Longitudinal State-Level Trends in Medicare Epidural Steroid Injection Utilization from 2015 to 2024

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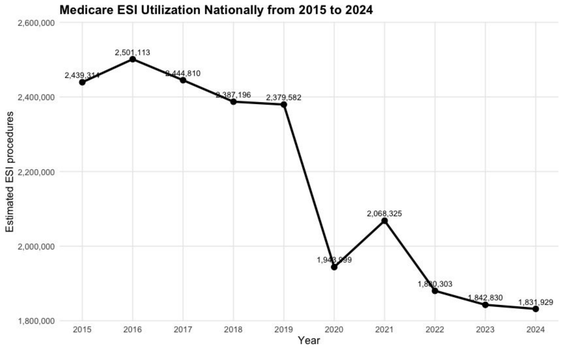
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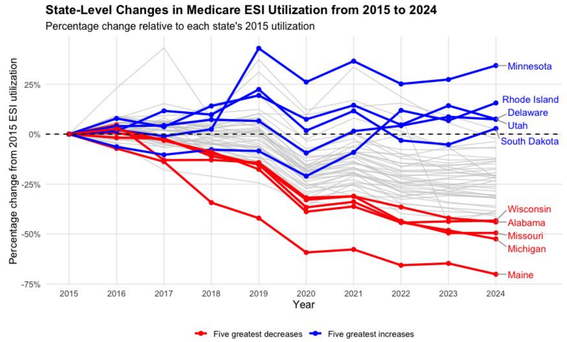
Introduction

- Epidural steroid injections (ESIs) are commonly performed interventions for spinal pain
- In 2008, a Medicare analysis using 2001 claims demonstrated substantial geographic variation in ESI utilization, but no follow-up study has been conducted since
- We conducted a retrospective longitudinal analysis of the Centers for Medicare & Medicaid Services Medicare Physician and Other Practitioners by Geography and Service datasets from 2015 to 2024



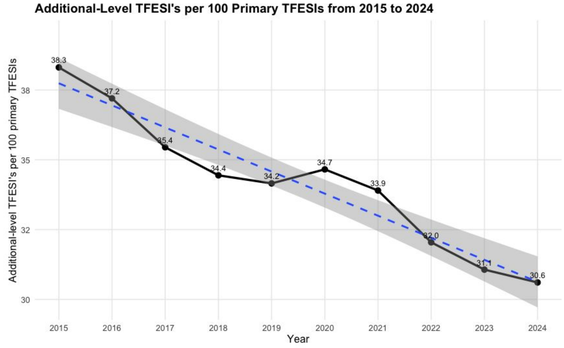
Methods

- ESI procedure volume included cervical/thoracic and lumbar/sacral interlaminar epidural steroid injections (ILESI's) and first-level cervical/thoracic and lumbar/sacral transforaminal epidural steroid injections (TFESI's)
- Additional-level TFESI's were analyzed separately.
- State-level changes in ESI utilization from 2015–2024 were calculated
- An exact binomial test evaluated whether the proportion of states with declining utilization exceeded 50%



Results

- ESI procedure volume declined significantly from 2.44 million in 2015 to 1.83 million in 2024
- ESI procedure volume declined in 44/50 states (88%; exact binomial p<0.001), and increased in only 6 states between 2015 and 2024
- Additional-level TFESI utilization decreased from 38.3 to 30.6 services per 100 primary TFESIs (−20.1%), corresponding to an annual decrease of 0.79 additional levels per 100 primary TFESIs (overall linear trend p<0.001)



Discussion

- From 2015 to 2024, Medicare fee-for-service ESI procedure volume appears to have declined nationally
- With 44 states experiencing declines in ESI procedure volume, state-level utilization patterns were broadly consistent with the direction of the national trend.
- These findings provide a contemporary longitudinal update to state-level Medicare ESI utilization patterns previously characterized using 2001 Medicare claim
- Concurrent reductions in additional-level TFESI's indicate evolving procedural practice patterns

References

- Friedly J, Chan L, Deyo RA. *Geographic variation in epidural steroid injection use in Medicare patients.* J Bone Joint Surg Am. 2008.