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Trends in Management of Carotid Stenosis

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Disclosures

- The authors of this paper have no disclosures

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Background

- Carotid stenosis has a prevalence of 4.2% in the general population
- Increased to 4.8% in patients over age 70

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Background

- 1951 First patient managed with carotid artery reconstruction
- 1953 First carotid endarterectomy reported
- 1990s multiple trials to identify which patients benefit from CEA

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Background

- Early 2000s carotid stenting
- 2015 transcarotid artery revascularization

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Methods

- This is a longitudinal cohort study of the AHCA database from 1997-2019
- Patients over the age 50 with unilateral stenosis were included
- Traumatic carotid occlusions, bilateral stenosis and patients with history of previous stroke were excluded

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Methods

- Patients with carotid stenosis were analyzed by intervention according to ICD 9 and ICD 10 procedure codes
- Carotid stenting and endarterectomy codes were identified and subgroups were analyzed
- Primary outcomes: stroke and all cause mortality

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Methods

- Using multivariable regression, risk adjusted O/E ratios for stroke and mortality were calculated

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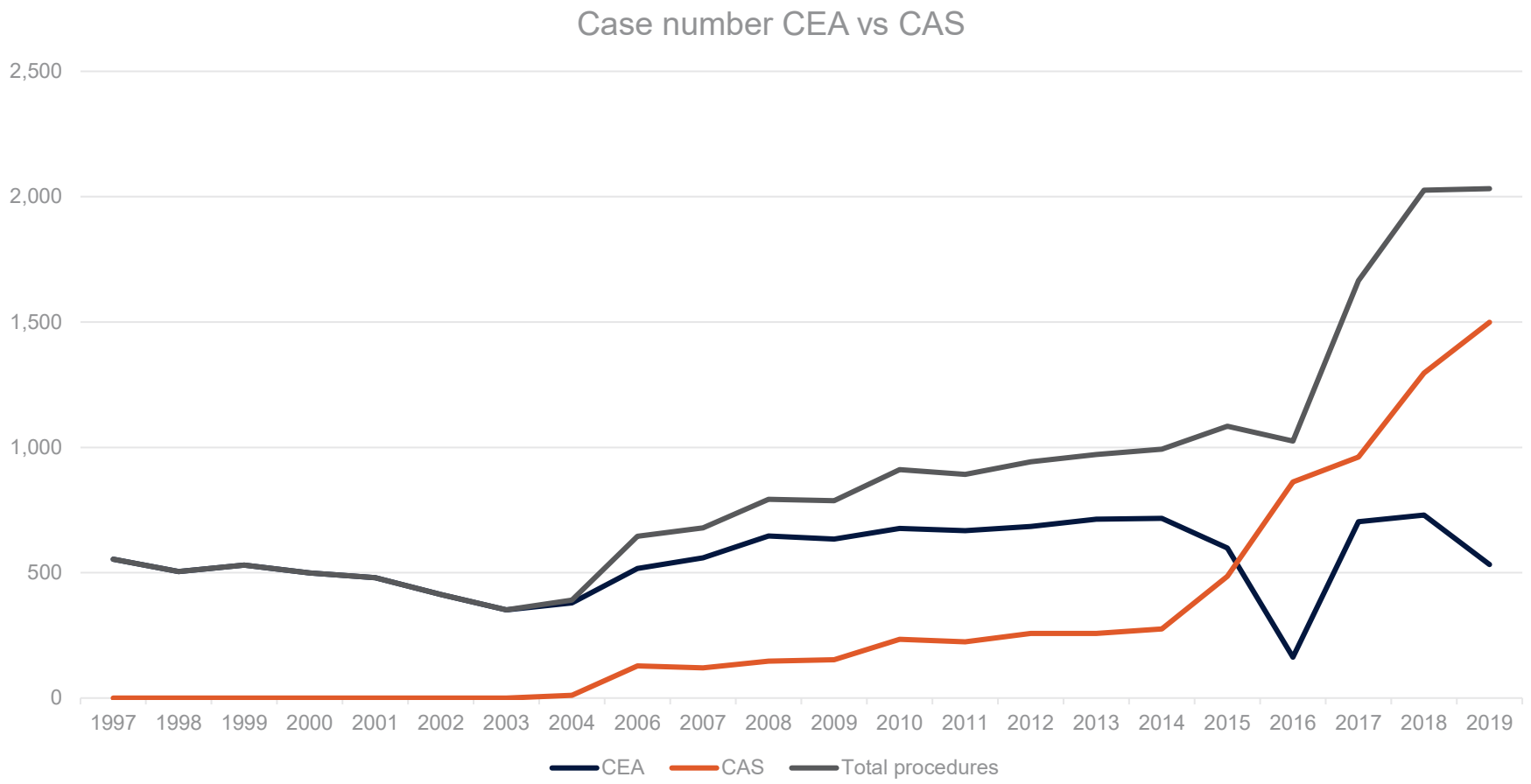
Results: Case volume CEA, CAS, and total



