

Changing Patterns of Transient Ischemic Attack Evaluation in US Emergency Departments

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IMPORTANCE For US patients presenting to the emergency department (ED) with transient ischemic attack (TIA), guidelines recommend resource-intensive multimodal evaluation to optimize secondary stroke prevention. These resources are not available in all EDs, and national patterns of ED TIA care are not well described.

OBJECTIVES To evaluate national trends in ED TIA care, including discharge practices, imaging use, and associated costs, and to assess patient- and hospital-level factors associated with these patterns.

DESIGN, SETTING, AND PARTICIPANTS This was a retrospective repeated cross-sectional study of ED visits using the 2013-2021 National Emergency Department Sample of the Healthcare Cost and Utilization Project, a weighted, nationally representative annual sample of ED visits in the US. TIA and stroke encounters during the study period were identified among patients aged 18 years or older by a first-listed *International Classification of Diseases, Ninth Revision* or *Tenth Revision* code for TIA or stroke diagnosis. Analyses were performed from October 2024 to April 2026.

EXPOSURES Calendar year.

MAIN OUTCOMES AND MEASURES ED discharge; imaging use among discharged TIA encounters; and inflation-adjusted ED cost per discharged encounter.

RESULTS This study included 2 151 408 (95% CI, 2 107 855-2 194 960) weighted ED visits for TIA (1 194 630 [55.5%] female; mean [SEM] age, 69.8 [0.05] years). Adjusted models found the predicted probability of discharge increased from 45% (95% CI, 43%-46%) in 2013 to 66% (95% CI, 64%-68%) in 2021 ($P < .001$ for trend). During this time, mean ED charges increased from \$1746 (95% CI, \$1662-\$1830) to \$2755 (95% CI, \$2674-\$2836) per encounter ($P < .001$ for trend). Imaging use among discharged TIA encounters increased substantially, including computed tomography angiography (predicted probability, 4% [95% CI, 3%-4%] in 2013 vs 45% [95% CI, 42%-47%] in 2021; $P < .001$ for trend) and magnetic resonance imaging (predicted probability, 17% [95% CI, 16%-19%] in 2013 vs 53% [95% CI, 50%-55%] in 2021; $P < .001$ for trend). Rate of discharge was higher in rural encounters than in urban encounters for all years studied, and the rate of magnetic resonance imaging use was lower.

CONCLUSIONS AND RELEVANCE This cross-sectional study demonstrates a shift in TIA care over time that suggests increased use of the ED to expedite evaluation for TIA that previously occurred during a brief hospitalization. This approach has consequences in terms of cost and ED throughput and may not be as feasible in rural hospitals as it is in urban hospitals.

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 Editorial

 Supplemental content

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A transient ischemic attack (TIA) is an episode of neurologic symptoms due to cerebral ischemia that completely resolves without imaging evidence of infarction.¹ Patients with TIA are at increased risk of stroke, with an estimated risk of 4% to 17% in the next 90 days.¹⁻⁸ Optimal emergency department (ED) management and triage of patients with TIA remain debated, with limited published data about national practice patterns.^{9,10} Evidence is mixed regarding the outcomes of admission-based vs outpatient follow-up pathways.^{11,12}

National data through 2018 identify escalating ED imaging use while simultaneously raising concerns that patients with TIA discharged from the ED after a TIA with incomplete evaluations are ultimately lost to follow-up.^{13,14} The American Heart Association recommends a rapid, resource-intensive, multimodal evaluation for suspected TIA, including magnetic resonance imaging (MRI) within 24 hours of symptom onset, neurology consultation, vessel imaging with computed tomography angiography (CTA) or carotid Doppler ultrasonography, and echocardiogram within 1 week, with long-term rhythm monitoring as an outpatient.¹⁵ Many community EDs, however, lack standardized protocols for TIA and ready MRI access.¹⁶ Prior work has addressed individual components of the ED TIA evaluation, but overall trends in ED disposition for TIA have not been well characterized.¹⁴

To evaluate US trends in ED care for TIA, we used the National Emergency Department Sample (NEDS). This dataset allowed exploration of patient- and hospital-level factors associated with TIA discharge and ED costs.^{17,18} Given well-documented geographic differences in acute stroke care, we explored correlates of differences in TIA care between urban and rural encounters, specifically evaluating discharge rates, imaging use, and costs, to better understand their impact.¹⁸ Beyond the implications for designing stroke systems of care, the increasing use of hub-and-spoke models and expansion of telestroke networks encourages a better understanding of the landscape of acute TIA and stroke care.

