SUPPLEMENTAL MATERIAL

Table S1: ICD-9-CM diagnostic codes used to identify primary acute ischemic stroke hospitalizations in the National Inpatient Sample (2012-2015)**.**

ICD-9-CM	**Description**
433.01	Occlusion and stenosis of basilar artery with cerebral infarction
433.11	Occlusion and stenosis of carotid artery with cerebral infarction
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction
434.01	Cerebral thrombosis with cerebral infarction
434.11	Cerebral embolism with cerebral infarction
434.91	Cerebral artery occlusion, unspecified with cerebral infarction
436	Acute, but ill-defined, cerebrovascular disease

Table S2: Comparison of unadjusted baseline characteristics for the National Inpatient Sample and Get With The Guideline-Stroke.

Variable	NIS 2018 N=534,680	GWTG-Stroke N=414,628	Standardize Difference, %
Patient Demographics			
Age, years, median (25^{th} - 75^{th})	71 (61 - 81)	71 (61 - 81)	N/A
Female	49.5%	49.0%	1.0
Race/Ethnicity			
White	66.4%	67.2%	1.7
Black	16.7%	17.9%	3.2
Hispanic	12.5%	7.5%	16.7
Asian & Pacific Islander	3.0%	3.4%	2.3
Other	2.4%	4.1%	9.6
Insurance			
Medicaid	16.7%	8.4%	25.3
Medicare	66.1%	64.4%	3.6
Self-Pay/No Insurance	3.1%	4.71%	8.3
Medical History*			
Atrial fibrillation/flutter history/new diagnosis	25.7%	23.1%	6.1
CAD/Prior Myocardial Infarction	26.7%	22.5%	9.8
Carotid Stenosis	0.9%	3.6%	18.3
Diabetes Mellitus	38.2%	35.9%	4.8
Peripheral Vascular Disease	6.6%	4.1%	11.1
Hypertension	85.8%	76.7%	23.5
Smoker	38.9%	18.9%	45.2
Dyslipidemia	59.9%	48.7%	22.6
Heart Failure	16.8%	10.1%	19.7
Obesity/Overweight	14.6%	29.9%	37.4
Chronic Renal Insufficiency	18.1%	10.5%	21.8
Hospital Characteristics			
Census Divisions			
Division 1 New England	4.3%	4.3%	0.0
Division 2 Mid-Atlantic	13.0%	15.4%	6.9
Division 3 East North Central	15.1%	14.1%	2.8
Division 4 West North Central	6.6%	6.8%	0.8
Division 5 South Atlantic	22.3%	23.6%	3.1
Division 6 East South Central	8.1%	6.6%	5.8
Division 7 West South Central	11.9%	10.5%	4.4
Division 8 Mountain	5.6%	5.2%	1.8
Division 9 Pacific	13.1%	13.7%	1.8
Hospital ownership			
Government	11.0%	11.4%	1.3
Private, Nonprofit	75.8%	77.0%	2.8
Private, Investment	13.2%	11.6%	4.9
Rural/teaching status			
Rural	7.2%	4.7%	10.6
Urban non-teaching	19.2%	21.5%	5.7
Urban teaching	73.6%	73.8%	0.5
Bed Size Categories*			
Small	17.3%	12.9%	12.3
Medium	29.4%	27.0%	5.3
Large	53.3%	60.0%	13.6

Race/Ethnicity data is based on administrative coding within the electronic health record for both the NIS and GWTG-Stroke. Insurance status is determined by the primary payer categorization for both NIS and GWTG-Stroke. Hospital characteristics are obtained through American Hospital Association Annual Survey of Hospitals for both the National Inpatient Sample and GTWG-Stroke

