

Tracheostomy Incidence and Complications: A National Database Analysis



PRESENTER:
William Strober, MD

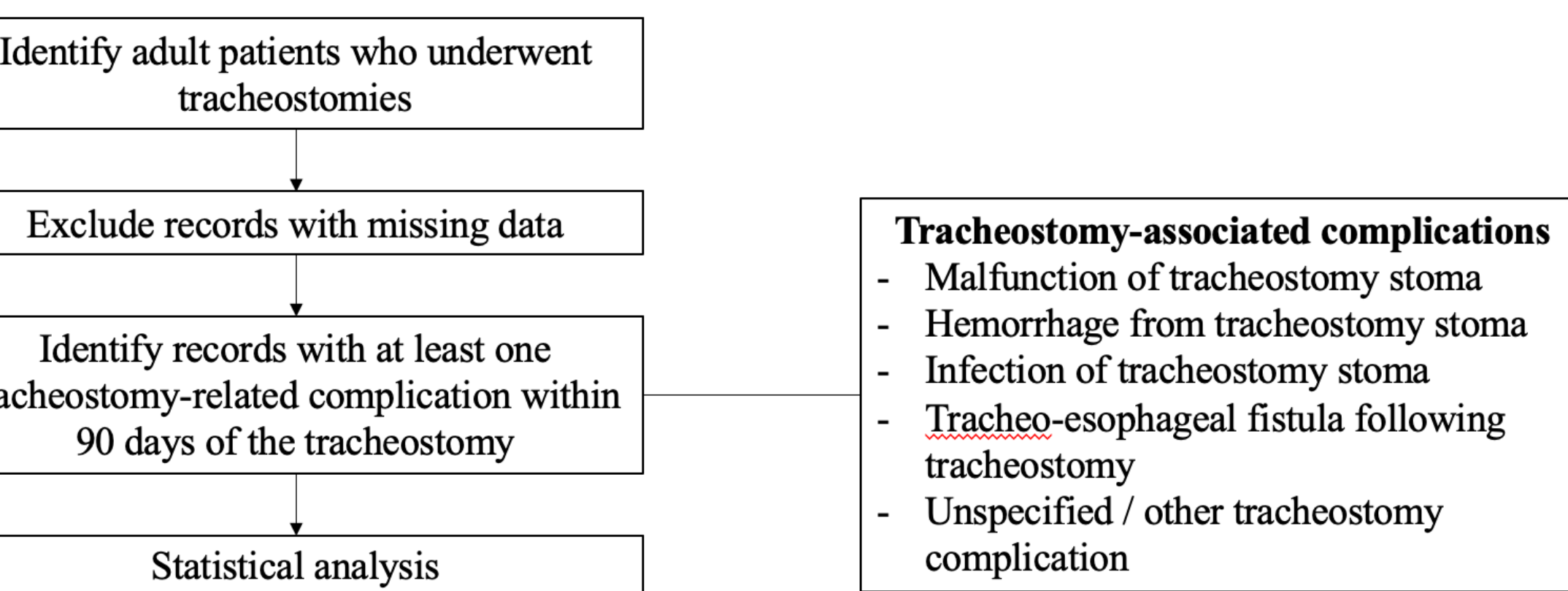
BACKGROUND

~85,000 tracheostomies are performed per year in the United States

