

Media Contacts:

Annmarie Christensen
(603) 653-0897

annmarie.christensen@dartmouth.edu

Rebecca Porterfield
(202) 683-3202

rebecca.porterfield@mslgroup.com

Treatment of Spinal Stenosis Shows Vast Regional Variance

Disparities in surgical versus non-surgical care reinforce need for shared decision-making

Lebanon, N.H. (October 28, 2014) – Surgical treatment for patients with low back pain resulting from spinal stenosis varies dramatically across the United States and whether an individual undergoes lumbar decompression or increasingly popular, but controversial, spinal fusion to alleviate the pain differs widely across regions, according to a new report from the Dartmouth Atlas Project.

Spinal stenosis is a condition in which the thickening of tissue surrounding the spine impinge on the nerves, causing pain. There are multiple treatment options, including medication, physical therapy, steroid injections, and surgery. Among surgical options, even though there is no indication that patients benefit more from spinal fusion than decompression, rates of spinal fusion surgeries increased 67 percent among Medicare beneficiaries from 2001-2011, overtaking decompression as the most common surgical choice.

Rates of inpatient decompression, the process by which the tissue compressing the spinal nerves is removed, vary eightfold, from 25.3 procedures per 100,000 beneficiaries in Bronx, New York to 216.7 procedures per 100,000 in Mason City, Iowa. In general, rates of spinal decompression were higher in the Pacific Northwest and northern Mountain states than the rest of the country.

Spinal fusion, which joins together two or more vertebrae under the theory that stabilizing the spine will reduce pain, carries greater risk of infection and readmission to the hospital. Rates of spinal fusion vary by a factor of more than 14 across hospital referral regions – 9.2 procedures per 100,000 in Bangor, Maine to 127.5 per 100,000 in Bradenton, Florida.

“Nearly 80 percent of Americans will experience low back pain at some point in their lives, and about 30 million people a year receive professional medical care for a spine problem,” said Brook Martin, Ph.D., MPH, The Dartmouth Institute of Health Policy & Clinical Practice and Dartmouth-Hitchcock Medical Center, who co-authored the report along with Philip Goodney, M.D., M.S., director of the Center for the Evaluation of Surgical Care at Dartmouth Hitchcock Medical Center, David Goodman, M.D., M.S., principal investigator of the Dartmouth Atlas, and other colleagues. “It is critical that we fully inform patients of the risks as well as potential benefits through a collaborative process between patients and physicians of shared decision making. All treatment has associated risk, but surgery is irreversible. Using shared decision-making encourages the exchange of information so as to optimize results.”

The report, called “[Variation in the Care of Surgical Conditions: Spinal Stenosis](#),” is the fourth in a series of six reports from the Dartmouth Atlas of Health Care examining unwarranted

variations in the surgical care of Medicare beneficiaries. Previous reports on [obesity](#) and [cerebral aneurysms](#) pointed out regional and, in the case of [diabetes](#), racial disparities, focusing on the importance of shared decision-making. The report draws on Medicare claims from 2007-2011 and divides the country into 307 regional markets defined by hospital use.

###

This report was produced by the Dartmouth Atlas Project, located at the [Dartmouth Institute for Health Policy & Clinical Practice](#). The Dartmouth Atlas Project is principally funded by the Robert Wood Johnson Foundation, with support from a consortium of funders. This report received its major support from the Department of Surgery at Dartmouth-Hitchcock Medical Center. The full report, Variations in the Care of Surgical Conditions: Cerebral Aneurysms, and [complete data tables](#) can be found at www.dartmouthatlas.org.

About the Dartmouth Atlas Project

For more than 20 years, the Dartmouth Atlas Project has documented glaring variations in how medical resources are distributed and used in the United States. The project uses Medicare data to provide information and analysis about national, regional, and local markets, as well as hospitals and their affiliated physicians. This research has helped policymakers, the media, health care analysts and others improve their understanding of our health care system and forms the foundation for many of the ongoing efforts to improve health and health systems across America.

Methodology

We examined a 100 percent sample of inpatient Medicare claims for patients who had a diagnosis of spinal stenosis and underwent a lumbar spinal fusion or decompression operation from 2001 to 2011. We combined data from 2001 through 2011 to estimate age-, sex-, and race-adjusted trends in the rates of decompression and fusion operations for spinal stenosis per 100,000 Medicare beneficiaries. The rates were adjusted for age, sex, and race using the national Medicare population as the standard. Orthopaedic device complications, wound problems, life-threatening medical complications, and repeat surgery were ascertained for each patient. Similarly, we examined differences in long-term rates of repeat spine operation between decompression and fusion.