*Ascertainment of medical history is based on chart abstracted review in GWTG-Stroke. Comorbidities were captured using ICD-10 or Clinical Classification Software (CCS) codes for the NIS: Atrial fibrillation/flutter (I48.0-I48.93), CAD/Prior Myocardial Infarction (CCS CIR011), Carotid Stenosis (ICD-10 I65.29, I63.139, I63.239), Diabetes Mellitus (CCS END002, END003), Peripheral Vascular Disease (CCS CIR026) , Hypertension (CCS CIR007, CIR008, PRG020), Smoker, Dyslipidemia (CCS END010), Heart Failure (CCS CIR019 or ICD10 I09.81, I11.0, I13.0, I13.02), Obesity (CCS END009), Chronic Renal Insufficiency (CCS GEN003 or ICD-10 Z94.0, Z99.2, Z91.15, or Z49.01-Z49.31)

Table S3: Get With The Guidelines-Stroke Achievement Measure Specifications.

Measure Key
Measure Name: Description of measure
Include: Description of the eligible population included in the measure denominator.
Exclude: Description of the elements that exclude patients from the measure denominator.
Numerator: Description of the eligible patients included in the measure numerator.
IV t-PA <2 Hour: Intravenous recombinant tissue plasminogen activator (IV tPA) in patients who arrive <two hours after symptom onset and treated within three hours of symptom onset.
Include: Eligible patients with a diagnosis of acute ischemic stroke who arrive < 2 hours after symptom onset.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients with missing or erroneous onset, arrival or treatment times, those who began IV t-PA at an outside hospital, or who started IV t-PA after 180 minutes from onset.
Numerator: Patients who received IV t-PA at this hospital ≤ 180 minutes from time last known well.
Early Antithrombotics: Antithrombotic therapy prescribed within 48 hours of hospitalization, including antiplatelet or anticoagulant therapy.
Include: Eligible patients with diagnosis of ischemic stroke or TIA.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, leave against medical advice before the end of hospital day two.
Numerator: Patients who received antithrombotic medication by the end of hospital day two (includes any aspirin (ASA), ASA/dipyridamole, ticlopidine, clopidogrel, unfractionated heparin, LMW heparin, and warfarin, but does not include DVT prophylaxis doses of subcutaneous heparins or LMWH).
VTE Prophylaxis: Patients at risk for DVT (non-ambulatory) who received DVT prophylaxis by end of hospital day two.
Include: Eligible patients at risk for DVT (non-ambulatory) with diagnosis of ischemic stroke, subarachnoid hemorrhage, intracerebral hemorrhage, or stroke not otherwise classified.
Exclude: Patient who are ambulating by hospital day two. Excludes patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, leave against medical advice before the end of hospital day two.
Numerator: Patients who receive DVT prophylaxis by end of hospital day two (includes heparins, heparinoids, other anticoagulants, or pneumatic compression devices).
Discharge Antithrombotics: Antithrombotic therapy prescribed at discharge.
Include: Eligible patients with diagnosis of ischemic stroke or TIA.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients who received antithrombotic medication at discharge (includes any aspirin (ASA), ASA/dipyridamole, ticlopidine, clopidogrel, unfractionated heparin, LMW heparin, and warfarin, but does not include DVT prophylaxis doses of subcutaneous heparins or LMWH).

Anticoagulation for Atrial Fibrillation/Flutter: Anticoagulation prescribed at discharge for patients with atrial fibrillation or atrial flutter documented during the hospitalization.
Include: Eligible patients with diagnosis of ischemic stroke or TIA with history of atrial fibrillation or atrial flutter, or paroxysmal or persistent atrial fibrillation or flutter on this admission.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients who received anticoagulation at discharge (includes therapeutic doses of warfarin, heparin, or other anticoagulants such as direct thrombin inhibitors).
Smoking Cessation: Smoking cessation intervention (counseling or medication) prior to discharge for current or recent smokers.
Include: Eligible patients with diagnosis of ischemic stroke, subarachnoid hemorrhage, intracerebral hemorrhage, stroke not otherwise classified, or TIA with current or recent smoking (defined as within the past one year).
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients or their care giver who are provided smoking cessation intervention (counseling or medication) prior to discharge.
Discharge Statin: Statin therapy prescribed at discharge.
Include: Eligible patients with diagnosis of ischemic stroke or TIA.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients who received statin at discharge (includes therapeutic doses of warfarin, heparin, or other anticoagulants such as direct thrombin inhibitors).

