Duke Clinical Research Institute

Scientific Sessions

LONG-TERM OUTCOMES AMONG US MEDICARE BENEFICIARIES WITH NON-CARDIOEMBOLIC ISCHEMIC STROKE

Brian Mac Grory | Neurologist, Duke Clinical Research Institute

American Heart Association.

#ScientificSessions26

AUTHORS & DISCLOSURES

Brian Mac Grory, MB BCh BAO, MHSc, MRCP,[1,2,3] Iyanuoluwa Ayodele, MS,[2] Brooke Alhanti, PhD,[2] Emily Durden, PhD,[4] Steven Caproni, PharmD,[4] Lawrence Fried, MD, MBA,[4] Jay B. Lusk, MD, MBA,[5] Michael Mullen, MD,[6] Steven R. Messe, MD,[7] Deepak L. Bhatt, MD, MPH, MBA,[8] Eric E. Smith, MD, MPH,[9] Lee H. Schwamm, MD,[10] Jeffrey L. Saver, MD,[11] Gregg C. Fonarow, MD[12,13]

1. Department of Neurology, Duke University School of Medicine, Durham, NC, USA; 2. Duke Clinical Research Institute, Durham, NC, USA; 3. ORBIT Interdisciplinary Hub, Duke University, Durham, NC, USA; 4. Bayer Pharmaceuticals, Whippany, NJ, USA; 5. Department of Family Medicine, University North Carolina-Chapel Hill, North Carolina, NC, USA; 6. Department of Neurology, Temple University School of Medicine, Philadelphia, PA, USA; 7. Department of Neurology, University of Pennsylvania, Philadelphia, PA, USA; 8. Mount Sinai Fuster Heart Hospital, Icahn School of Medicine at Mount Sinai, New York, NY, USA; 9. Department of Clinical Neurosciences, University of Calgary, Alberta, Canada; 10. Department of Neurology, Yale University School of Medicine, New Haven, CT, USA; 11. Department of Neurology, University of California, Los Angeles, CA, USA; 12. Department of Medicine, University of California, Los Angeles, CA, USA; 13. Ahmanson-UCLA Cardiomyopathy Center, Los Angeles, CA, USA.

BMG Disclosures

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1. BACKGROUND & OBJECTIVE

- Currently, there is no targeted anticoagulant therapy following a NCIS[1]
- High stroke burden and high burden of multimorbidity in Medicare FFS population[2]
- CMS claims can be linked with GWTG-Stroke to examine long-term outcomes[3]
- Three quarters of all strokes occur in adults over 65 years or older[4]

Objective: To determine the long-term clinical, functional, and economic outcomes among US Medicare Beneficiaries hospitalized with a NCIS

CMS, Centers for Medicare and Medicaid Services; FFS, fee-for-service; GWTG, Get With The Guidelines; NCIS, non-cardioembolic ischemic stroke.

1. Prabhakaran S, et al. *Stroke.* 2026;57(8);e316–e436; 2. Leifheit EC, et al. *Stroke*. 2022;53(11):3338–3347;
3. Hammill BG, et al. *Am Heart J*. 2009;157(6):995–1000; 4. Yousufuddin M, Young N, *Aging*. 2019;11(9):2542–2544.

