Analysis IN BRIEF

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Evaluating Payment Accuracy of Medicare Inpatient Short Stays

In 2014, the Centers for Medicare and Medicaid Services (CMS) implemented a controversial new policy commonly referred to as the two-midnight rule.[1] Under this rule, Medicare considers a hospital admission as inpatient based on one simple criterion: upon initial evaluation of the patient, does the physician expect the patient to stay in the hospital for at least two midnights? If the expectation is documented in the medical record by the physician at the time of admission, the stay is considered an inpatient stay and is paid as such. A stay that lasts less than two midnights—commonly referred to as a "short stay"—is paid at the outpatient rate, which is, on average, one-third of the inpatient rate.[2]

At the center of the controversy is whether the inpatient payment rate for short stays is accurate. CMS proposed the two-midnight rule out of concern that inpatient short stays were overpaid.[2] An analysis by the Medicare Payment Advisory Commission (MedPAC) showed that, on average, the payment for short stays exceeded hospital costs by 55 percent.[3] The analysis also suggested that urban teaching hospitals tended to have a higher share of short stays. However, another analysis by MedPAC indicated that aggregate Medicare inpatient margins for all hospitals have been below zero since 2005.[4] These results are supported by the American Hospital Association's (AHA) analysis that found, on average, Medicare pays 88 cents for every dollar spent by hospitals caring for Medicare patients.[5] As such, reimbursing inpatient short stays at the outpatient rate is equivalent to an average 67 percent payment cut. This deep reduction may affect nearly 1 million inpatient stays (13 percent), consequently exacerbating underpayment in Medicare.

This *Analysis in Brief* seeks to understand the implications of using length of stay (LOS) in deciding inpatient status and setting Medicare payment policy. First, the analysis assesses whether the approximately 1 million short stays are all overpaid and the two-midnight rule will improve payment accuracy for short stays. Then the study examines the distributions of underpaid and overpaid cases among long stays. Even if short stays are overpaid, as MedPAC suggested, in aggregate Medicare pays less than hospital costs to provide the services. Of interest is whether underpayment among long stays may explain the difference. Finally, the analysis examines the impact of short stay payment policies on teaching hospitals.

Methods

For this analysis, we use Medicare inpatient data from the FY 2013 MedPAR (Medicare Provider Analysis and Review file). We include 2.7 million inpatient stays that are either short (0 or 1 day) or long (8 or more days), following distinctions defined by MedPAC's LOS categories. These stays are provided by approximately 3,400 hospitals paid under the Inpatient Prospective Payment System (IPPS).

To assess underpayment and overpayment within short and long stays, we construct a variable that calculates hospital costs per $1 of Medicare payment:

Unit cost = (Hospital costs)/(Medicare payment to the hospital)

Figure 1: Hospital Costs per One Dollar of Medicare Payment by Length of Stay

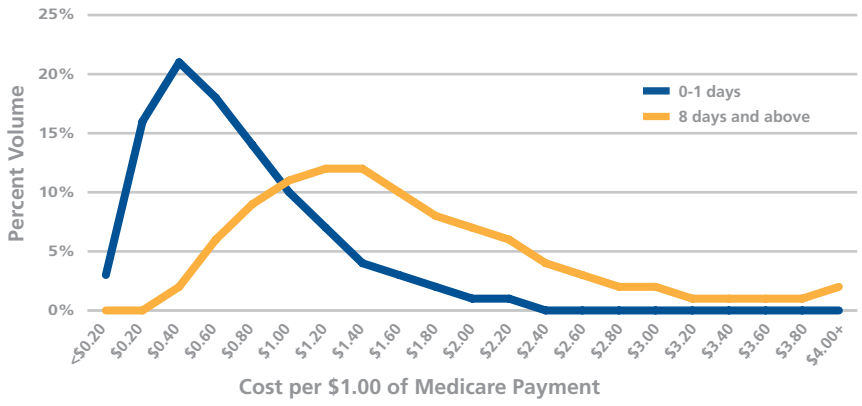

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Table 1: Statistical Summary of Unit Cost and Percent Underpayment by Length of Stay

