

Original Investigation

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Evaluating Access to Laser Eye Surgery by Driving Times Using Medicare Data and Geographical Mapping

Jamie Shaffer, MS^{1,2}; Anand Rajesh, BS^{1,2}; Michael W. Stewart, MD³; et al Aaron Y. Lee, MD, MSCI^{1,2}; Darby D. Miller, MD, MPH³; Cecilia S. Lee, MD, MS^{1,2}; Courtney E. Francis, MD¹

Author Affiliations

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Editorial Comment

Key Points

Question Is expanding laser eye surgery privileges to optometrists associated with improved patient access to laser procedures?

Findings In this cohort study of Medicare Part B claims data, most optometrists who perform laser eye surgery procedures were found to practice in areas already served by ophthalmologists and only a small percentage of the population of each state resided exclusively near (30-minute access) to optometrists. In Oklahoma and Kentucky, patients drove longer times to see optometrists than ophthalmologists, and in Louisiana, patients drove shorter to optometrists for laser eye surgery procedures.

Meaning There is insufficient evidence to show that expansion of laser eye surgery privileges to optometrists has increased patient access to laser procedures.

Abstract

Importance Recently, several states have granted optometrists privileges to perform select laser procedures (laser peripheral iridotomy, selective laser trabeculoplasty, and YAG laser capsulotomy) with the aim of increasing access. However, whether these changes are associated with increased access to these procedures among each state's Medicare population has not been evaluated.

Objective To compare patient access to laser surgery eye care by estimated travel time and 30-minute proximity to an optometrist or ophthalmologist.

Design, Setting, and Participants This retrospective cohort database study used Medicare Part B claims data from 2016 through 2020 for patients accessing new patient or laser eye care (laser peripheral iridotomy, selective laser trabeculoplasty, YAG) from

optometrists or ophthalmologists in Oklahoma, Kentucky, Louisiana, Arkansas, and Missouri. Analysis took place between December 2021 and March 2023.

Main Outcome and Measures Percentage of each state's Medicare population within a 30-minute travel time (isochrone) of an optometrist or ophthalmologist based on US census block group population and estimated travel time from patient to health care professional.

Results The analytic cohort consisted of 1 564 307 individual claims. Isochrones show that optometrists performing laser eye surgery cover a geographic area similar to that covered by ophthalmologists. Less than 5% of the population had only optometrists (no ophthalmologists) within a 30-minute drive in every state except for Oklahoma for YAG (301 470 [7.6%]) and selective laser trabeculoplasty (371 097 [9.4%]). Patients had a longer travel time to receive all laser procedures from optometrists than ophthalmologists in Kentucky: the shortest median (IQR) drive time for an optometrist-performed procedure was 49.0 (18.4-71.7) minutes for YAG, and the the longest median (IQR) drive time for an ophthalmologist-performed procedure was 22.8 (12.1-41.4) minutes, also for YAG. The median (IQR) driving time for YAG in Oklahoma was 26.6 (12.2-56.9) for optometrists vs 22.0 (11.2-40.8) minutes for ophthalmologists, and in Arkansas it was 90.0 (16.2-93.2) for optometrists vs 26.5 (11.8-51.6) minutes for ophthalmologists. In Louisiana, the longest median (IQR) travel time to receive laser procedures from optometrists was for YAG at 18.5 (7.6-32.6) minutes and the shortest drive to receive procedures from ophthalmologists was for YAG at 20.5 (11.7-39.7) minutes.

Conclusions and Relevance Although this study did not assess impact on quality of care, expansion of laser eye surgery privileges to optometrists was not found to lead to shorter travel times to receive care or to a meaningful increase in the percentage of the population with nearby health care professionals.

Invited Commentary

Beyond Accessibility in Exploring Access to Eye Care to Achieve Vision Health Equity

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