Methods

Data Source and Study Design

We conducted a retrospective, repeated cross-sectional study using the NEDS, a weighted, nationally representative survey of US ED encounters produced by the Healthcare Cost and Utilization Project (HCUP).¹⁹ Data from 2013 through 2021 were analyzed. As the study involves a publicly available deidentified dataset, it was determined exempt and not regulated by the University of Michigan Institutional Review Board and informed consent was therefore not required as individuals cannot be uniquely identified. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines were followed. Data analysis was performed from October 2024 to April 2026.

Study Population and Case Definitions

To use the most conservative case definition, we identified encounters by first-listed diagnosis code, which is the pri-

Key Points

Question What are recent trends in emergency department (ED) care for transient ischemic attack (TIA) by rurality and their implications for resource, cost, and hospital use?

Findings In this repeated cross-sectional study of a nationally representative sample of ED encounters, the predicted probability of discharge after a TIA encounter increased from 45% in 2013 to 66% in 2021. Advanced imaging use among discharged encounters increased over the study period, with discharge more common in rural hospitals.

Meaning From 2013 to 2021, TIA care shifted away from inpatient hospitalization toward more intensive ED-based outpatient evaluations, raising questions about patient access to guideline-concordant TIA evaluation, particularly in settings with limited specialized imaging and staffing.

mary diagnosis in HCUP outpatient data.^{20,21} TIA encounters were defined by first-listed *International Classification of Diseases, Ninth Revision (ICD-9)* code (435.0, 435.1, 435.2, 435.3, 435.8, 435.9, V12.54) from 2013 through the first 3 quarters of 2015 and *ICD-10* code (G45.0, G45.1, G45.2, G45.3, G45.8, G45.9, H34.0) from the fourth quarter of 2015 through 2021.^{13,22} A sensitivity analysis for discontinuity in results due to transition from *ICD-9* to *ICD-10* was performed according to published HCUP recommendations. Results showed that discharge rates for the first 3 quarters of 2015 were not statistically significantly different from the discharge rate for the fourth quarter of 2015 (56.4% vs 56.9% respectively; $P = .32$), indicating the findings were not influenced by the change in coding.²³

To compare disposition in TIA encounters vs stroke encounters, we defined stroke cases by *ICD-9* codes 433.x1, 434.x1, and 436 and *ICD-10* code i63.x in the first position.^{20,22} Encounters resulting in transfer to another acute care hospital were excluded to reduce the possibility of double counting (because an indicator for the receiving hospital is not tracked in the NEDS).

Outcomes

The primary outcome measure was ED disposition for TIA encounters, measured as the percentage of encounters discharged from the ED vs admitted to the hospital. Observation visits in the NEDS are classified according to their final disposition: either admitted to the same hospital or discharged.²¹

Secondary outcome measures included imaging use among discharged TIA encounters, with each imaging modality analyzed as a separate binary outcome. The following imaging modalities were included as they are frequently considered as components of ED-based TIA protocols: noncontrast head computed tomography (CT), CTA, brain MRI, brain magnetic resonance angiography (MRA), echocardiogram, and carotid Doppler ultrasonography.¹⁵ Imaging analysis was restricted to discharged visits due to the granularity of *Common Procedural Terminology (CPT)* code and its absence in admitted encounters. *CPT* codes analyzed were for noncontrast head CT (70450, 70470), CTA (70496, 70498), brain MRI (70553, 70551),

brain MRA (70544, 70545, 70546, 70547, 70548, 70549), carotid Doppler ultrasonography (93880), and transthoracic echocardiogram (93306).¹³

We assessed ED cost per discharged ED encounter using the NEDS total ED charges variable (which reflects billed hospital services and excludes physician charges) and hospital-specific ED cost to charge ratios. Costs were inflation adjusted to 2013 US dollars using the Personal Health Care price index.²⁴

Covariates

All multivariable models included the following covariates: age at visit (18-50, 51-65, 66-85, and ≥86 years); sex; primary expected payer (Medicare, Medicaid, private insurance, self-pay, no charge, other); income quartile based on zip code-level median income; hospital type (public, private not-for-profit, private for-profit, other); trauma designation (level 1 or 2 trauma center, non-level 1 or 2 trauma center); hospital region (North, Midwest, South, West); ED annual visit volume in quartiles; and urban-rural location. Although the NEDS does not include stroke center designation, the trauma center designation was used as a proxy for availability of neurosurgical services, which may overlap with the resources required to care for patients with stroke and TIA. The NEDS includes information about urban-rural location in 2 ways: a variable that measures hospital urban-rural location, and one in which urban-rural location is encoded with teaching status. As there are no nonurban teaching hospitals in the NEDS, the categories for this variable are urban teaching, urban nonteaching, and nonurban. While we initially considered separate analysis of urban teaching and nonteaching hospitals, we observed minimal differences between the 2 types and subsequently analyzed both under the category of urban, with comparison with rural hospitals. Metropolitan (urban) areas were defined to include both large and small metropolitan areas and included both teaching and nonteaching hospitals; nonmetropolitan (rural) hospitals represented areas with fewer than 50 000 residents; and teaching hospitals in rural areas are so infrequent in the sample that they are not categorized in the NEDS.^{19,21}

