospitals.[11]

Short-Stay Outliers

When CMS applied prospective payment to LTCHs, it reduced payment rates for LTCH stays that end on or before five-sixths of the average length of stay for an LTC-DRG (short-stay outliers).[12] CMS pays less than the full LTC-DRG payment for these stays because they typically require fewer resources than longer stays.

For short-stay outlier patients discharged from FY 2003 through June 30, 2006, CMS paid LTCHs the least of three payment amounts:

- the full payment for the patient's LTC-DRG,
- 120 percent of the LTC-DRG per diem, or
- 120 percent of the cost of the stay.[13]

For patients discharged on or after July 1, 2006, CMS reduced short-stay outlier payments. In the LTCH payment update, CMS explained that some short-stay outlier patients could more appropriately receive treatment in general acute care hospitals.[14] To discourage LTCHs from admitting patients whom general acute care hospitals can treat, CMS revised the payment formulas for short-stay outliers by:[15]

- reducing the third payment option to 100 percent of the cost of the stay, and

[10] Social Security Act § 1886(d)(1)(B)(iv)(I).

[11] 42 CFR Parts 405, 412, and 413. The general acute care hospital base rate is the rate for large urban hospitals. The LTCH base rate varies depending on the payment adjustments for a patient's primary diagnosis, the procedures performed on the patient, patient characteristics, and facility characteristics (such as labor wages).

[12] 42 CFR § 412.529.

[13] CMS calculates the per diem by dividing the full diagnosis-related groups (LTC-DRG) payment by the average length of stay and then multiplying by the actual length of stay. See 42 CFR § 412.529(c)(1).

[14] Medicare LTCH Payment Update for Rate Year 2007, 71 Fed. Reg. 27798, 27845 (May 12, 2006).

[15] Medicare LTCH Payment Update for Rate Year 2007, 71 Fed. Reg. 27851 (May 12, 2006).

- adding a fourth payment option that blends the comparable general acute care hospital per diem amount and 120 percent of the LTC-DRG per diem amount.[16]

Quality Improvement Organization Reviews

As part of the Hospital Payment Monitoring Program, CMS selects a national random sample of 116 LTCH claims each month for QIOs to review. QIOs are Medicare contractors in each State that conduct case reviews to oversee and enhance the quality of care provided to Medicare beneficiaries.[17] CMS compiles the results of the QIO reviews to project annual national payment error rates.

For each claim, QIO staff review medical records to evaluate whether the LTCH complied with Medicare coverage, coding, and billing rules.[18] Payment errors that QIOs have identified for LTCH claims include: inaccurate LTC-DRGs, admissions of inappropriate patients, incomplete medical records, and technical errors. Based on QIO reviews for 2005, CMS estimated that nationally about 7 percent of its payments to LTCHs were in error.[19] By comparison, CMS estimated that 5 percent of its payments to general acute care hospitals were in error. Seventy-five percent of the LTCH claims for which QIOs identified errors were for stays that lasted 25 days or less.[20]

Related Office of Inspector General Work

A 2004 Office of Inspector General (OIG) report identified shortcomings in CMS's oversight of LTCHs.[21] In that report, OIG found that 19 of the 87 HwHs exceeded the annual 5-percent limit for readmissions from their host hospitals at least once from September 2000 through December 2002. OIG also found that CMS lacked a system to detect readmissions over the 5-percent limit. CMS also lacked a mechanism to determine whether HwHs were financially and organizationally separate from their host hospitals. In a December 2006 report, OIG identified and recommended recovery of overpayments to eight LTCHs in Massachusetts for claims totaling $936,418.[22]

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[16] For each day, as the length of stay increases, the percentage based on the general acute care hospital amount decreases and the percentage based on 120 percent of the per diem LTC-DRG increases. This blend will pay longer stays an amount closer to the LTC-DRG rate, but shorter stays will receive rates closer to the general acute care hospital payment rates.

[17] Social Security Act, §§ 1862(g) and 1154(a)(1). Also see QIO Eighth Statement of Work, Task 3: Protecting Beneficiaries and the Medicare Program.

