Cost

Faced with increasing pressure to reduce costs, hospitals must minimize waste through continuous improvement of patient safety and quality. Timely provision of process and outcome data from clinical quality registries to clinicians has been shown to drive such improvements in healthcare.

value = quality/cost.

see healthcare cost.

https://www.neurosurgerycost.com/

Hospitalization cost

Hospitalization cost

Cost reduction

Cost reduction

Cost efficiency

Cost efficiency

Cost-effectiveness

Cost-effectiveness

Incremental cost

see Incremental cost.

In a healthcare landscape in which costs increasingly matter, the Salas-Vega et al. sought to distinguish among the clinical and nonclinical drivers of patient length of stay (LOS) in the hospital following elective lumbar laminectomy-a common spinal surgery that may be reimbursed using bundled payments-and to understand their relationships with patient outcomes and costs.

Patients ≥ 18 years of age undergoing laminectomy surgery for degenerative lumbar spinal stenosis

within the Cleveland Clinic health system between March 1, 2016, and February 1, 2019, were included in this analysis. Generalized linear modeling was used to assess the relationships between the day of surgery, patient discharge disposition, and hospital LOS, while adjusting for underlying patient health risks and other nonclinical factors, including the hospital surgery site and health insurance.

A total of 1359 eligible patients were included in the authors' analysis. The mean LOS ranged between 2.01 and 2.47 days for Monday and Friday cases, respectively. The LOS was also notably longer for patients who were ultimately discharged to a skilled nursing facility (SNF) or rehabilitation center. A prolonged LOS occurring later in the week was not associated with greater underlying health risks, yet it nevertheless resulted in greater costs of care: the average total surgical costs for lumbar laminectomy were 20% greater for Friday cases than for Monday cases, and 24% greater for late-week cases than for early-week cases ultimately transferred to SNFs or rehabilitation centers. A Poisson generalized linear model fit the data best and showed that the comorbidity burden, surgery at a tertiary care center versus a community hospital, and the incidence of any postoperative complication were associated with significantly longer hospital stays. Discharge to home healthcare, SNFs, or rehabilitation centers, and late-week surgery were significant nonclinical predictors of LOS prolongation, even after adjusting for underlying patient health risks and insurance, with LOSs that were, for instance, 1.55 and 1.61 times longer for patients undergoing their procedure on Thursday and Friday compared to Monday, respectively.

Late-week surgeries are associated with a prolonged LOS, particularly when discharge is to an SNF or rehabilitation center. These findings point to opportunities to lower costs and improve outcomes associated with elective surgical care. Interventions to optimize surgical scheduling and perioperative care coordination could help reduce prolonged LOSs, lower costs, and, ultimately, give service line management personnel greater flexibility over how to use existing resources as they remain ahead of health care reforms [1)].

The Neurosurgical Quality and Outcomes Research Laboratory is dedicated to improving outcomes, functional capacity and quality of life in patients undergoing cranial and spinal neurosurgical interventions. Our laboratory focuses on development of risk-factor based predictive models for outcomes and costs, quality data on comparative and cost-effectiveness, assessment of regional and racial disparities to neurosurgical access, epidemiologic trend analyses, participation in clinical trials,and evaluating intensity of resource utilization in neurosurgery. The laboratory has led several projects utilizing data from large-scale national administrative databases and trauma registry. Efforts to participate in the National Neurosurgical Quality and Outcomes Database (N2QOD)are underway.

Geographic variations in healthcare costs have been reported for many surgical specialties.

In a study, Asemota et al. sought to describe national and regional costs associated with transsphenoidal pituitary surgery (TPS).

Data from the Truven-MarketScan 2010-2014 was analyzed. They examined overall total, hospital/facility, physician, and out-of-pocket payments in patients undergoing TPS including technique-specific costs. Mean payments were obtained after risk-adjustment for the patient- and system-level confounders and estimated differences across regions.

The estimated overall annual burden was $43 million/year in our cohort. The average overall total

payment associated with TPS was $35,602.30, hospital/facility payment was $26,980.45, physician payment was $4,685.95, and out-of-pocket payment was $2,330.78. Overall total and hospital/facility costs were highest in the West and lowest in the South (both P<0.001), while physician reimbursements were highest in the North-east and lowest in the South (P<0.001). There were no differences in out-of-pocket expenses across regions. On a national level, there were significantly higher overall total and hospital/facility payments associated with endoscopic compared to microscopic procedures (both P<0.001); there were no significant differences in physician payments nor out-of-pocket expenses between techniques. There were also significant within-region cost differences in the overall total, hospital/facility, and physician payments in both techniques as well as in out-of-pocket expenses associated with microsurgery. There were no significant regional differences in out-of-pocket expenses associated with endoscopic surgery.

These results demonstrate significant geographical cost disparities associated with TPS. Understanding the factors behind disparate costs is important for developing cost containment strategies [2].

Cost driver

Cost driver.

Vestibular Schwannoma Treatment Cost

Vestibular Schwannoma Treatment Cost

1)
Salas-Vega S, Chakravarthy VB, Winkelman RD, Grabowski MM, Habboub G, Savage JW, Steinmetz MP, Mroz TE. Late-week surgery and discharge to specialty care associated with higher costs and longer lengths of stay after elective lumbar laminectomy. J Neurosurg Spine. 2021 Apr 6:1-7. doi: 10.3171/2020.11.SPINE201403. Epub ahead of print. PMID: 33823491.
2)
Asemota AO, Ishii M, Brem H, Gallia GL. Geographic Variation in Costs of Transsphenoidal Pituitary Surgery in the United States. World Neurosurg. 2020 Mar 4. pii: S1878-8750(20)30420-4. doi: 10.1016/j.wneu.2020.02.145. [Epub ahead of print] PubMed PMID: 32145414.