Although the NEDS does not provide detailed information about patient-level risk factors that might influence the intensity of their TIA evaluation, there is a well-established association between income and both health outcomes and the consumption of preventive health care services.^{25,26} For this reason, income for zip code was incorporated into the model to account for risk factors associated with access to health care that would otherwise be unmeasurable in our dataset. Because the type of insurance a patient has may affect the threshold used at a hospital level for admission, the insurance status associated with an encounter was also included in the model.²⁷

Missing Data

Missingness was less than 2% for all variables except ED cost. ED cost was imputed using multilevel multiple imputation via a 2-level predictive mean matching algorithm, with encounters (level 1) nested within EDs (level 2). For all other vari-

ables, only encounters for all covariates other than ED cost were included ($n = 2\,108\,141$) (eTable 1 in Supplement 1).

Statistical Analysis

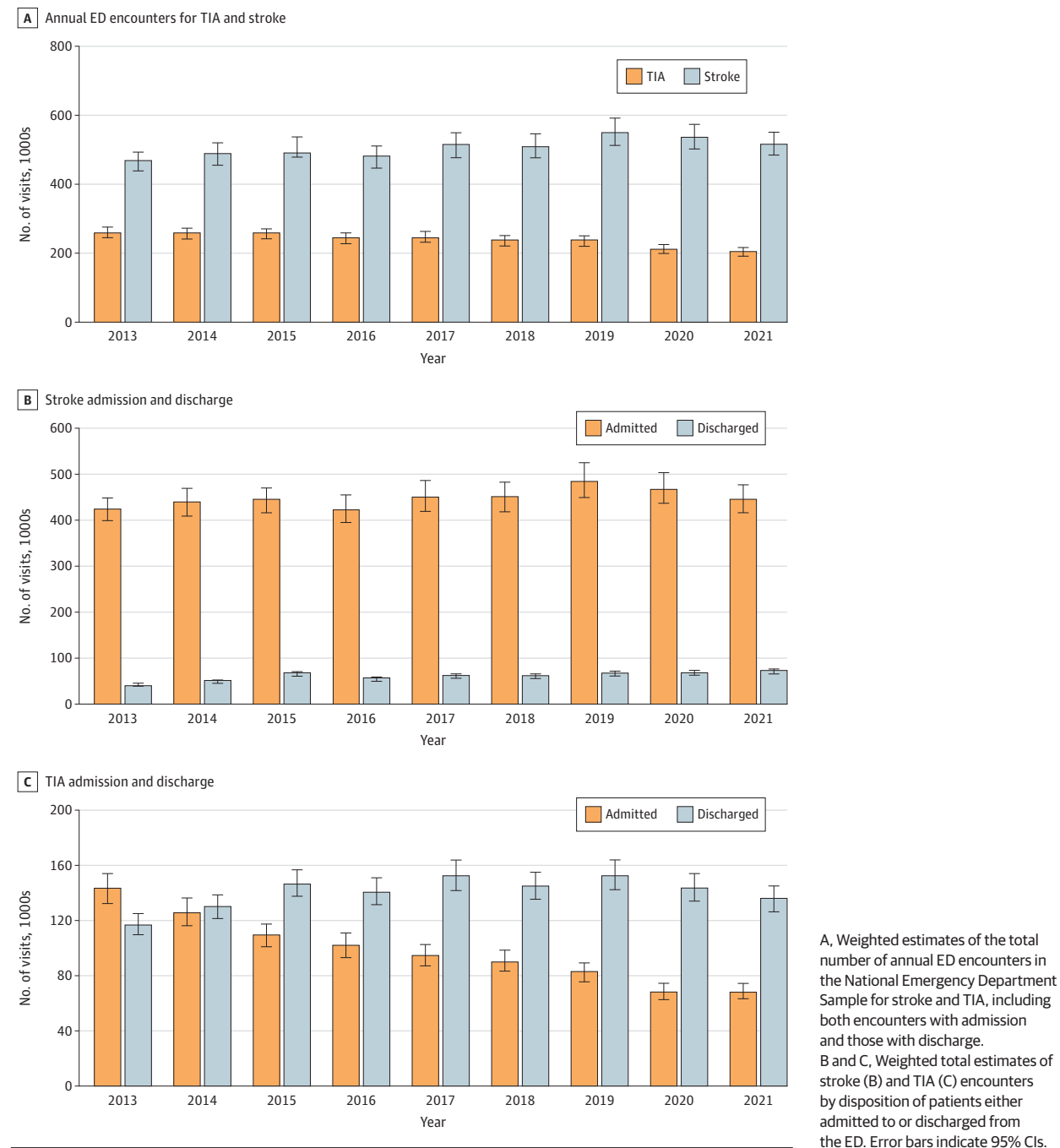
All analyses used design-based methods to account for the complex sampling of the NEDS. We report design-weighted descriptive estimates and survey-weighted regression models for (1) ED discharge disposition, (2) imaging use among discharged patients with TIA encounters, and (3) ED cost among discharged patients with TIA encounters (reported separately). We used multivariable survey-weighted logistic regression for discharge disposition and imaging outcomes, and we used survey-weighted regression for ED cost. All models incorporated NEDS encounter weights with Taylor-series linearization with strata and primary sampling units; finite population correction was included to reflect the known number of hospitals in each stratum-year. Hospital-level clustering was addressed through survey design in accordance with NEDS documentation to produce nationally representative estimates with correct uncertainty.^{28,29} Analyses were performed in R version 4.5.1 statistical software (R Foundation) using the *survey* package version 4.4.8 and the *mice* package version 3.18.0.³⁰ We computed adjusted marginal probabilities by year via G-computation (marginal standardization). To evaluate differences between urban and rural areas, we compared adjusted predicted probabilities of discharge and imaging (and adjusted ED costs) across the study period. Tests were 2-tailed with an α set at .05, and Wald 95% CIs were estimated.