[18] RTI International. "Long-Term Care Hospital (LTCH) Payment System Monitoring and Evaluation." Phase II Report. January 2007, p. 64. CMS requires QIOs to use written criteria when reviewing LTCH claims. However, CMS does not mandate which screening criteria the QIOs use. CMS, through the Iowa QIO, contracted with McKesson Health Solutions to give QIOs access to McKesson's InterQual™ level of care assessment tools. All but the Massachusetts QIO use the InterQual™ criteria.

[19] CMS. "Improper Medicare Fee-for-Service Payments Report—November 2006 Long Report." Table 10d: Error Rates and Improper Payments by Provider Type: QIOs. November 15, 2006.

[20] Communication with CMS officials who oversee QIO reviews of hospital claims. April 10, 2007.

[21] Office of Inspector General (OIG). "Long-Term Care Hospitals-Within-Hospitals" (OEI-01-02-00630), July 2004.

[22] OIG. "Review of Associated Service Payments to Long-Term Care Hospitals in Massachusetts From January 1, 2003, Through April 30, 2004" (A-01-06-00506), December 2006.

METHODOLOGY

Data Sources and Analysis

We used two CMS data sources: the 100-percent Standard Analytic Files and data from medical record reviews that QIOs conduct as part of the Hospital Payment Monitoring Program.

Standard Analytic Files

CMS's 100-percent Standard Analytic Files include 567,327 LTCH claims from FY 2003 through FY 2006. We identified long term care facility claims by extracting records with a 2 as the third digit of the provider number. Of these, we excluded records for patients who died while in the LTCH as well as records that lacked a valid LTC-DRG or discharge date. Our analysis includes 408,289 records. These records include admission and discharge dates and LTC-DRG and LTCH provider numbers. To identify short-stay outliers, we matched LTCH claims with CMS's annual updates of the short-stay outlier threshold, five-sixths of the average length of stay for each LTC-DRG..

To identify LTCH type (freestanding or HwH), we matched provider numbers in the LTCH records with a list of HwHs from CMS. If CMS's list omitted information for a hospital from our claims database, we called the facility and asked if the LTCH was located in the same building as another hospital. We found no contact information or received an out-of-business message for 14 hospitals, representing 3,201 LTCH claims.

Quality Improvement Organization Medical Record Review Data

We obtained QIO medical record review data for all LTCH claims that QIOs reviewed in FYs 2005 and 2006, the first complete years for which QIOs reviewed LTCH claims. QIOs reviewed 2,784 total claims, or 1,392 claims from each year. The records include the types of errors, if any, that QIOs identified as well as the amounts of payment errors. We used the data to identify patterns related to payment errors for LTCH claims.

We projected payment errors to the population of LTCH claims from the sample of LTCH claims that QIOs reviewed during FYs 2005 and 2006. Each month, CMS selects a random sample of LTCH claims. We weighted the claims for each month based on the total population of claims from that month.

