

2013 Data Summary

Georgia Coverdell Acute Stroke Registry

PROGRAM OVERVIEW

- The Georgia Coverdell Acute Stroke Registry (GCASR) is funded by the Centers for Disease Control and Prevention (CDC) as part of the Paul Coverdell National Acute Stroke Registry
- Named in honor of the late Senator Paul Coverdell of Georgia who died of a massive stroke in 2000
- GCASR is a partnership between the Georgia Department of Public Health, State Office of EMS, Emory University, American Heart Association/American Stroke Association, Georgia Medical Care Foundation, Georgia Hospital Association, CDC, and participating hospitals

GOALS

- Reduce fatalities and disability due to stroke and the incidence of recurrent stroke in Georgia by:
 1. Monitoring and improving the quality of pre-hospital and hospital acute stroke care
 2. Encouraging collaboration among EMS providers, hospitals and other institutions in Georgia concerned with stroke care quality improvement

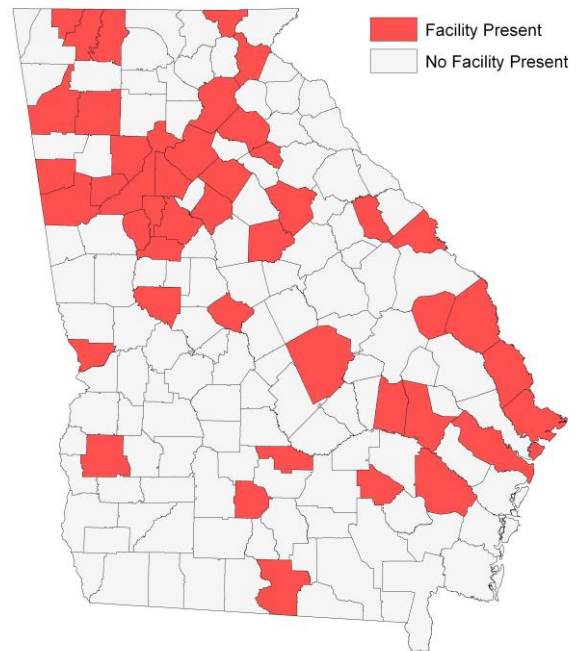
HOSPITAL PARTICIPATION

- Hospitals joined GCASR voluntarily.
- Currently 65 hospitals participate in the registry, of which 36 are Joint Commission or Det Norske Veritas (DNV) certified comprehensive or primary stroke centers
- Based on 2010 hospital discharge data, participating hospitals serve about 79% of stroke admissions in Georgia

DATA COLLECTION

- Data on stroke patient characteristics and care received during hospital stay are collected by participating hospitals for patients admitted with acute stroke or transient ischemic attack
- The purpose of data collection is to monitor the quality of stroke care delivered at hospitals

Georgia Coverdell Acute Stroke Registry Facilities by County, November 2013



QUALITY IMPROVEMENT ACTIVITIES

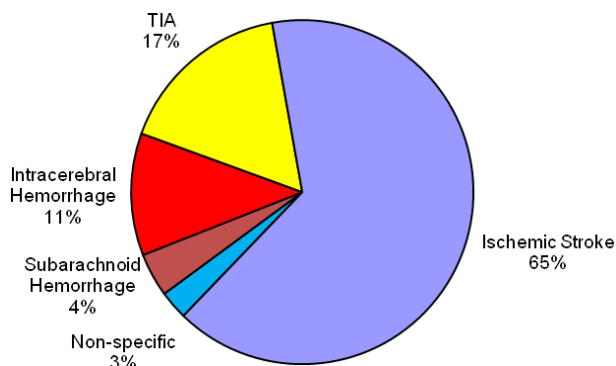
- Hospitals participating in GCASR receive individualized stroke care quality improvement consultation
- Regular educational conference calls and newsletters to share best practices among participating hospitals and EMS providers
- Annual meetings and trainings to enhance skills and exchange best practices
- Organized mentorship among the participating facilities
- Acute Stroke Life Support training
- Quality improvement efforts focused currently on thrombolytic treatment for eligible stroke patients and door-to-needle time
- Development of tools to strengthen the EMS-Hospital communication