Results

The study population included a total of 2 151 408 (95% CI, 2 107 855-2 194 960) weighted ED encounters with a first-listed diagnosis of TIA (1 194 630 [55.5%] female; mean [SEM] age, 69.8 [0.05] years) and 5 042 036 (95% CI, 4 940 744-5 143 329) ED encounters with a first-listed diagnosis of stroke (2 274 002 [45.1%] female; mean [SEM] age, 70.1 [0.04] years). **Figure 1** shows the national estimate of overall encounters for TIA and stroke by year, with corresponding total admitted and discharged. Total ED TIA encounters decreased from 2013 to 2021 (from 260 582 to 204 226 encounters; $P < .001$) and stroke cases increased from 2013 to 2021 (from 465 863 to 517 837 encounters; $P = .01$). Results from Cochran-Armitage trend analysis showed a statistically significant increase in the percentage of ED TIA encounters resulting in discharge from 2013 to 2021 ($z = 92.2$; $P < .001$). The lowest discharge rate was observed in 2013 (45.0%), and the highest discharge rates were observed in 2020 and 2021 (67.8% and 66.4%, respectively) (eTable 2 in Supplement 1). During the same period, the percentage of discharged stroke encounters increased slightly (from 9.0% in 2013 to 13.7% in 2021; $P < .001$).

In the multivariable model including all studied covariates, the predicted probability of discharge after an ED TIA encounter increased from 45% (95% CI, 43%-47%) in 2013 to 65% (95% CI, 64%-67%) in 2021 ($P < .001$ for trend) (Table, Figure 2;

Figure 1. Bar Graphs of the Overall Emergency Department (ED) Encounters for Stroke and Transient Ischemic Attack (TIA)



eTable 3 in [Supplement 1](#)). Characteristics most notably associated with discharge after a TIA encounter in the multivariable model were year (adjusted odds ratio [aOR] of discharge in a TIA encounter, 2.45; 95% CI, 2.17-2.77) for encounters occurring in 2021 relative to 2013 and rural status (aOR, 2.11; 95% CI, 1.96-2.27). Nonfederal public hospital ownership was associated with increased odds of discharge (aOR, 2.24; 95% CI, 2.02-2.49) compared with privately owned and non-profit hospitals, and encounters occurring in hospitals in the

Western region were associated with increased odds of discharge (aOR, 2.18; 95% CI, 1.96-2.44) compared with those of other regions (eTable 3 in [Supplement 1](#)). Concurrent with the increasing probability of discharge from the ED from a TIA encounter, predicted ED costs per encounter for each discharged TIA encounter over the time period increased from \$1746 (95% CI, \$1662-\$1830) to \$2755 (95% CI, \$2674-\$2836) between 2013 and 2021 in adjusted 2013 US dollars ($P < .001$ for trend) (Figure 2).