Length of Stay	(25th, 75th) percentile	Percent Underpaid	Standard Deviation	Coefficient of Variation
0–1	(0.47, 1.08)	28%	1.87	2.23
8 days and above	(1.15, 2.12)	83%	28.67	14.43

A unit cost of 1 indicates the amount Medicare pays for a stay precisely covers the costs incurred by a hospital to care for a patient. The closer the unit cost is to 1, the more accurate the Medicare payment is in terms of covering hospital costs. The further the unit cost is above 1, the greater the hospital cost exceeds Medicare payment.

To estimate hospital service costs, we convert hospital charges reported in the MedPAR data to cost by applying hospital-specific cost-to-charge ratios[6] released by CMS.[7] For Medicare payment, we include Medicare's share, and beneficiary deductible and coinsurance reported in the data for each inpatient stay.

Teaching status is defined by a hospital's intern- and resident-to-bed (IRB) ratio. A hospital is identified as major teaching if its IRB ratio is greater than or equal to 0.25. Minor teaching is a hospital with an IRB ratio greater than 0 but less than 0.25. The remainder of hospitals are categorized as nonteaching.

Table 2: Percent Volume Distribution by Hospital Teaching Status

Length of Stay	Major Teaching	Minor Teaching	Nonteaching
0–1	12.7%	11.9%	12.0%
8 days and above	20.8%	17.9%	15.1%

Results

The results display a wide variation of hospital costs for $1 of Medicare payment among short stays (Figure 1). The coefficient of variation (CV) demonstrates that the standard deviation is more than double the mean, indicating the hospital unit costs of a great portion of short stays are vastly different than the mean. More than one in four short stays are underpaid. Only 12 percent of short inpatient stays are paid more than three times hospital costs. The other 88 percent of short stays, if reimbursed at the outpatient rate (currently one-third of the inpatient reimbursement rate for the same services), would be paid less than hospital costs.

The results illustrate sizable underpayment among long stays (Table 1). First, 83 percent of long stays were underpaid. Second, the interquartile range shows that for a quarter of long stays, their unit cost has a value greater than 2, which indicates that Medicare doesn't cover even half of the costs incurred by the hospital in caring for a patient.

Although major teaching hospitals have a larger share of short stays, underpayment of long stays is particularly salient for major teaching hospitals because compared with minor teaching and nonteaching hospitals, major teaching hospitals have an even higher share of stays of at least 8 days. One in five patients treated in major teaching hospitals stays 8 days or longer, compared with just 13 percent who are discharged within 2 days (Table 2).

Discussion

The results show that it is not accurate to label all short stays as overpaid. The drastic variation of hospital unit costs within short stays illustrates that using LOS as a proxy for payment accuracy is problematic. Given that fewer than 12 percent of short stays are paid more than three times hospital costs, a 67 percent payment cut under the two-midnight rule will lead to significant underpayment for 88 percent of short stays. This deep payment reduction will be especially devastating for the 28 percent of short stays for which Medicare payment already is below hospital costs.

Payment reduction policy based on utilization of short stays without taking into consideration a hospital's contribution to longer and underpaid stays may create financial instability for hospitals taking care of the most complex and vulnerable populations. An average major teaching hospital may have a slightly higher share of short stays, but at the same time a greater proportion of patients with longer stays that are undercompensated by Medicare.

The prevalent coexistence of short stays, long stays, overpaid stays, and underpaid stays in the same payment system prompts another issue about whether evaluating the profitability of short stays independently is appropriate. Wide variation in hospital unit costs reflects the principle of averages intentionally incorporated into the design of the IPPS. Medicare payments are established based on an *average* patient in a *clinically similar group* and allow for overpaid cases to offset underpaid cases. Focusing on short stays at a time when Medicare generally pays 88 cents for every dollar spent by hospitals caring for Medicare patients does not address the more global issue of achieving payment accuracy.

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