

Changes in Insurance Coverage and Outcomes Among Emergent Cerebrovascular Patients After the Affordable Care Act

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Introduction

- Lack of insurance coverage is associated with worse health outcomes. The Affordable Care Act was designed to increase the number of insured Americans.
- We examined changes in insurance coverage and outcomes in patients admitted emergently for cerebrovascular conditions after the Affordable Care Act (ACA).

Methods

- Retrospective analysis of patients aged 18-64 using the Nationwide Inpatient Sample (2012-2015). Medicare patients were excluded.
- Emergent admissions with a diagnosis of stroke, aneurysm, carotid artery stenosis, or AVMs were included.
- Two-time periods established: pre-ACA (2012-2013) and post-ACA (2014-2015). Univariate analyses were conducted to determine changes in uninsured and Medicaid coverage rates. A quasi-experimental, risk-adjusted differences-in-differences (DID) analysis was conducted to compare differences in mortality, perioperative complications, and costs between insured and uninsured patients pre- and post-ACA.

Results

- Among 149,269 patients that met inclusion criteria, uninsured rates decreased (17.2% to 12.4%) while Medicaid coverage increased (24.4% to 30.3%) across the study period ($p < 0.001$)
- Similar trends were noted for patients that underwent a neurovascular intervention ($p < 0.001$).
- Among all cases, no differences in mortality rates or costs were observed, but perioperative complication rates slightly increased (24.0% to 25.6%, $p < 0.001$).
- Among patients that underwent procedures, DID analysis indicated that uninsured patients were associated with a 6.5% increase in perioperative complications ($p = 0.026$) post-ACA compared to insured patients. No differences in mortality or costs were observed between insured and uninsured patients across the time periods.

Conclusions

The ACA was associated with a significant reduction in uninsured patients and increased Medicaid coverage. No differences in mortality and costs were observed but peri-operative complication rates were increased for uninsured patients that underwent neurovascular intervention compared to insured patients post-ACA. Further research underlying these differences and the impact of the ACA in Medicaid and non-Medicaid expansion states is warranted.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe changes in insurance coverage in patients hospitalized with emergent cerebrovascular conditions. 2) Discuss changes in outcomes among emergent admissions for cerebrovascular conditions after the Affordable Care Act.

References

1. Hamel M, Godat LN, Coimbra R, Doucet J. How has the Affordable Care Act changed outcomes in Emergency General Surgery? *J. Trauma Acute Care Surg.* 2018;84:1.
2. Scott JW, Neiman PU, Najjar PA, Tsai TC, Scott KW, Shrime MG, et al. Potential impact of Affordable Care Act-related insurance expansion on trauma care reimbursement. *J. Trauma Acute Care Surg.* 2017;82:887-895.
3. Eguia E, Cobb AN, Kothari AN, Molefe A, Afshar M, Aranha G V., et al. Impact of the Affordable Care Act (ACA) Medicaid Expansion on Cancer Admissions and Surgeries. *Ann. Surg.* 2018;XX:1.