Table. Predicted Probabilities From Multivariable Logistic Regression Analysis for Discharge Among Patients With Emergency Department (ED) Visits for Transient Ischemic Attack^a

Variable	Discharge, predicted probability (95% CI)
Year	
2013	0.45 (0.43-0.47)
2014	0.51 (0.49-0.53)
2015	0.57 (0.55-0.59)
2016	0.58 (0.56-0.60)
2017	0.62 (0.60-0.64)
2018	0.62 (0.60-0.64)
2019	0.65 (0.63-0.67)
2020	0.67 (0.65-0.69)
2021	0.65 (0.64-0.67)
Age at admission, y	
18-50	0.62 (0.61-0.63)
51-65	0.58 (0.57-0.59)
66-85	0.59 (0.58-0.60)
≥86	0.57 (0.58-0.66)
Sex	
Female	0.59 (0.58-0.60)
Male	0.59 (0.58-0.59)
Primary expected payer	
Medicare	0.57 (0.56-0.57)
Medicaid	0.54 (0.52-0.55)
Private insurance	0.67 (0.66-0.68)
Self-pay	0.62 (0.61-0.63)
No charge	0.52 (0.48-0.56)
Other	0.60 (0.59-0.62)
Income quartile for zip code	
1, Lowest	0.55 (0.54-0.56)
2	0.59 (0.58-0.60)
3	0.61 (0.60-0.62)
4, Wealthiest	0.62 (0.61-0.63)
Hospital location	
Urban	0.57 (0.56-0.57)
Rural	0.72 (0.71-0.74)
Hospital control	
Private, investor-owned	0.45 (0.43-0.47)
Government, nonfederal	0.63 (0.61-0.65)
Private, not-for-profit	0.61 (0.60-0.62)
Private or government	0.60 (0.59-0.61)
Trauma designation	
Level 1 or 2 trauma center	0.56 (0.54-0.57)
Non-level 1 or 2 trauma center	0.60 (0.59-0.61)
Hospital region	
Northeast	0.46 (0.45-0.48)
Midwest	0.63 (0.61-0.64)
South	0.59 (0.58-0.60)
West	0.64 (0.62-0.66)
Annual ED visits, quartile	
1, Lowest	0.67 (0.66-0.68)
2	0.56 (0.55-0.58)
3	0.56 (0.54-0.57)
4, Highest	0.57 (0.55-0.58)

^a Results are from logistic regression analysis for the outcome of discharge with all covariates analyzed.

In the multivariable model accounting for covariates, the predicted probability of all TIA-relevant imaging modalities (noncontrast CT of the head, CTA of the head, MRI of the brain, echocardiogram, and carotid Doppler ultrasonography) in discharged patients with TIA encounters increased between 2013 and 2021 (eTable 4 in [Supplement 1](#)). The most pronounced increases were for CTA, in which a 10-fold increase was noted from a predicted probability of 4% (95% CI, 3%-4%) of receiving a CTA in 2013 compared with 45% (95% CI, 42%-47%) in 2021 ($P < .001$ for trend). The predicted probability of MRI increased more than 2-fold, from a predicted probability of 17% (95% CI, 16%-19%) in 2013 to 53% (95% CI, 50%-55%) in 2021 ($P < .001$ for trend) ([Figure 3](#)).

The predicted probability of discharge was higher in rural encounters than in urban encounters for all years studied. In 2021, the TIA encounter discharge rate in rural hospitals was 83.7% (95% CI, 81.7%-85.7%) compared with 66.5% (95% CI, 63.7%-69.3%) in urban encounters ([Figure 4A](#)). In all years studied, the mean cost per ED encounter, inclusive of imaging, was higher in urban encounters than in rural encounters ([Figure 4B](#)). By 2021, there was no statistically significant difference between urban and rural encounters with respect to the predicted probability of vessel imaging (CTA, MRA, carotid Doppler ultrasonography) ([Figure 4C](#)). MRI use lagged in rural encounters, with a predicted probability of MRI acquisition that was lower in rural encounters in all years, with a predicted probability of 45.2% (95% CI, 41.9%-48.5%) in rural TIA encounters in 2021 compared with 56.4% (95% CI, 53.4%-59.4%) in urban TIA encounters in the same year ([Figure 4D](#)). Urban and rural rates of all imaging modalities studied are shown in the eFigure in [Supplement 1](#).

Discussion

In this large, nationally representative dataset, we observed a marked shift in TIA care from hospital admission toward ED discharge between 2013 and 2021. Concurrently, diagnostic imaging use increased substantially across modalities in discharged patients with TIA encounters, most pronounced for CTA and MRI, with nearly half of discharged patients receiving CTA and more than half receiving MRI by 2021. Increasing ED costs paralleled these trends, likely due at least in part to costs associated with increased imaging intensity during these evaluations.

