

Misaligned Incentives for Lumbar Spine Surgery in the Bundled Payment for Care Initiative

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Introduction

Under the Bundled Payments for Care Initiative (BPCI), Medicare reimburses for lumbar fusion without adjusting for the patient's underlying pathology. We compared the hospital resource use of two lumbar fusion cohorts that BPCI groups into the same payment bundle: patients with spondylolisthesis and patients with thoracolumbar fracture.

Methods

With BPCI, hospitals are reimbursed for a lumbar fusion episode of care if patients are assigned diagnosis related group (DRG) 459 or 460.

Vertebroplasty and kyphoplasty use different DRGs. National Inpatient Sample data from 2013 were queried to identify all patients that underwent lumbar fusion to treat a primary diagnosis of thoracolumbar fracture or spondylolisthesis and that were assigned DRG 459 or 460.

Multivariable linear and logistic regression were used to compare length of hospital stay (LOS), direct hospital costs, and odds of discharge to a post-acute care facility for thoracolumbar fracture patients and spondylolisthesis patients. All models adjusted for patient demographics, 29 comorbidities, and hospital characteristics. The complex survey design of the NIS was taken into account in all models.

Results

After adjusting for patient demographics, insurance status, hospital characteristics, and 29 comorbidities, spondylolisthesis patients had a mean LOS that was 36% shorter (95% CI 26% - 44%, $p < 0.0001$), a mean cost that was 13% less (95% CI 3.7% - 21%, $p < 0.0001$), and had 3.6 times greater odds of being discharged home (95% CI 2.5 - 5.4, $p < 0.0001$) than thoracolumbar fracture patients.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Have a better understanding of the bundled payment for care initiative (BPCI) from the U.S. Centers for Medicare and Medicaid Services as it relates to neurosurgery, 2) Recognize that BPCI lumps heterogeneous patient mixes with different pathologies into the same payment bundles, which creates a disincentive for hospitals and surgeons to treat certain patient groups, 3) Discuss in small groups potential solutions to the problems outlined in this presentation regarding BPCI as it relates to spine surgery

Conclusions

Under the proposed DRG-based BPCI, hospitals would be reimbursed the same amount for lumbar fusion regardless of whether a patient had spondylolisthesis or thoracolumbar fracture. However, compared with fusion for spondylolisthesis, fusion for thoracolumbar fracture was associated with longer LOS, greater direct hospital costs, and increased likelihood of being discharged to a post-acute care facility. Our findings suggest that the BPCI episode of care for lumbar fusion dis-incentivizes treating trauma patients.