Guidance for Documenting Stroke-Related EMS Calls

The Georgia Department of Public Health (DPH) uses a variety of data sources to track stroke events and the quality of stroke care delivery across Georgia. EMS plays a critical role in optimizing stroke care and ensuring better patient outcome. EMS data provide information on the early critical phase of acute stroke care and allow the department to monitor and improve the quality of stroke care in the state. Using the EMS data, the Georgia Coverdell Acute Stroke Registry (GCASR) monitors activation of the 9-1-1 system, use of prehospital stroke assessment tools, prehospital notification to the receiving hospital (EMS calling Code Stroke effectively), transportation of patients to the closest designated stroke center and communication of information essential for stroke care from EMS to the Hospital.

Thorough and consistent documentation of stroke event-related EMS trips allows the DPH surveillance systems to provide feedback to EMS on areas of improvement to prevent death and long-term disability. Moreover, such data enable the department to assess the impact of EMS activity on patient outcomes and implement evidence based best practices across the stroke care continuum.

The NEMSIS Version 3.4 dataset (the one used for GEMSIS Elite) contains several data elements that DPH monitors for stroke-related events. As part of DPH's effort to improve this surveillance, the Georgia Office of EMS and Trauma (OEMS) recommends the following as best practices in the documentation of patients who have (or are suspected of having) experienced a stroke.

eSituation.11 (Provider's primary impressions) and eSituation.12 (Secondary impressions)

When documenting a stroke or TIA, it is recommended that the following ICD-10-CM codes be used for eSituation.11/eSituation.12. Each ePCR vendor may display the descriptions in a different way, so it is important for all agencies to confirm that the ICD-10-CM codes are the ones being used, and a description similar to the ones below is shown to medics for documentation of Stroke-Related EMS calls.

First Tier Hierarchy	Second Tier Hierarchy	ICD-10-CM Code	ICD-10-CM Description
CNS/Nervous System	Stroke	I63.9	Cerebral infarction, unspecified
	TIA	G45.9	Transient cerebral ischemic attack, unspecified

eMedications.03 (Medication Given)

When documenting the use of Alteplase, it is preferred to use the following RxNorm generic code rather than a specific brand, such as Activase. Having a single code for Alteplase allows for the most efficient method to track it's use.

EMS Term	RxNorm Code Value	RxNorm Description
Alteplase (e.g., Activase)	8410	Alteplase

eMedications.07 (Patient response to medication)

If Alteplase is administered, please document eMedications.07 (Patient response to medication) as either "Improved" or "Unchanged".

Current Medications – eHistory.12, eHistory.13, eHistory.14, eHistory.15

It is important to document medications that a patient is currently taking. If a medication is unable to be listed in the eHistory section or in the event the patient has polypharmacy, then medications may be listed in the narrative section. **Specific attention to anti-coagulant use is important.**

Performance Measures

DPH also monitors the quality of pre-hospital stroke care using various performance measures. Each of the following is a performance measure that looks at **the percentage (%) of suspected stroke patients**:

- With documented Last Known Well (LKW) times (eSituation.18)
- That are transported and have a on-scene time < 15 minutes (eTimes.07, eTimes.09)
- Who had a pre-hospital stroke assessment (eVitals.29, eVitals.30)
- Who had a thrombolytic (reperfusion checklist) performed (eVitals.31)
- Who have a documented blood glucose level (eVitals.18)
- Where a hospital pre-notification was performed (eDisposition.24, eDisposition.25)
- Who were transported to a designated stroke center

To properly evaluate these performance measures, it is important for medics and agencies to ensure that the following fields (data elements) are properly completed on each patient care report for patients with TIA or suspected strokes. If the question is unable to be answered or the assessment step completed, then some data elements allow for the documentation of a Pertinent Negative, such as "Refused" or "Unable to Complete".

