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**Paul G. Mastrokostas B.S.**

Advisor(s): Afshin Razi M.D.

Co-author(s): Christian Cassar, Leonidas E. Mastrokostas, Jad Bou Monsef, Afshin E. Razi, Mitchell K. Ng

### **Trends in Cervical Laminoplasty: Medicare Projections Through 2060**

#### **Introduction:**

Cervical laminoplasty is a motion-preserving procedure used to treat cervical spondylotic myelopathy (CSM) and ossification of the posterior longitudinal ligament (OPLL). While its use has evolved over time, limited research has projected future trends in utilization.

#### **Methods:**

Medicare Part-B National Summary data (2005–2022) was used to assess cervical laminoplasty volumes, adjusting for Medicare Advantage enrollment. Procedures were identified using CPT codes 63051 and 63050. Four forecasting models—log-linear, Poisson, negative binomial regression, and ARIMA—were evaluated, with Poisson regression selected for optimal predictive accuracy. Projections were generated for annual procedure volumes from 2023 to 2060.

#### **Results:**

Cervical laminoplasty procedures increased from 811 in 2005 to 2,437 in 2022, a 200.7% growth. The highest annual increase occurred between 2020 and 2021 (21.2%), following a 14.6% decline during the COVID-19 pandemic. The Poisson model estimated an average annual growth rate of 5.0%, with projected volumes reaching 15,528 by 2060 (95% CI: 13,992–17,234), a 537% increase from 2022. The most rapid growth is expected between 2023 and 2024 (5.1%), followed by biennial increases of ~10.5%.

#### **Conclusions:**

Cervical laminoplasty utilization has grown significantly and is projected to continue increasing. The findings highlight the need for healthcare systems to allocate resources for rising demand. Further research should examine shifts in indications and the role of motion-preserving procedures in shaping future trends.