Complications range from minor to catastrophic

Understanding risk factors is critical

METHODS



LIMITATIONS

Data is reliant on appropriate coding of procedures and diagnoses

Severity of complications is not captured by ICD codes

Unavailability of some key variables

- Race
- Mortality

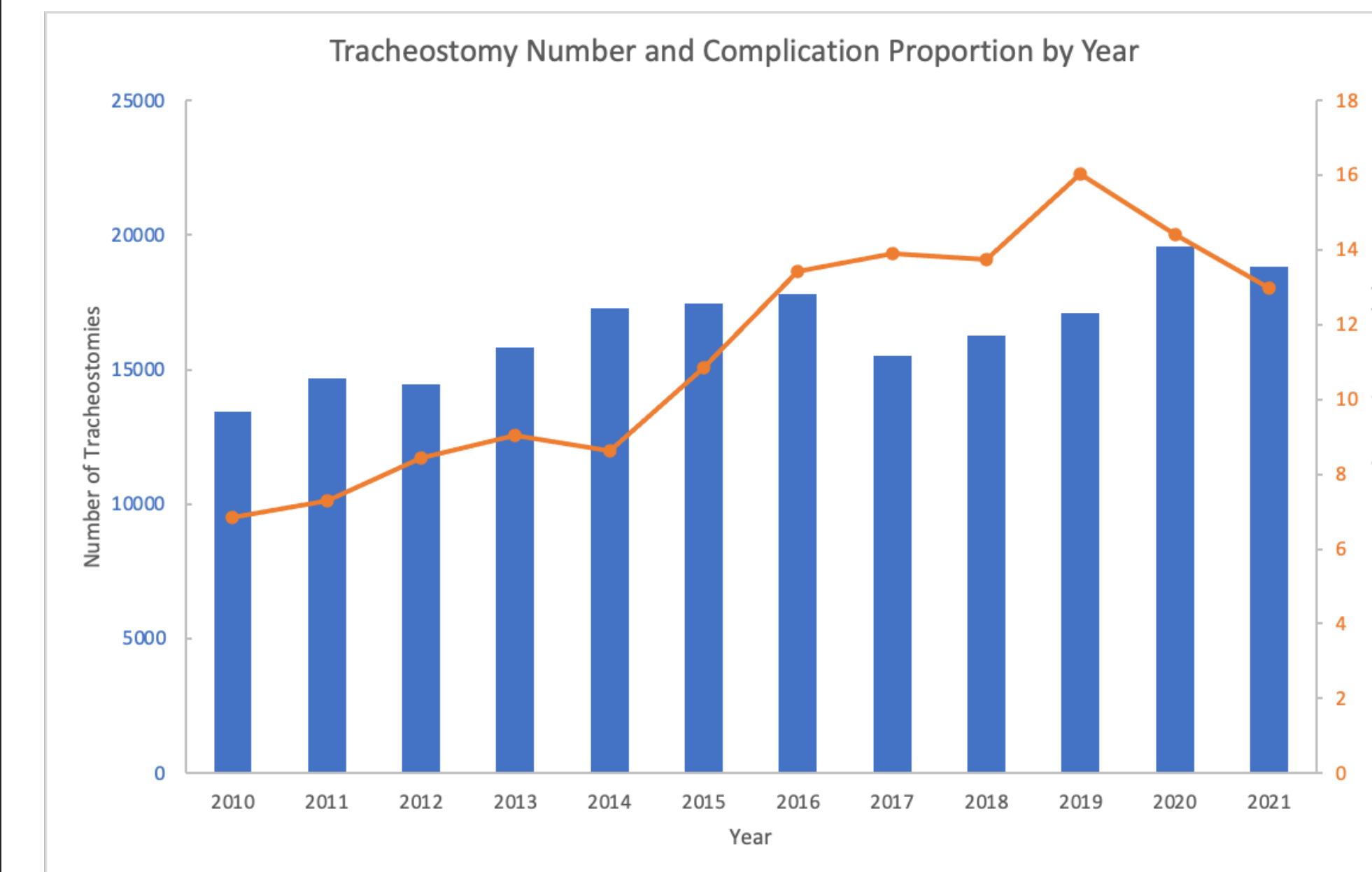
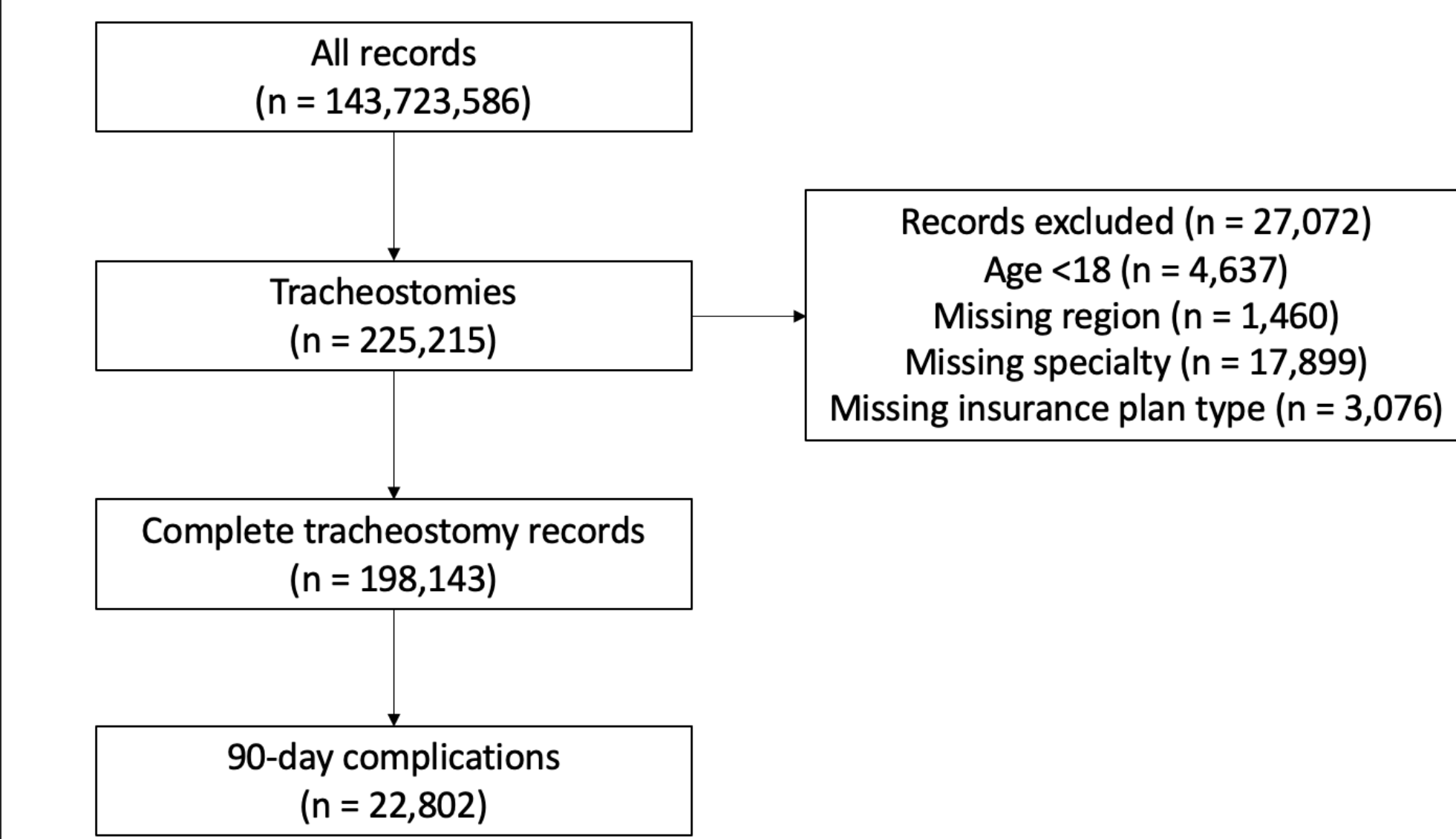
CONCLUSIONS