Data Element	Definition/Values
eSituation.18 - Date/Time Last Known Well	The estimated date and time the patient was last known to be well or in their usual state of health. This is described or estimated by the patient, family, and/or bystanders. For stroke related events, this is the date and time the patient was last seen normal.
eVitals.30 - Stroke Scale Type	The type of stroke scale used. Possible values include: "Cincinnati", "Los Angeles", "Massachusetts", "Miami Emergency Neurologic Deficit (MEND)", "NIH", "Other Stroke Scale Type", "F.A.S.T. Exam", and "FAST-ED". *NOTE: "FAST-ED" is not a standard NEMSIS v3.4 value for eVitals.30, but has been included in the Georgia Custom Elements definitions published on the NEMSIS website.* **All ePCR software vendors are required to comply with this custom value.** **The Office of EMS and Trauma has adopted the following stroke exams for Georgia:** • **Stroke Triage Tool: Cincinnati Pre-hospital Stroke Scale** • **Stroke Severity Tool: FAST-ED**
eVitals.29 - Stroke Scale Score	The findings or results of the Stroke Scale Type (eVitals.30) used to assess the patient exhibiting stroke-like symptoms. Choices include: "Negative", "Non-Conclusive" and "Positive".
eVitals.31 - Reperfusion Checklist	The results of the patient's Reperfusion Checklist for potential Thrombolysis use. Possible choices include: "Definite Contraindications to Thrombolytic Use", "No Contraindications to Thrombolytic Use" and "Possible Contraindications to Thrombolytic Use"
eVitals.18 - Blood Glucose Level	The patient's blood glucose level.
eDisposition.24 - Destination Team Pre-Arrival Alert or Activation	Indication that an alert (or activation) was called by EMS to the appropriate destination healthcare facility team. The alert (or activation) should occur prior to the EMS Unit arrival at the destination with the patient. If indicating that a stroke alert was performed, the value that should be recorded is: "Yes-Stroke".
eDisposition.25 - Date/Time of Destination Prearrival Alert or Activation	The Date/Time EMS alerted, notified, or activated the Destination Healthcare Facility prior to EMS arrival. The EMS assessment identified the patient as acutely ill or injured based on exam and possibly specified alert criteria.
eTimes.07 - Arrived at Patient Date/Time	The date/time the responding unit arrived at the patient's side.
eTimes.09 - Unit Left Scene Date/Time	The date/time the responding unit left the scene with a patient (started moving).

eHistory.08 (Medical/Surgical History)

When documenting a history of a Cardiovascular or Neurological disorder, it is important to use the NEMSIS suggested ICD-10-CM codes that are related to a possible current stroke event.

First Tier Hierarchy	Second Tier Hierarchy	ICD-10-CM Codes	ICD-10 Descriptions
Cardiovascular	Hypertension	I10	Essential (primary) hypertension
Neuro	Aphasia Post CVA	I69.120	Aphasia following nontraumatic intracerebral hemorrhage
Neuro	Cerebral Infarction	I63.9	Cerebral infarction, unspecified
Neuro	Cerebral Ischemia	I67.82	Cerebral ischemia
Neuro	Deficits Post CVA	I69.11	Cognitive deficits following nontraumatic intracerebral hemorrhage
Neuro	Difficulty Speaking Post CVA	I69.121	Dysphasia following nontraumatic intracerebral hemorrhage
Neuro	Epilepsy (Focal)	G40.1	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, not intractable
Neuro	Epilepsy (Seizures)	G40.319	Generalized idiopathic epilepsy, intractable, w/o stat epilepticus
Neuro	Epilepsy (w/Status Epilepticus)	G40.803	Other epilepsy, intractable, with status epilepticus
Neuro	Extradural Hemorrhage	I62.1	Nontraumatic extradural hemorrhage
Neuro	Headache	G44.89	Other headache syndrome
Neuro	Hemiplegia & Hemiparesis	G81	Hemiplegia and hemiparesis
Neuro	Hemiplegia Post CVA	I69.159	Hemiplegia and hemiparesis following nontraumatic intracerebral hemorrhage affecting unspecified side
Neuro	Intracerebral Hemorrhage	I61.9	Nontraumatic intracerebral hemorrhage, unspecified
Neuro	Migraines	G43.919	Migraine, unspecified, intractable, without status migrainosus
Neuro	Paraplegia	G82.20	Paraplegia, unspecified
Neuro	Quadriplegia	G82.50	Quadriplegia, unspecified
Neuro	Speech Deficit Post CVA	I69.12	Aphasia following nontraumatic intracerebral hemorrhage
Neuro	Subarachnoid Hemorrhage	I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery
Neuro	Subdural Hemorrhage	I62.00	Nontraumatic subdural hemorrhage, unspecified

eNarrative

The narrative in a patient care report is also incredibly valuable in DPH's surveillance efforts. When writing the narrative for a potential stroke patient, please include as many stroke-related elements as possible in the narrative field. Specifically:

- Medication List (if unable to document all meds in the eHistory section), including compliance with medications
- A detailed description of the onset of the stroke/TIA symptoms and precipitating factors

Without a standardized approach to documentation, epidemiologic surveillance of strokes becomes increasingly difficult. Your efforts to align EMS documentation using the above guidance will assist DPH in improving stroke care in Georgia, and we thank you for your assistance.