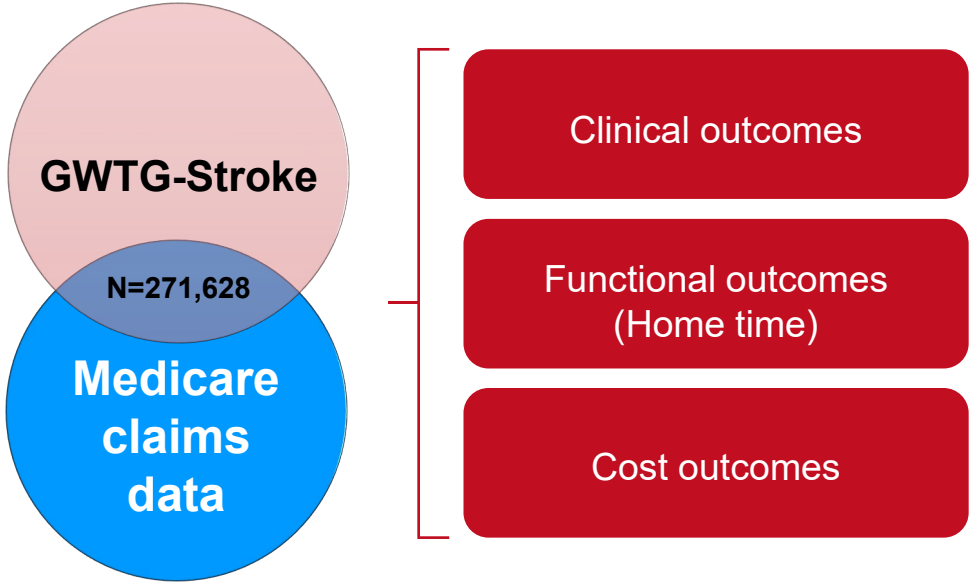
2. METHODS

Study design

Retrospective, observational cohort study
- GWTG-Stroke
- Medicare FFS claims
- American Hospital Association Survey Data
- July 1, 2019, to December 31, 2023

Population
- Consecutive adult patients aged ≥65 years with NCIS and FFS enrollment
- Linkage using a validated probabilistic linkage[1]

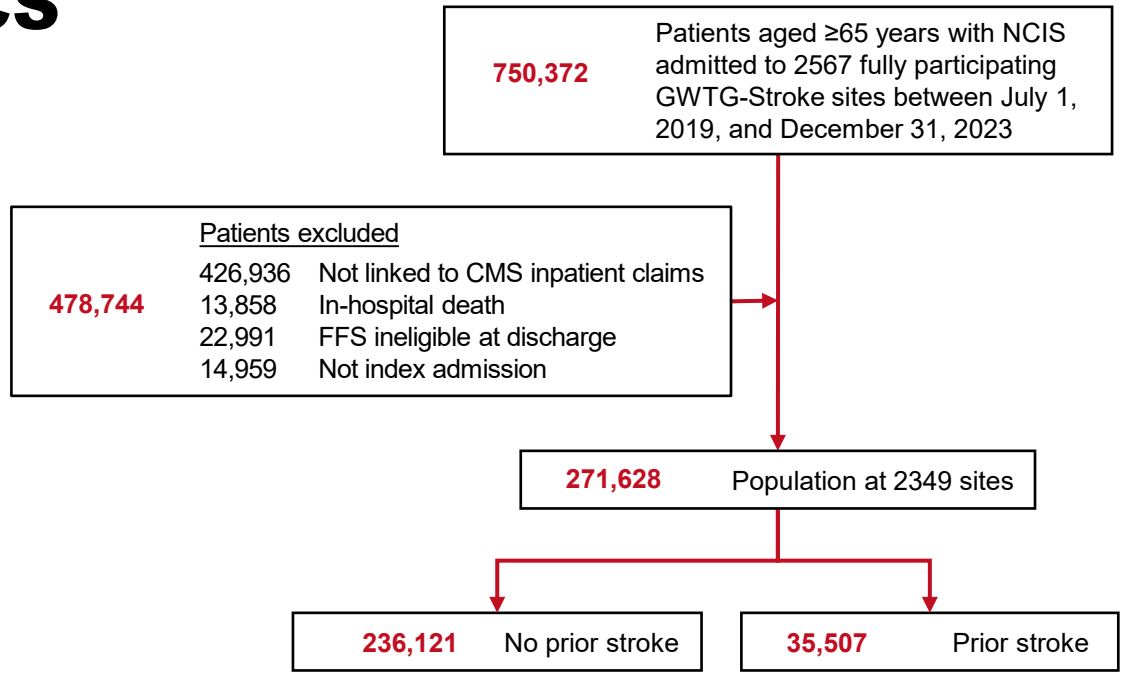
Data sources



FFS, fee-for service; GWTG, Get With The Guidelines; NCIS, non-cardioembolic ischemic stroke.
1. Hammill BG, et al. *Am Heart J*. 2009;157(6):995–1000.