QUALITY INDICATORS

- Care received by patients is compared with quality indicators representing care processes that have been shown to be beneficial and that have been included in clinical recommendations
- Quality indicator calculations include identification of patients for whom a care process would have been recommended, and a determination of how many of those patients received the recommended care
- The 10 GCASR quality indicators are:
 1. Administration of tissue plasminogen activator (tPA)
 2. Dysphagia screening
 3. Administration of antithrombotic medication within 48 hours
 4. Deep Vein Thrombosis (DVT) prophylaxis
 5. Prescription for lipid lowering medication
 6. Delivery of stroke education
 7. Smoking cessation counseling or treatment
 8. Rehabilitation assessment
 9. Prescription for antithrombotic medication at discharge
 10. Prescription for anticoagulant medication for patients with atrial fibrillation
- Defect-free care is defined as the delivery of care meeting all quality indicators for which a patient is eligible

Figure 1. Types of Stroke, GCASR, 2012 (n=14,655)



STROKE REGISTRY DATA

- Analysis included data from 57,333 stroke patients admitted to participating hospitals from November 2008 to 2012
- In 2012, 49% of stroke patients were brought to the hospital by EMS, 36% by private transportation, and 15% were transferred from one healthcare facility to another
- Hospitals received pre-notification for 56% of the patients brought by EMS
- Among hypertensive patients, 81% were on antihypertensive medication during the week prior to admission for acute stroke
- Two percent of stroke patients were newly diagnosed with diabetes during admission for acute stroke in 2011
- A third of the total number of stroke patients (34%) previously had a stroke (28%) and/or TIA (9%)

Table 1. The most frequent co-morbidities among stroke patients, GCASR, 2008-2012 (n=13,653)

Co-morbidity	Percent
Hypertension	84%
Dyslipidemia	42%
Diabetes mellitus	37%
CAD/prior MI	25%
Atrial fibrillation/flutter	14%
Smoking	22%

- For ischemic stroke patients, prompt treatment (thrombolysis) is critical for good recovery
 - For ischemic stroke patients admitted in 2012, 38% (1,716/4,548) arrived at the emergency department within 2 hours from the last time they were known to be well
 - Among these, 40% (691/1,716) were eligible, without contraindication or delay in arrival time, for tPA

- Among the tPA eligible patients, 74% (513/691) received thrombolytic treatment within 3 hours after symptom onset
- Forty-six percent (236/513) of patients treated with thrombolytic agent received IV tPA within an hour of arrival at the emergency department
- The median time to receive tPA for ischemic stroke patients arriving within two hours of symptom onset was 63 minutes

Figure 2. Percentage of ischemic stroke patients receiving intravenous tPA treatment, GCASR, 2008-2012 (n=36,015)

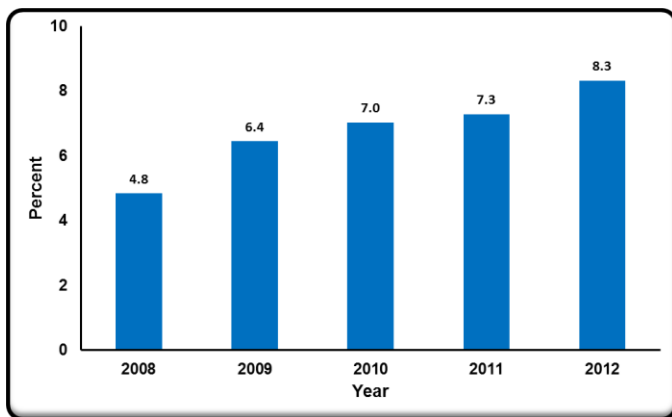
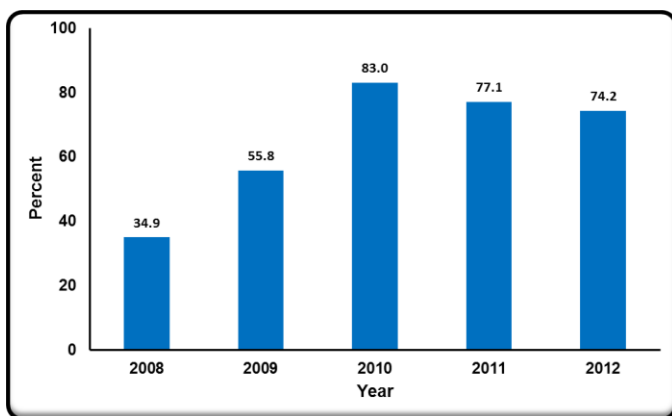


Figure 3. Percentage of eligible ischemic stroke patients receiving intravenous tPA treatment, GCASR, 2008-2012, (n=2,734)