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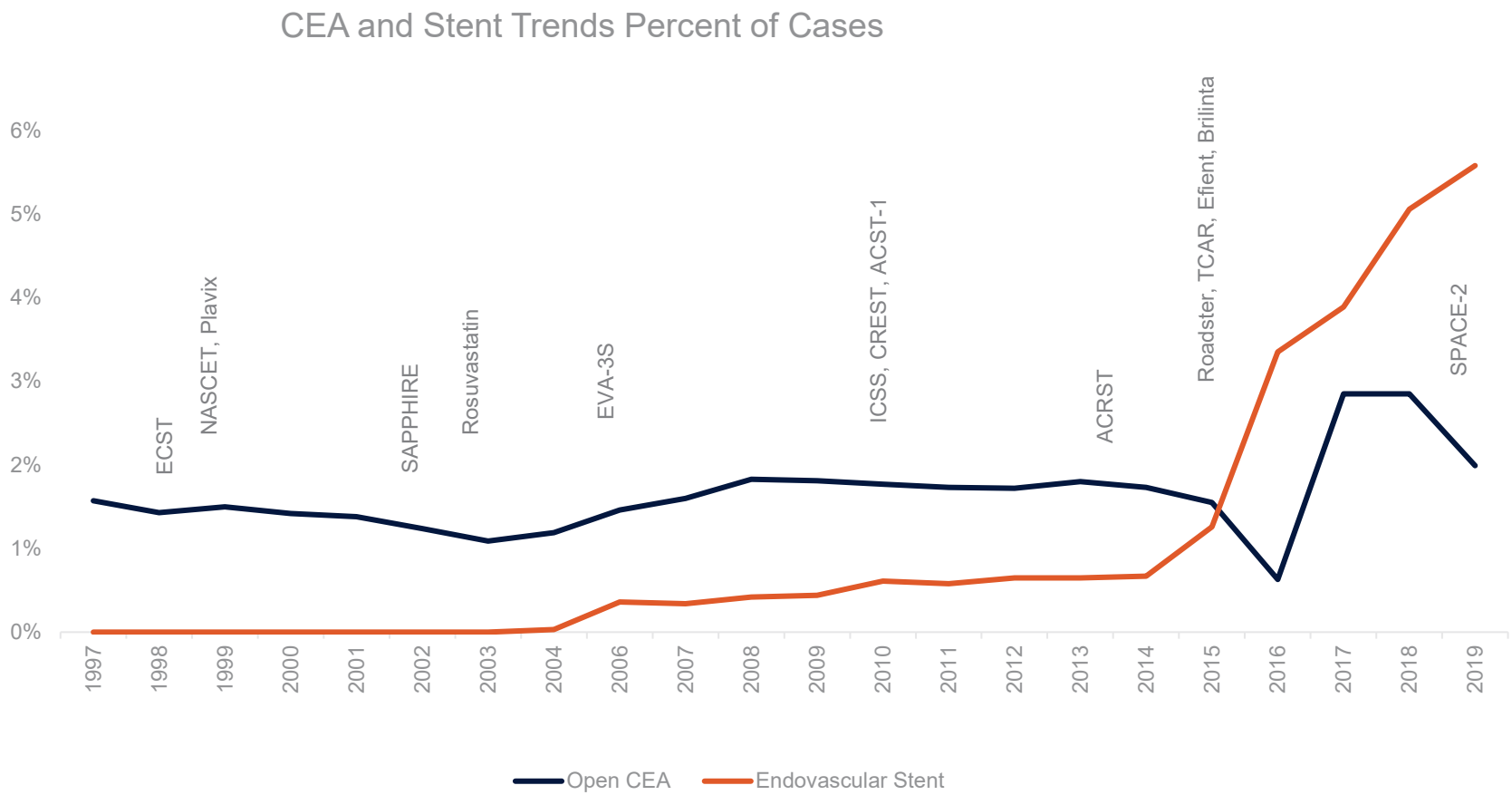
Results: Percent of cases treated CEA vs stent