Taken together, our findings suggest that TIA management is increasingly occurring through complex—and ultimately outpatient—evaluations in the ED, reflecting a broader trend toward higher acuity and complexity in emergency care.³¹ The growing reliance on advanced imaging aligns with evolving guidelines recommending multimodal evaluation for suspected TIA but raises questions about throughput, cost, and standardization of care, especially given that the threshold to initiate, and available resources to complete, a TIA evaluation are likely variable.¹⁵ Another factor that may be associated with the intensity of ED evaluations for TIA is the shift from a clinical or time-limited diagnosis to an imaging-based diagnosis.³² The modern defini-

Figure 2. Bar Graph of the Probabilities of Discharge and Cost for Emergency Department Encounters for Transient Ischemic Attack

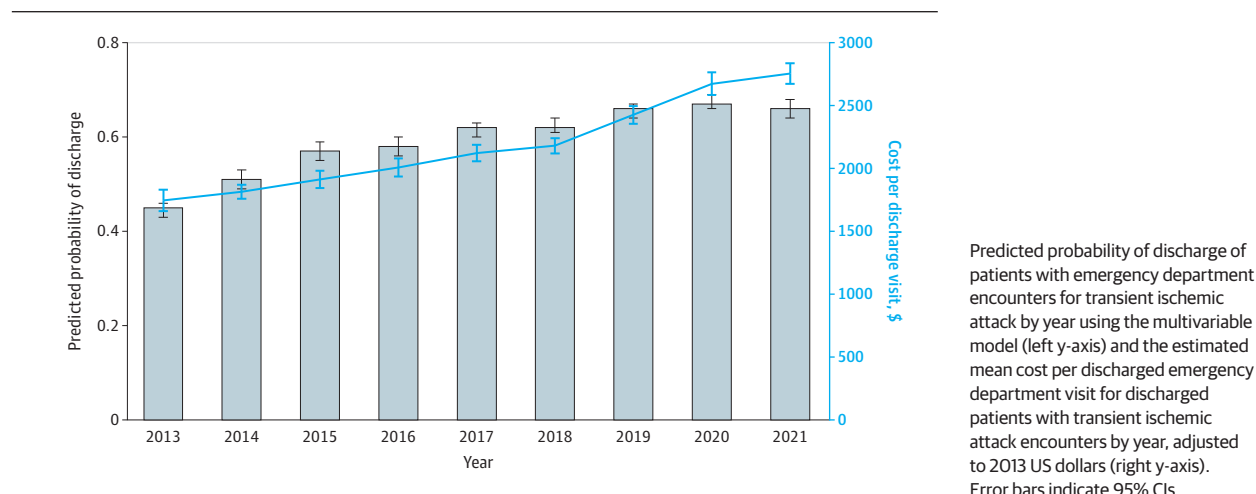
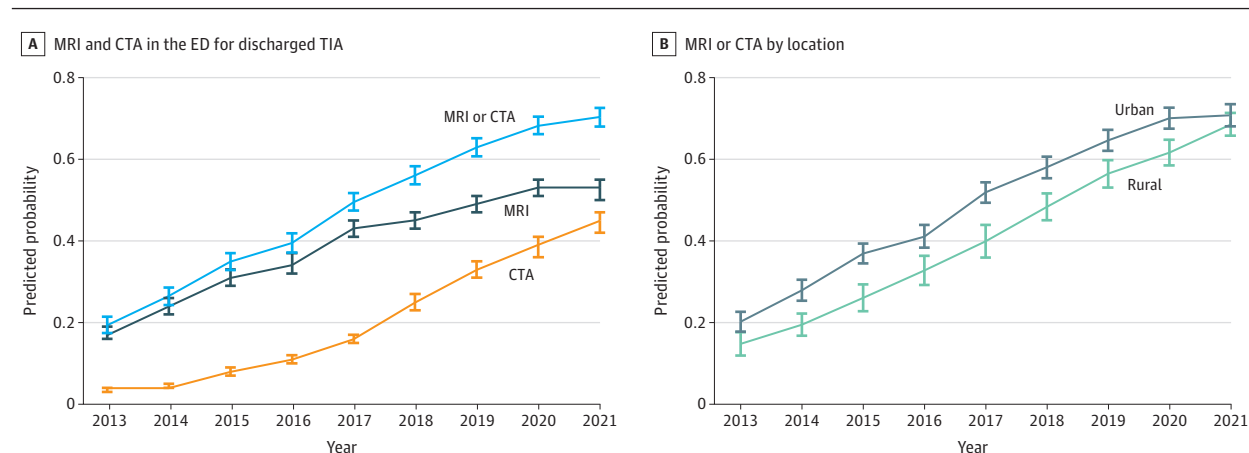


Figure 3. Line Graphs Showing Increasing Use of Transient Ischemic Attack (TIA)-Relevant Imaging Modalities



A, Predicted probability of the use of computed tomographic angiography (CTA), magnetic resonance imaging (MRI), and either CTA or MRI in discharged patients with TIA encounters between 2013 and 2021, adjusted for all

covariates. B, Predicted probability of a discharged patient with an emergency department encounter for TIA receiving either MRI or CTA, by urban and rural encounters. Error bars indicate 95% CIs.