Standards

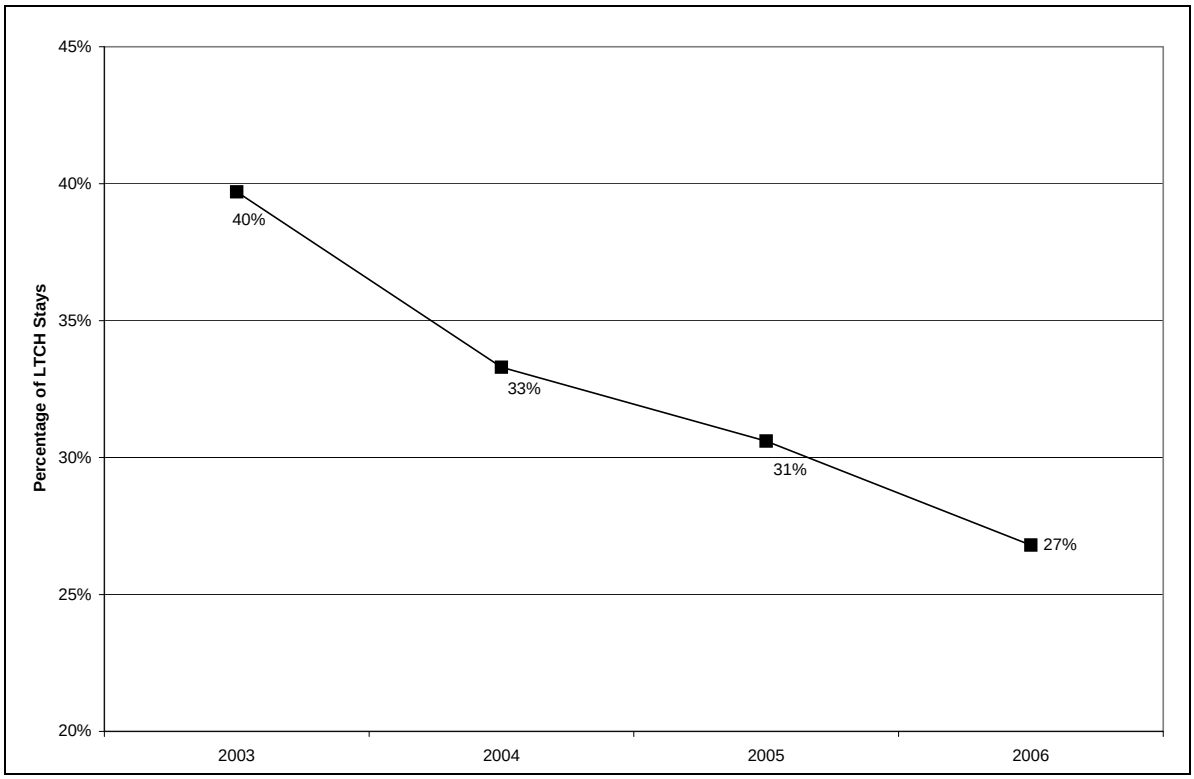
We conducted this review in accordance with the "Quality Standards for Inspections" issued by the President's Council on Integrity and Efficiency and the Executive Council on Integrity and Efficiency.

RESULTS

Short-Stay Outliers Decreased Annually From Fiscal Years 2003 Through 2006

CMS reduces payments for short-stay outliers in LTCHs because these stays typically require fewer resources than longer stays. When CMS reduced payments for short-stay outliers in FY 2003, it predicted that these stays would decline. At that time, CMS estimated that 48 percent of LTCH stays were short-stay outliers.[23] Our analysis of LTCH claims shows that the number of short-stay outliers has declined annually since CMS introduced reduced payments, from 40 percent of LTCH stays discharged in FY 2003 to 27 percent of stays discharged in FY 2006. (See Chart 1 below.) That decline was the same for both HwHs and freestanding facilities.

Chart 1: Percentage of Short-Stay Outliers by Fiscal Year of Discharge



Source: Office of Inspector General analysis of Standard Analytic Files, 2007.

The decline in short-stay outliers is also consistent across geographic location. Although the percentage of short-stay outliers varied slightly geographically, the number of short-stay outliers declined in every geographic area we reviewed. (See Appendix A for short-stay outlier trend details.)

[23] 71 Fed. Reg. 27846 (May 12, 2006).

Despite the Overall Decline in Short-Stay Outliers, Discharge Patterns Raise Questions

One question relates to whether these patients are appropriately placed in LTCHs given their short lengths of stay. From FYs 2003 through 2006, LTCHs discharged over a third of short-stay outlier patients at least 10 days before they reached the short-stay outlier threshold (five-sixths of the average length of stay for each LTC-DRG). The LTCH stays that ended at least 10 days before the short-stay outlier threshold (very short stays) accounted for 36 percent to 41 percent of short-stay outliers throughout the 4-year period we reviewed. (See Table 1 on the following page.)

