Study Finds Wide County-Level Variation in Rates of Surgery for Early-Stage Lung Cancer

Socioeconomic and healthcare delivery factors appear to contribute to the gap



A new study finds more than two-fold differences between counties with the lowest and highest rates of surgery for patients with early stage lung cancer, with socioeconomic and healthcare delivery factors contributing to the gap. The study appears in the journal *Chest*.

Lung cancer is the leading cause of cancer-related death in the United States, with non-small cell lung cancer (NSCLC) accounting for about 85% of cases. Surgery is the standard treatment for early-stage (I or II) disease, but studies have documented variations in receipt of curative-intent surgery by race, facility type, and geography.

The authors of the current study recently reported substantial state-level variations in receipt of curative-intent surgery for NSCLC in the United States. For the current study, investigators at the American Cancer Society and Baptist Cancer Center, Memphis , led by Helmneh Sineshaw, M.D., MPH, looked at county-level variations within states to gain a sharper picture of the extent of care delivery problems.

A total of 179,189 patients 35 and older diagnosed with stage I/II NSCLC between 2007–2014 in 2,263 counties were identified from 39 states, the District of Columbia, and Detroit population-based cancer registries compiled by the North American Association of Central Cancer Registries. The percentage of patients who underwent surgery was calculated for each county with 20 or more cases of NSCLC.

The authors found surgery rates ranged from 12.8% to 48.6% in the 10% of counties with the lowest surgery rates to 74.3% to 91.7% in the 10% of counties with the highest rates of surgery. Pockets of low surgery rate-counties within each state were also identified. For example, there was a 25% absolute difference between the lowest and highest surgery receipt rate-counties in Massachusetts. Overall, counties in the lowest quartile for receipt of surgery were those with high proportion of non-Hispanic blacks, high poverty and uninsured rate, low surgeon-to-population ratio, and nonmetropolitan status.

“Receipt of curative-intent surgery for early-stage NSCLC varied substantially across counties in the United States with pockets of low receipt counties, even within states with high surgical resection rates,” write the authors. “Area-level socioeconomic and healthcare delivery factors partially contributed to these variations, suggesting that concerted policy interventions targeting low access and high poverty counties may reduce variations in receipt of curative-intent surgery.”

The authors say further studies are needed to identify and address gaps in access to surgical treatment of early-stage NSCLC, such as more direct evaluation of patient-, provider-, institution-, and community-level factors influencing access to and choice for or against curative-intent treatment modalities.

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