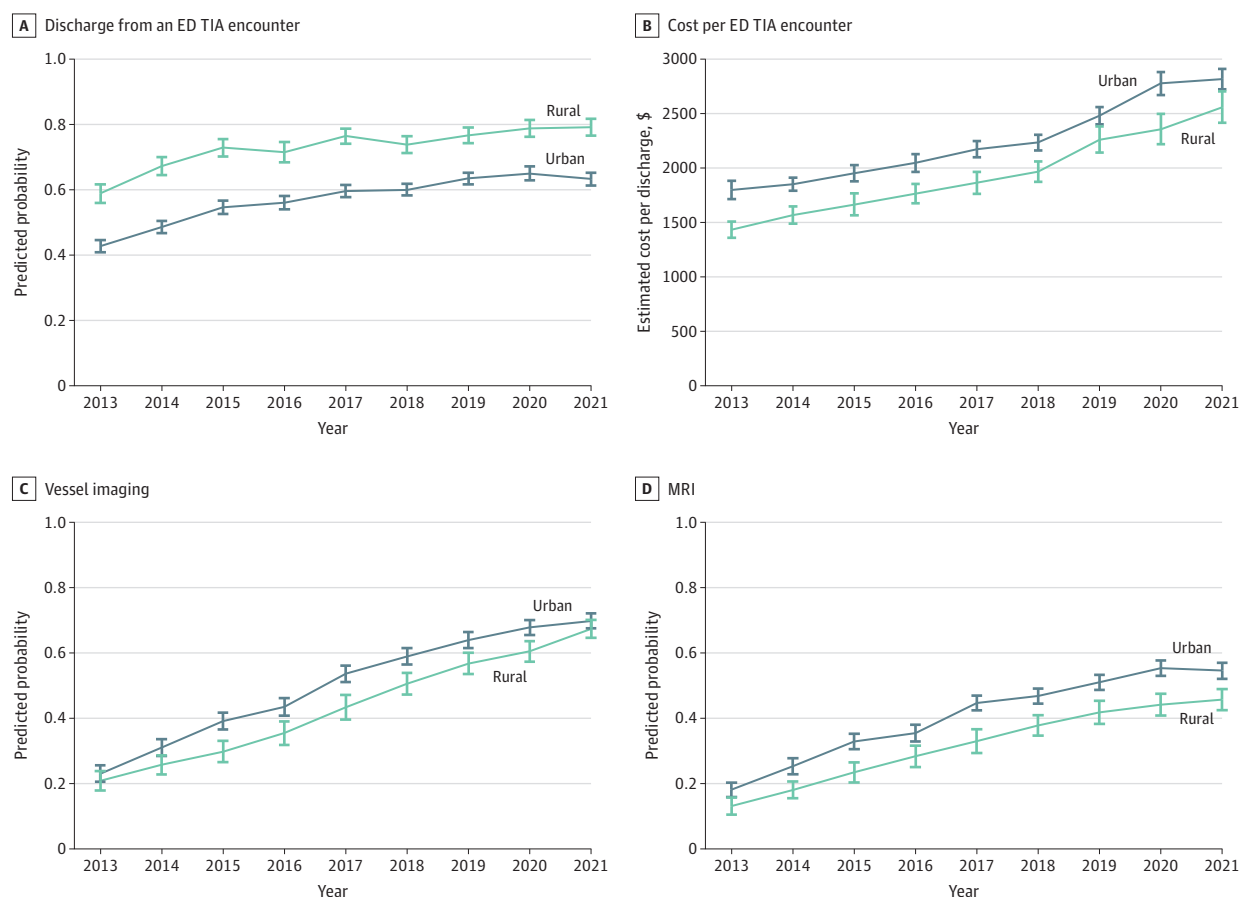
tion of TIA is the presence of transient neurologic symptoms with a negative result on MRI, shifting the focus of the ED encounter to ruling out minor stroke.^{15,33}

The overall trend in increasing numbers of ED encounters with a stroke diagnosis along with decreasing total numbers of ED encounters with a TIA diagnosis may reflect this evolving definition, with subtle stroke cases that would have been classified clinically as high-risk TIA and admitted earlier in the dataset now classified as strokes based on a positive finding on MRI in the ED, decreasing the total number of TIA encounters and the proportion of these patients who are admitted. Conversely, receiving a negative MRI result in the ED may increase confidence that a patient with suspected TIA is safe for discharge, further increasing the discharge rate among ED TIA encounters.