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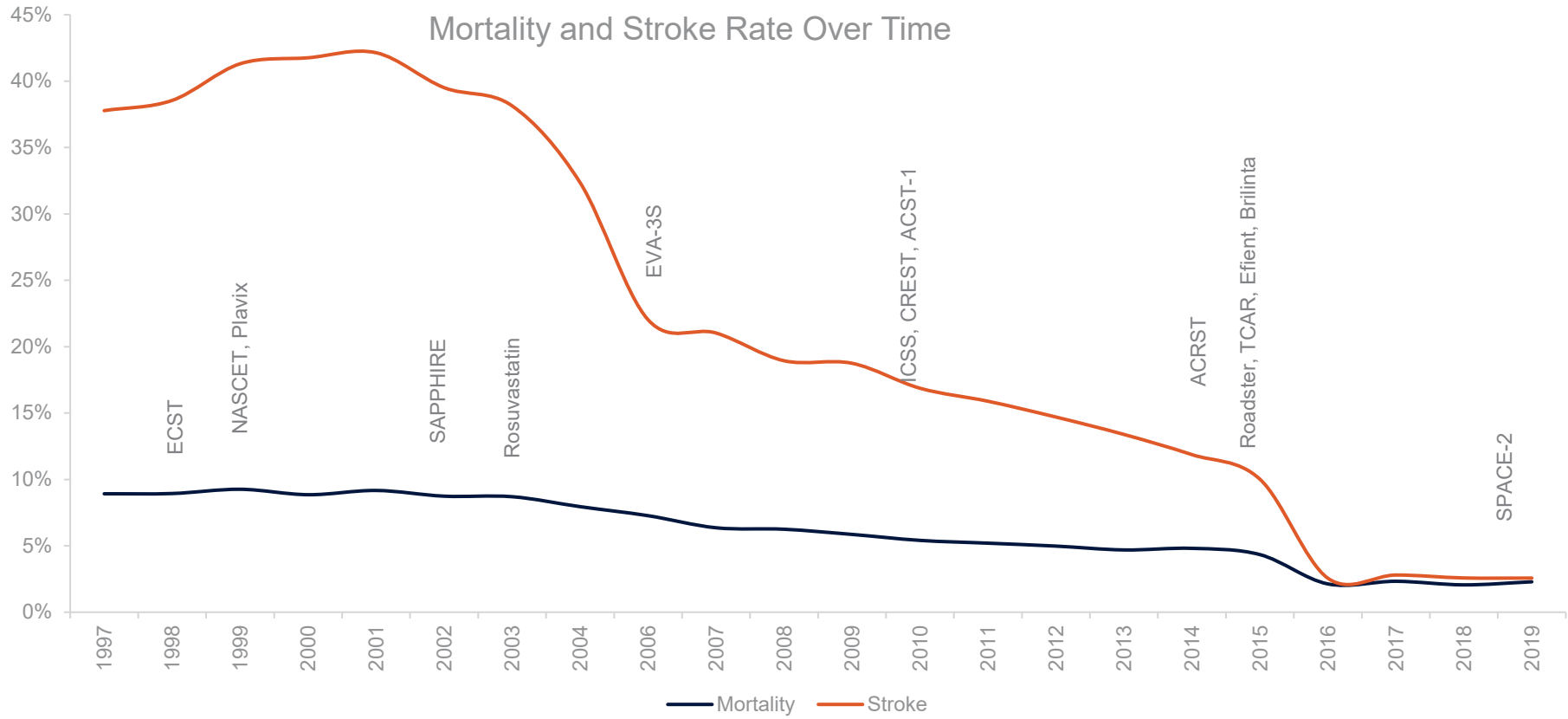
Mortality and Stroke Rate Over Time