IMPROVEMENTS OVER TIME

- Overall, tPA administration among ischemic stroke patients increased from 4.8% in 2008 to 8.3% in 2012 (Figure 2), and among eligible ischemic stroke patients, tPA administration increased from 34.9% in 2008 to 74.2% in 2012 (Figure 3)
- The percentage of patients who received defect-free care increased from 37.4% in 2008 to 75% in 2012 (Figure 4), indicating improvement in all ten performance measures
- The percentage of those who received IV tPA within 60 minutes of their arrival increased from 23.9% to 46% (Figure 5)
- The average time to administer tPA (door-to-needle time) was shortened from 80 minutes in 2008 to 63 minutes in 2012, a reduction of 21% (Figure 6)

Fig 4. Percentage of acute stroke patients who received defect-free care, GCASR, 2008-2012 (n=44,201)

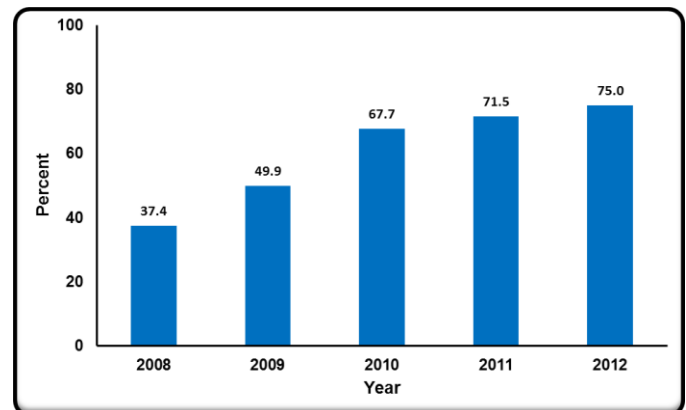


Figure 5. Percentage of ischemic stroke patients treated with IV tPA within 60 minutes of hospital arrival, GCASR, 2008-2012 (n=1,784)

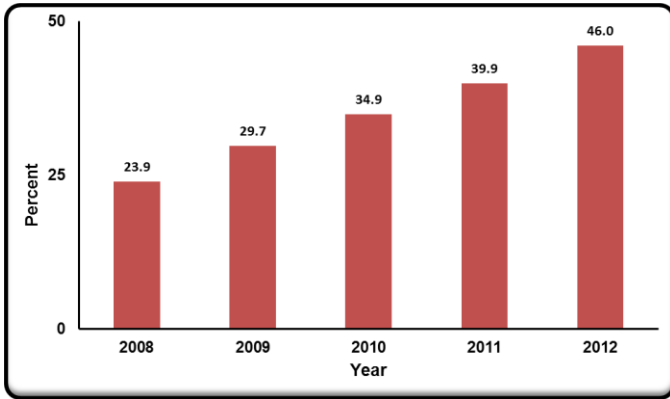
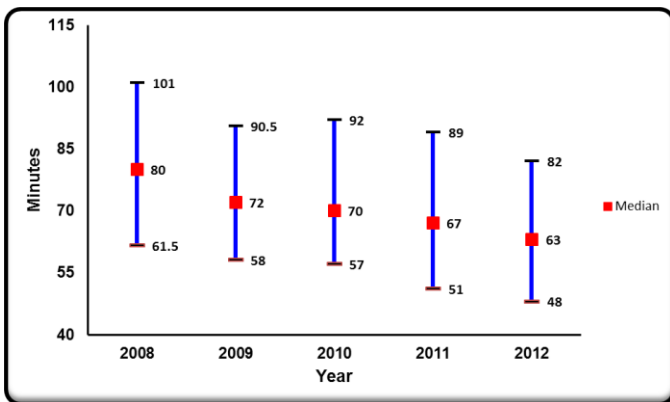


Figure 6. Trends in median door-to-needle time among eligible ischemic stroke patients treated with IV tPA, GCASR, 2008-2012 (n=1,784)



DEFINITIONS

- Stroke: brain tissue death; can be the result of a thrombus (blocked artery) or a hemorrhage (ruptured artery) which prevents blood flow to the brain
- Transient ischemic attack: temporary blockage of cerebral blood flow that causes a short-lived neurological deficit
- Deep Vein Thrombosis (DVT): blood clot located in a large vein; a potential complication of stroke
- Dysphagia: problems swallowing; a potential complication of stroke that can lead to pneumonia
- Antithrombotic: medication administered to prevent platelets or clotting factors in the blood from forming a blood clot
- Anticoagulation: administration of medications to prevent clotting of the blood
- Tissue plasminogen activator (tPA): a thrombolytic medication administered to eligible acute ischemic stroke patients to reestablish blood supply to the brain

FOR MORE INFORMATION ON GCASR, PLEASE VISIT <http://dph.georgia.gov/georgia-coverdell-acute-stroke-registry>