We also found significant geographic differences in TIA evaluation. ED discharge rates were higher in rural hospitals, consistent with prior analyses showing lower admission

rates for acute conditions in rural areas.¹⁸ Urban and rural TIA encounters were well balanced overall with respect to patient age and sex, with more patients with lower income in the rural encounters. A comparison of demographic characteristics for patients with urban vs rural TIA encounters for all groups is shown in eTables 5 and 6 in Supplement 1. CTA and overall vessel imaging (including CTA, carotid Doppler ultrasonography, or MRA) rates, while initially lower in rural encounters, were consistent between the 2 types of hospital by 2020. In comparison, MRI rates were lower in rural encounters than in urban encounters throughout the period, likely reflecting differences in access to specialized equipment and personnel required for around-the-clock MRI capability. Our findings agree with published literature regarding persistent urban-rural differences in care among Medicare beneficiaries for stroke and TIA.³⁴ While it is possible that some of the overall trend in discharge of TIA encounters is due to the development of outpatient path-

Figure 4. Line Graphs Showing Urban and Rural Emergency Department (ED) Encounter Differences for Patients With Transient Ischemic Attack (TIA)



A, Predicted probability of discharge from an ED TIA encounter using a multivariable model in urban and rural encounters. B, Estimated cost per ED TIA encounter for urban and rural encounters. C and D, Predicted probability of

vessel imaging (computed tomographic angiography, magnetic resonance angiography, or carotid Doppler ultrasonography) (C) and magnetic resonance imaging (MRI) (D) in urban and rural encounters.

ways for TIA care, these pathways are often found at well-resourced urban academic centers, where the patient volume can support their use.^{35,36}

Our findings suggest potential differences in care management approaches for TIA in the rural ED setting. In particular, there are higher rates of discharge as opposed to admission for these patients and less reliance on MRI.

Our results have important implications for clinicians and patients with TIA, both in the ED and after ED discharge. While not analyzed in this study, prolonged, high-intensity evaluations have been shown to increase ED length of stay, which has downstream implications for the timely care of other patients with acute conditions.^{37,38} Furthermore, ED costs are a significant driver of variability in overall health care spending in many disease processes, and our results raise the possibility that this is also true in TIA.³⁹ Beyond hospital-level spending, the trajectory of increasing ED costs has patient-level consequences as well, with nearly 1 in 5 households in the US carrying medical debt.⁴⁰

As practice patterns evolve to favor resource-intensive ED evaluations, ensuring equitable access to recommended diagnostics remains a particular challenge in rural settings.

Our study cannot determine whether this apparent gap in rural encounters is bridged in the outpatient setting via expedited imaging or outpatient follow-up, but previously published literature suggests that this may not be the case in general, regardless of urban-rural setting.^{13,14} Future research is needed to clarify the impact of these changing practices on patient-centered outcomes and to identify solutions for environments with limited access to advanced imaging and consultation. Developing robust stroke systems of care for TIA and stroke evaluation and treatment is essential to ensure optimal care for patients across the spectrum of urban and rural locations.

Limitations

This study makes use of a nationally representative all-payer dataset of ED encounters, which has the advantage of greater generalizability of these findings. Limitations include those associated with the administrative nature of our data source and the fixed variables associated with this. It would have been interesting to analyze whether increased imaging use and the discharge rate were associated with ED length of stay for patients with TIA, but this variable is not available

in the NEDS. In addition, granular information about other factors pertinent to the decision to admit or discharge patients with TIA is missing, such as medical comorbidities or severity of illness. Because the data are not linked to longitudinal health care events, it is also not possible to measure differences in downstream outcomes, including ED return visits, subsequent strokes, or patient functional outcomes. The lack of physician charge or cost data in the dataset implies an undercounting of the actual total ED cost. Of note, the COVID-19 pandemic beginning in 2020 caused known disruptions to the medical system and it is unclear if this had recovered by 2021, but these were the most recent data available at the time of analysis. Additionally, our definition of TIA encounters was based on associated encounter diagnoses, which were subject

to differences in hospital and clinician coding and billing practices.

Conclusions

In this cross-sectional study, patients with TIA encounters in the ED had a higher probability of being discharged from the ED rather than admitted to the hospital in 2021 than in 2013. Additional work is needed to better understand how evolving practices in ED TIA care, including more intense use of imaging and greater likelihood of discharge, may be affecting downstream outcomes related to care quality, stroke prevention, and overall related health costs and upstream limitations on emergent ED access for all patients, whether they have TIA or not.

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Acquisition, analysis, or interpretation of data: Mamer, Cranford, Li, Kocher, Zahuranec, Scott.
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