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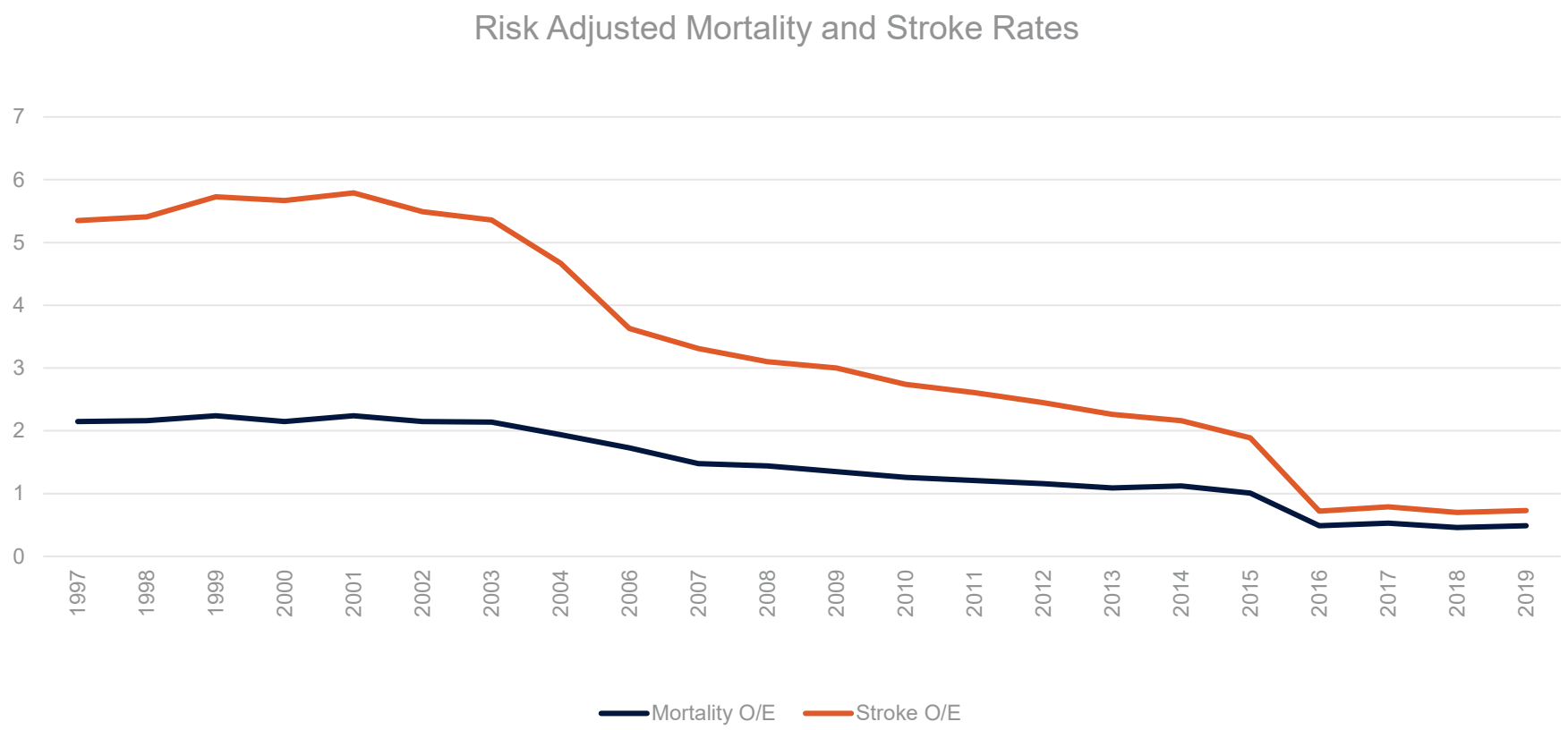
Risk Adjusted Mortality and Stroke Rates



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Discussion

- This series demonstrates increasing rate of intervention since inception of the database
- Over time the stroke rate decreased with gradual downtrend in all cause mortality

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Discussion

- Risk adjusted mortality and stroke rate decreased over time
- Carotid stenosis is attributed to 8% of strokes

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Limitations

- ICD 9 switched to ICD 10 in 2015
- Retrospective review of database

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Conclusion

- Since the inception of AHCA database the all cause mortality and stroke rates have declined

- A combination of advancements in technique as well as medical management led to decreased stroke and mortality

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