Table S4: Get With The Guideline-Stroke Quality Measure Specifications

Dysphagia Screening: Dysphagia screening prior to any oral intake.
Include: Eligible patients with diagnosis of ischemic stroke, subarachnoid hemorrhage, intracerebral hemorrhage, or stroke not otherwise classified.
Exclude: Patients with any medical contraindications (e.g., excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-screening. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, leave against medical advice before the end of hospital day two. Patients NPO throughout the entire hospital stay are also excluded, as are patients with TIA.
Numerator: Patients who were screened for dysphagia with an evidence-based bedside testing protocol approved by the hospital before being given any food, fluids, or medication by mouth.
Time to IV Thrombolytic Therapy – 60 Minutes: Intravenous thrombolytic therapy administered within 60 minutes of arrival.
Include: Eligible patients with a diagnosis of acute ischemic stroke who receive intravenous thrombolytic therapy.
Exclude: Patients with missing or erroneous arrival or treatment times, those who began IV t-PA at an outside hospital.
Numerator: Patients who received IV t-PA at this hospital ≤ 60 minutes from arrival.
IV Thrombolytics Arrive by 3.5 hours, treat by 4.5 hours: Intravenous recombinant tissue plasminogen activator (IV tPA) in patients who arrive < 3.5 hours after symptom onset and treated within 4.5 hours of symptom onset.
Include: Eligible patients with a diagnosis of acute ischemic stroke who arrive < 3.5 hours after symptom onset.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients with missing or erroneous onset, arrival or treatment times, those who began IV t-PA at an outside hospital, or who started IV t-PA after 4.5 hours from onset.
Numerator: Patients who received IV t-PA at this hospital ≤ 60 minutes from time last known well.
NIHSS Reported: NIH Stroke Scale/Score (NIHSS) recorded at admission.
Include: Eligible patients with a diagnosis of acute ischemic stroke
Exclude: Exclude: Patients with any contraindications (e.g., patient/family refusal or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: NIHSS recorded at admission
Stroke Education: Stroke education provided to patient and/or caregiver, including all 5 components: modifiable risk factors, stroke warning sign and symptoms, how to activate Emergency Medical Services, need for follow-up, medications prescribed.
Include: Eligible patients with diagnosis of ischemic stroke, subarachnoid hemorrhage, intracerebral hemorrhage, stroke not otherwise classified or TIA.
Exclude: Patients with any contraindications (e.g., patient/family refusal or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients or caregiver who received stroke education covering all 5 components: modifiable risk factors, stroke warning sign and symptoms, how to activate Emergency Medical Services, need for follow-up, medications prescribed.

Rehabilitation: Assessed for stroke rehabilitation services.
Include: Eligible patients with diagnosis of ischemic stroke, subarachnoid hemorrhage, intracerebral hemorrhage, stroke not otherwise classified.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients who are assessed for or receive rehabilitation services (e.g., consultation by Physiatrist, Neuropsychologist, Occupational Therapist, Physical Therapist, Speech Therapist).
LDL Documented: LDL values documented for stroke or TIA patients.
Include: Eligible patients with diagnosis of ischemic stroke or TIA.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients with documented LDL at discharge.
Intensive Statin Therapy at Discharge: Intensive statin therapy prescribed at discharge.
Include: Eligible patients with diagnosis of ischemic stroke or TIA.
Exclude: Patients with any medical contraindications (e.g., treatment intolerance, excessive risk of adverse reaction, patient/family refusal, or terminal illness/comfort care only) documented as reasons for non-treatment. Also excludes patients who expire, are discharged to hospice, or another short-term general hospital, or leave against medical advice.
Numerator: Patients who received intensive statin at discharge.