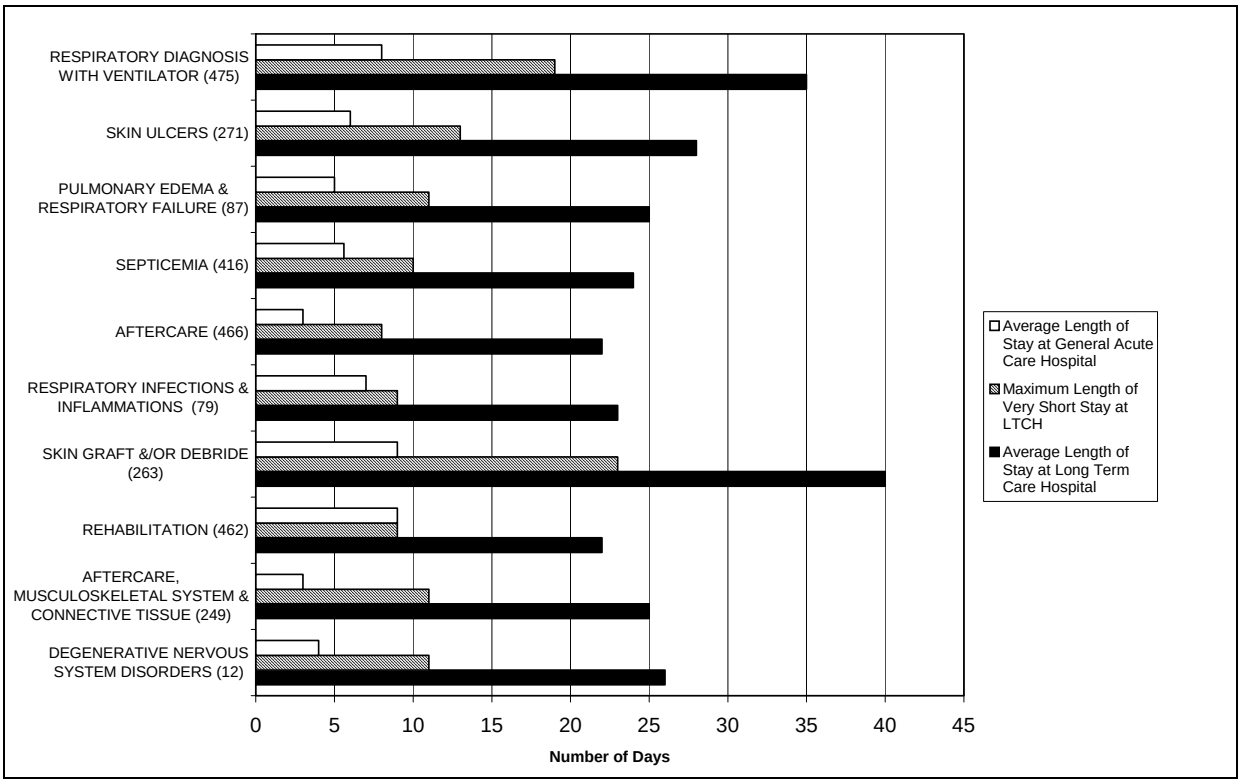
Table 1: Lengths of Stay for Short Stay Outliers, Fiscal Years 2003 to 2006

Length of Stay	FY 2003	FY 2004	FY 2005	FY 2006
Discharged at Least 10 Days Before the Short-Stay Outlier Threshold	41%	39%	37%	36%
Discharged 5 to 9 Days Before the Short-Stay Outlier Threshold	31%	31%	32%	32%
Discharged 3 to 4 Days Before the Short-Stay Outlier Threshold	13%	14%	15%	14%
Discharged up to 2 Days Before the Short-Stay Outlier Threshold	14%	16%	16%	17%
Total	99%	100%	100%	99%

Source: Office of Inspector General analysis of Standard Analytic Files, 2007.

Very short stay patients usually had lengths of stay that were closer to the average length of stay for patients with similar DRGs at general acute care hospitals than the average length of stay for the diagnosis at LTCHs. (See Chart 2 on the following page for analysis by the 10 most common LTC-DRGs for very short stay patients in FY 2006.) For example, in FY 2006, the most common LTC-DRG for very short stay patients was "Respiratory system diagnosis with ventilator support" (LTC-DRG 475). In FY 2006, very short stays for this LTC-DRG lasted 19 days, at most. The average length of stay for this diagnosis in general acute care hospitals was 8 days, compared to an average length of stay of 35 days in LTCHs.