3. RESULTS: BASELINE CHARACTERISTICS

- Median age: 77 years
- Median (range) NIHSS: 3 (1.0–6.0)
- Etiology:
  - Large Artery: 23.8%
  - Small Vessel: 30.3%
  - Cryptogenic: 45.9%



CMS, Centers for Medicare and Medicaid Services; FFS, fee-for-service; GWTG, Get With The Guidelines; NCIS, non-cardioembolic ischemic stroke; NIHSS, National Institutes of Health Stroke Scale.

3. RESULTS POST-DISCHARGE OUTCOMES

Outcome	Total (N=271,628)	No Prior Stroke (n=236,121)	Prior stroke (n=35,507)
Clinical Outcomes (Cumulative Incidence)			
Ischemic stroke	6.6 (6.5, 6.7)	6.2 (6.1, 6.3)	9.2 (8.9, 9.5)
MACE	16.1 (15.9, 16.2)	15.6 (15.4, 15.7)	19.1 (18.7, 19.5)
Readmission within 30 days	11.3 (11.2, 11.4)	11.1 (10.9, 11.2)	13.1 (12.7, 13.4)
Readmission within one year	37.9 (37.7, 38.1)	37.0 (36.8, 37.2)	43.9 (43.4, 44.4)
All-cause mortality	21.4 (21.2, 21.6)	20.6 (20.5, 20.8)	26.5 (26.1, 27.0)
Cardiovascular death	6.9 (6.8, 7.0)	6.7 (6.6, 6.8)	8.2 (7.9, 8.5)
Major bleeding events	3.9 (3.9, 4.0)	3.8 (3.8, 3.9)	4.6 (4.3, 4.8)
Hemorrhagic stroke	0.5 (0.5, 0.5)	0.5 (0.5, 0.5)	0.6 (0.5, 0.7)
Functional Outcomes			
1-year Home Time			
Mean (SD)	280.0 (127.2)	282.9 (125.8)	260.4 (134.4)
Median (Q1, Q3)	349.0 (253.0, 365.0)	350.0 (263.0, 365.0)	338.0 (176.0, 362.0)
Cost Outcomes†			
Cost of the index admission			
Mean	$19,436.0	$19,377.9	$19,822.7
(SD)	(21,989.4)	(21,926.8)	(22,397.7)
Overall Costs In 1 Year Post-Admission			
Mean	$49,830.5	$48,925.7	$55,847.3
(SD)	(52,394.4)	(51,653.0)	(56,715.2)
Costs due to all subsequent hospitalizations			
Mean	$16,055.0	$15,501.4	$19,736.7
(SD)	(34,443.4)	(33,776.0)	(38,386.8)
Recurrent stroke hospitalization			
Mean	$17,693.4	$17,560.6	$18,307.8
(SD)	(18,378.5)	(18,351.0)	(18,495.4)

†Costs are within the 1-year post-discharge data unless stated otherwise.
MACE, major adverse cardiovascular events; Q1, first quartile; Q3, third quartile; SD, standard deviation.

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4. CONCLUSION

In this observational cohort study of Medicare FFS patients admitted for NCIS, the following was observed:

1. High risk of subsequent stroke
    - Especially pronounced among those with a history of prior stroke
2. High risk of subsequent cardiovascular events
3. High economic burden with respect to the index admission and subsequent hospitalizations

Across clinical, functional, and economic outcomes, the burden was consistently greater among patients with a history of prior stroke

Limitations

- Only GWTG-Stroke participating hospitals included
- Medicare Advantage members not included

FFS, fee-for-service; GWTG, Get With The Guidelines; NCIS, non-cardioembolic ischemic stroke.

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Thank you!

Contact details:

brian.macgrory@duke.edu

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