Complication rate increased over time

Region, physician specialty, insurance plan, and comorbidity burden are associated with the risk of developing a tracheostomy-associated complication

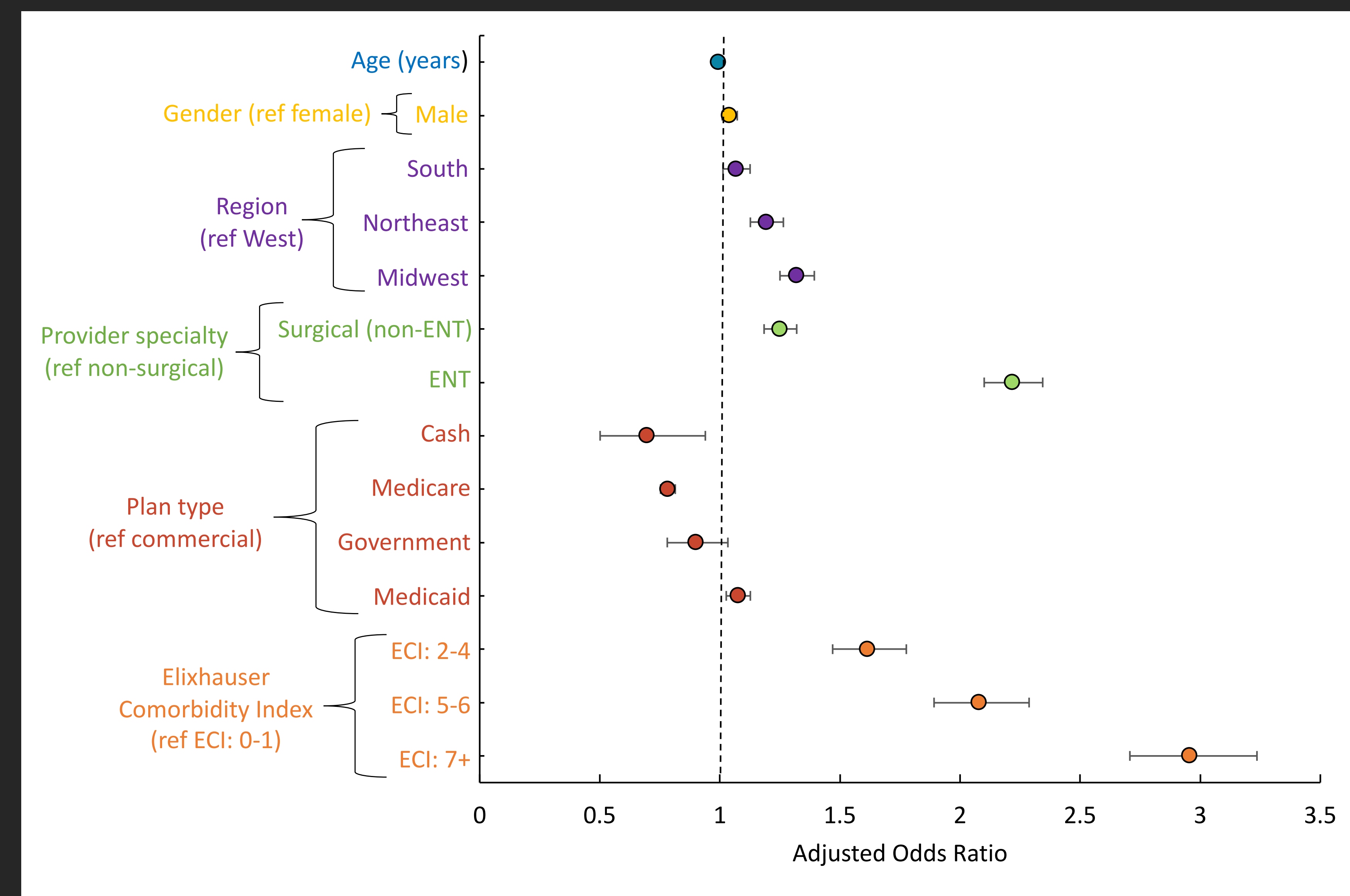
This information could guide quality improvement initiatives, help tailor patient and family counseling on tracheostomy risks, and inform the design of future studies investigating tracheostomy outcomes

Region, physician specialty, insurance plan, and comorbidity burden are associated with the risk of developing a tracheostomy-associated complication



Variable	Tracheostomy (n) (n = 198143)	Complications (%) (n = 22802)	OR (95% CI)
Age (median, range)	62 (18-83)	61 (18-83)	1.00 (1.00-1.00)
Gender			
Female	83852	9616 (11.5)	ref
Male	114291	13186 (11.5)	1.00 (0.97-1.03)
Region			
West	24155	2224 (9.2)	ref
South	81800	8356 (10.2)	1.12 (1.07-1.18)
Northeast	38474	4743 (12.3)	1.35 (1.28-1.43)
Midwest	53714	7479 (13.9)	1.51 (1.43-1.60)
Specialty			
Nonsurgical	26265	2154 (8.2)	ref
Surgical (non-otolaryngology)	110506	10772 (9.7)	1.27 (1.20-1.34)
Otolaryngology	61372	9876 (16.1)	2.24 (2.12-2.36)
Payer type			
Commercial	124756	15198 (12.2)	ref
Cash	582	49 (8.4)	0.67 (0.49-0.91)
Medicare	47492	4295 (9.0)	0.75 (0.72-0.78)
Government	2409	269 (11.2)	0.87 (0.75-0.99)
Medicaid	22904	2991 (13.1)	1.04 (1.00-1.09)
Elixhauser Comorbidity Index			
0-1	11356	534 (4.7)	ref
2-4	35740	2568 (7.2)	1.58 (1.44-1.74)
5-6	30338	2573 (8.5)	1.98 (1.80-2.18)
7+	108792	11393 (10.5)	2.67 (2.45-2.92)

Complication type	Number of events (%)
Unspecified / other tracheostomy complication	11014 (5.6)
Malfunction of tracheostomy stoma	6423 (3.2)
Hemorrhage from tracheostomy stoma	3273 (1.6)
Infection of tracheostomy stoma	1712 (0.9)
Tracheo-esophageal fistula following tracheostomy	380 (0.2)



Scan QR to download the full paper

William Strober, MD,
Dorina Kallogjeri, MD,
Jay F. Piccirillo, MD,
Matthew L. Rohlifing, MD