Chart 2: Lengths of Very Short Stays Compared to Average Lengths of Stay at General Acute Care Hospitals and LTCHs for FY 2006, by Top 10 LTC-DRGs for Very Short Stays



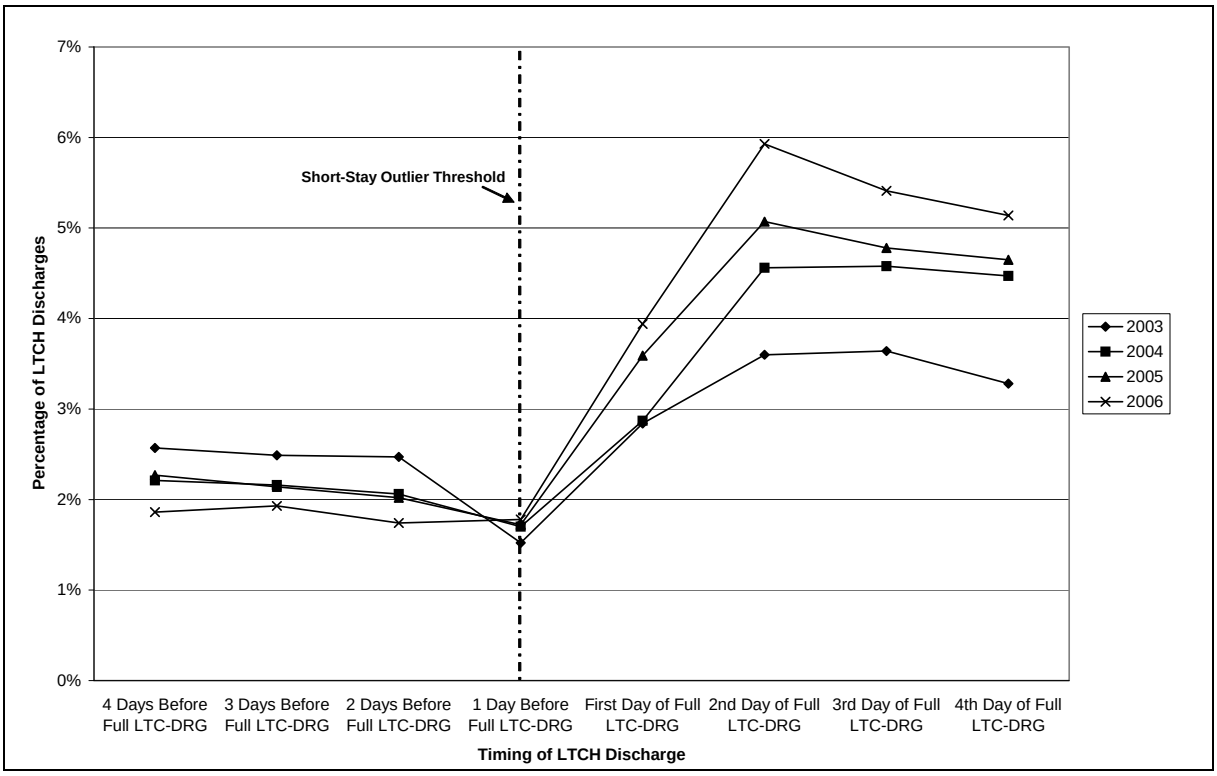
Source: Office of Inspector General analysis of Standard Analytic Files, 2007.

Another question relates to whether financial incentives trigger the discharge date rather than the patient condition. From FYs 2003 through 2006, LTCHs increasingly discharged patients within 2 days after they qualified for full LTC-DRG payments. Throughout the FY 2003 to FY 2006 period, LTCHs discharged more patients in the 2 days after they passed the short-stay outlier threshold and qualified for full LTC-DRG payments than in the 2 days before. (See Chart 3 on the following page.) Each year, LTCHs discharged fewer patients on the day before they qualified for a full LTC-DRG payment than on any of the other 4 days before or after the short-stay outlier threshold.

