

# Big differences in US healthcare costs for fixing back pain

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How much does spinal fusion surgery cost? The answer depends on what part of the country you live in, reports a study in the Sept. 1 issue of *Spine*, published by Wolters Kluwer.

Costs for spinal fusion vary substantially by region, with [costs](#) being lowest in the Midwest and highest in the Northeast, according to the new research by Dr. W. Ryan Spiker and colleagues of University of Utah, Salt Lake City. They write, "This data sheds light on the actual cost of common surgeries throughout the United States, and will allow further progress towards the development of cost effective, value driven care."

The researchers analyzed 2012 Medicare data on the costs of two common types of spinal fusion surgery: anterior cervical discectomy and fusion (ACDF) and posterior lumbar fusion (PLF). These two operations are widely performed in patients with patients with pain and/or instability in the upper (ACDF) and lower (PLF) spine.

For comparison, the costs of total knee arthroplasty (TKA)—another common orthopedic procedure, not involving the spine—were assessed as well. The analysis focused on [direct costs](#), defined as the amount reimbursed to health care providers (such as surgeons or hospitals) by Medicare or other payers. Most previous economic analyses of spinal surgery have focused on charges—the amount billed by providers to payers.

Average national costs were about \$14,000 for a single-level ACDF

procedure and \$26,000 for a single-level PLF. (These total figures reflected combined professional and facility costs.) Average cost for KA was about \$13,000, increasing to \$22,000 for TKA in patients with accompanying other major medical conditions.

"Each procedure had a significant range in cost across the country," Dr. Spiker and coauthors write. Costs for ACDF ranged from about \$11,000 to \$25,000, while PLF costs ranged from \$20,000 to \$37,000. For TKA patients without major medical conditions, the range was from about \$11,000 to \$19,000.

All procedures except ACDF also showed significant variations on the regional level—with the lowest costs in the Midwest and highest costs in the Northeast. For PLF, costs ranged from \$24,000 in the Midwest to \$28,000 in the Northeast. The figures were \$12,000 versus \$14,000 for primary TKA, and \$21,000 versus \$25,000 for TKA with major medical conditions.

On the state level, total costs for all four procedures were significantly correlated with the state's cost of living index, but not with state population.

Spinal fusion procedures such as ACDF and PLF are a major source of costs for Medicare and other payers. From 2001 to 2010, an estimated 3.6 million spinal fusions were performed in the United States, with total charges of more than \$287 billion.

The new study is one of the first to provide information on the costs of [spinal fusion](#) surgery, rather than charges. Reported total charges for these procedures are about twice as high as the average costs, Dr. Spiker and colleagues note.

The results show substantial variations in the costs paid by Medicare for

[spinal fusion surgery](#). The TKA cost data show that the variations are not limited to spinal surgery.

The study does not show what's behind the variations in cost, although state cost-of-living index is one related factor. Dr. Spiker and coauthors write, "In the pursuit of cost optimization, and the broader pursuit of value driven healthcare, it may prove valuable to study the factors that allow these states to deliver care at a lower cost."

**More information:** "Geographic Variations in the Cost of Spine Surgery" [DOI: 10.1097/BRS.0000000000001022](https://doi.org/10.1097/BRS.0000000000001022)

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