This pattern became more prominent from FYs 2003 to 2006. In FY 2003, LTCHs discharged 4 percent of all patients in the 2 days before the threshold and 6 percent of patients in the

2 days after. By FY 2006, LTCHs discharged 4 percent of patients in the 2 days before the threshold and 10 percent of patients in the 2 days after the threshold.[24]

Chart 3: Long Term Care Hospital Discharges Before and After the Short-Stay Outlier Threshold, FYs 2003 to 2006



Source: Office of Inspector General analysis of Standard Analytic Files, 2007.

From FY 2003 to July 2006, LTCH payments increased sharply on the day patients qualified for full LTC-DRG payments. In the Medicare LTCH Payment Update for Rate Year 2007, CMS noted that the increase in payment for a full LTC-DRG stay encouraged LTCHs to retain patients just long enough to pass the short-stay outlier threshold and qualify for full LTC-DRG payments.[25] Analysis of claims from FYs 2003 through 2006 shows that LTCH discharges did systematically increase after this threshold. Accordingly, for LTCH discharges on or after July 1, 2006, CMS

[24] To estimate the percentage of patients discharged in the 2 days before and after the threshold, we combined the number of patients discharged each day. For example, we calculated that in 2006, LTCHs discharged 10 percent of patients in the 2 days after the threshold by combining the 4 percent of patients discharged in the first day and 6 percent of patients discharged in the second day. Chart 3 presents the percentage of patients discharged each day.

[25] 71 Fed. Reg. 27847 (May 12, 2006).

revised the payment formula to remove the sharp increase in payment after the short-stay outlier threshold by incrementally increasing the LTCH's payment rate as a patient's stay lengthens.[26]

The discharge patterns to post-acute care facilities for short-stay outlier patients differed from discharge patterns of other LTCH patients. From FYs 2003 to 2006, 74 percent of all LTCH patients came directly from general acute care hospitals. Yet, LTCHs had to return 25 percent of short-stay outlier patients to general acute care hospitals, compared to only 8 percent of all other LTCH patients. (See Table 2 below.) Although LTCHs discharged 36 percent of patients who stayed past the short-stay outlier threshold to skilled nursing facilities, they discharged only 15 percent of short-stay outlier patients to skilled nursing facilities, which provide less intense services.

Table 2: Treatment After Discharge From Long Term Care Hospital, Fiscal Years 2003 to 2006*

Treatment After LTCH Discharge	Percentage of Short-Stay Outlier Patients	Percentage of Other LTCH Patients
Home Health Agency	26%	28%
General Acute Care Hospital	25%	8%
Home or Self Care	23%	16%
Skilled Nursing Facility	15%	36%
Other	11%	12%
Total	100%	100%

Source: Office of Inspector General analysis of Standard Analytic Files, 2007.
*Trends remain generally consistent throughout the FY 2003 to 2006 period.

For Fiscal Years 2005 and 2006, Short-Stay Outlier Payment Errors Mirror Those of All Other LTCH Claims

Inaccurate LTC-DRGs and inappropriate LTCH admissions account for almost all of the payment errors that QIO reviewers identified for LTCH claims during this period.[27] (See Table 3 on the following page. See Appendix B for confidence intervals for all estimates.) QIO reviewers identified about the same percentage of payment errors in short-stay outlier claims as other LTCH claims. Error rates were also constant for LTCH stays that ended more than 10 days before the short-stay outlier threshold as well as stays that ended just after the threshold.

[26] Ibid.
[27] We estimated these figures by projecting national estimates from the sample of LTCH claims that QIOs reviewed.

Table 3: Payment Errors for Long Term Care Hospital Stays, Fiscal Years 2005 and 2006*

Type of Payment Error	Percentage of Short-Stay Outlier Claims	Percentage of Other LTCH Claims
No Error	83%	85%
Inappropriate Admission	9%	6%
Inaccurate DRG	7%	8%
Other Errors	1%	1%
Total	100%	100%

*All estimates are projected to national population, based on a sample of LTCH claims. None of these estimates differs significantly at the 95-percent confidence level.

Source: Office of Inspector General analysis of QIO Medical Record Reviews, 2007.

Based on our analysis of QIO reviews of LTCH claims, we estimate that about $85 million, or 6 percent, of CMS payments to LTCHs for short-stay outlier claims during the FY 2005 to 2006 period were erroneous. This error rate was not statistically different from the error rate for other LTCH stays (4 percent). For short-stay outliers in FY 2005, the average net error for inappropriate admissions ($20,112) was higher than the average net error for DRG changes ($3,175).

CONCLUSION

From FYs 2003 through 2006, short-stay outliers steadily declined. These declines coincided with CMS's implementation of a prospective payment system that cut payments for these stays. Further, to remove incentives for LTCHs to admit patients inappropriately or keep them longer than necessary, CMS revised short-stay outlier payments for patients discharged on or after July 1, 2006.

Despite the overall decline in short-stay outliers, some discharge patterns raise questions about the appropriateness of placements at LTCHs. Patients whom LTCHs discharged at least 10 days before the short-stay outlier threshold or who were readmitted to general acute care hospitals directly after LTCH stays could have more appropriately received treatment at a general acute care hospital.

This memorandum report is being issued directly in final form because it contains no recommendations. If you have comments or questions about this report, please provide them within 60 days. Please refer to report number OEI-01-07-00290 in all correspondence.

APPENDIX ~ A

Trends in Short-Stay Outliers

Table 1: Percentage of Stays That Were Short-Stay Outliers, by Facility Type

Facility Type	FY 2003	FY 2004	FY 2005	FY 2006
Hospital-within-Hospital	41%	34%	31%	26%
Freestanding Hospital	39%	33%	31%	28%

Source: Office of Inspector General analysis of Standard Analytic Files, 2007.

Table 2: Percentage of Short-Stay Outliers, by U.S. Census Region

Region	FY 2003	FY 2004	FY 2005	FY 2006
Midwest	41%	34%	31%	29%
Northeast	43%	38%	35%	32%
South	38%	32%	29%	25%
West	43%	34%	31%	26%

Source: Office of Inspector General analysis of Standard Analytic Files, 2007.

APPENDIX ~ B

Confidence Intervals for Payment Error Estimates

Proportion of Long Term Care Hospital Claims With Payment Errors, Fiscal Years 2005 and 2006

	Short-Stay Outlier Claims		Other LTCH Claims	
Type of Payment Error	**Point Estimate**	**95-Percent Confidence Interval**	**Point Estimate**	**95-Percent Confidence Interval**
No Error	83.4%	81.1% – 85.8%	85.3%	83.7% – 86.9%
Inappropriate Admission	8.5%	6.7% – 10.3%	5.7%	4.6% – 6.7%
Inaccurate Long Term Care-Diagnosis Related Groups	7.2%	5.6% – 8.9%	7.8%	6.6% – 9.1%
Other Errors	0.8%	0.3% – 1.4%	1.2%	0.7% – 1.7%
Total	99.99%		100%	

Source: Office of Inspector General analysis of Quality Improvement Organization (QIO) medical record review data, 2007.

Payment Error Amounts for LTCH Claims, Fiscal Years 2005 and 2006

	Point Estimate	**95-Percent Confidence Interval**
Average net error amounts for short-stay outlier claims with errors	$5,687	$4,602 – $6,773
Average net error amounts for other long term care hospital (LTCH) claims with errors	$11,884	$9,669 – $14,100
Total payment error amounts for short-stay outlier claims	$84,801,504	$64,192,183 – $105,410,822
Total payment error amounts for other LTCH claims	$304,271,761	$237,958,404 – $370,585,118
Percentage of payments for short-stay outlier claims in error	6.1%	4.6% – 7.6%
Percentage of payments for other LTCH claims in error	4.3%	3.3% – 5.2%

Source: Office of Inspector General analysis of QIO medical record review data, 2007.

A P P E N D I X ~ B

Average Net Payment Error Amount by Error Type, Fiscal Year 2005

	Point Estimate	95-Percent Confidence Interval
Average net error amount for admission denial errors	$20,112	$17,699 – $22,525
Average net error amount for admission denial errors	$3,175	$1,296 – $5,054

Source: Office of Inspector General analysis of QIO medical record review data, 2007.