

# Sacramento County Emergency Medical Services Agency Stroke Care Committee Meeting

Date and Time: November 13, 2025, 1:00 PM – 3:00 PM

Location: EMS Conference Room, 9616 Micron Avenue, Suite 940, Sacramento, CA 95827

Facilitator(s): Gregory Kann, MD FACEP



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## 1. Welcome, Attendance, and Approval of Minutes

### a. Discussion Points:

- i. Introductions completed for all in-person and virtual participants.
- ii. Minutes from the prior meeting were reviewed and approved.

### b. Action:

- i. Motion to approve prior meeting minutes without changes.
- ii. Motion: Tressa Naik ; Second: Jeremy Veldstra

## 2. Hospital Data Cross-Reference Guides

### a. Discussion Points

- i. Need identified for standardized data-entry expectations across hospitals.
- ii. Variability in what hospitals provide for STEMI, Stroke, and Specialty Care measures.

### b. Details:

- i. Cross-reference guide will be attached to all relevant SCEMSA policies.
- ii. Requested additions from hospitals:
  1. Stroke: CT time and first device/intervention time.
  2. STEMI: door-to-balloon time, first ED ECG.
- iii. These metrics support AHA Get With The Guidelines requirements and joint agency-hospitals.
- iv. Some hospitals have stopped sending data directly to specialty coordinators due to workload centralization.

### c. Action:

- i. SCEMSA to distribute the draft data guide to committee members for additional input.
- ii. Members were encouraged to notify SCEMSA of data gaps or reporting issues.



### 3. Stroke Destination Policy (Policy 8060) – Systemwide Discussion & Public Comment Review

#### a. Background:

- i. Sacramento County's current policy sends all field-identified stroke patients to the closest Stroke Receiving Center.
- ii. Proposal under discussion: Selective triage to Comprehensive Stroke Centers (CSC) for a subset of patients meeting specific criteria.

#### b. Proposed Policy Edits:

5. If CPSS is  $> 0$ , and "last seen normal" \*time, including wake-up Stroke, is twenty-four (24) hours or less, perform Los Angeles Motor Score (LAMS):
  - a. LAMS Scoring:
    - i. Facial Droop: Absent = 0, Present = 1
    - ii. Arm Weakness: Absent = 0, Drifts = 1, Falls Rapidly = 2
    - iii. Grip Strength: Equal = 0, Weak = 1, No Grip = 2
    - iv. Total Score Range: 0–5
  - b. LAMS score  $\leq 3$  transport to closest **Stroke Receiving Center**
  - c. Transport to a **\*\*\*Thrombectomy Capable Center if:**
    - i. LAMS score  $\geq 4$  **AND**
    - ii. LKWT is  $\geq 4.5$  hours **OR** meets any of the following contraindications to lytics:
      - History of Intracranial Hemorrhage
      - History of stroke within the past 3 months
      - Actively taking anticoagulations
- AND**
- iii. Travel time  $\leq 30$  minutes

#### c. Public Comments Received:

- i. Requested clarifying correction to LAMS language.
- ii. Provided updated contraindication wording recommendations.
- iii. Recommended replacing "Comprehensive Stroke Center" terminology with "Thrombectomy-Capable Center."
  1. APPROVED
- iv. Asked to confirm inclusion of Sutter Roseville - a recognized thrombectomy capable site - when within  $\leq 30$ -minute transport radius.
- v. All comments reviewed and incorporated as appropriate.

#### d. System-Level Discussion: A structured discussion followed between hospital systems, EMS Providers, SCEMSA and YEMSA

##### i. Contraindication List -

1. Concern: These contraindications require paramedics to gather historical data that may be inaccurate, incomplete, or unobtainable.



2. Recommendation: Remove the contraindication list entirely due to risk of delays, misclassification, and unnecessary diversion.
3. Counterpoints:
  - a. Many elements (e.g. anticoagulant use) are already routinely asked in triage.
  - b. If history is known and reliable, it can help avoid further delay in definitive care if patient is identified as not being a candidate for lytics.
  - c. Difficulty: Language barriers, lack of history from patients family.
- ii. Balancing Lytics vs. Faster Access to Thrombectomy
  1. Debate centered on whether patients potentially eligible for thrombolytics should ever bypass a primary center if CSC arrival adds only 5–15 minutes.
  2. Yolo County shared experience implementing full LVO Triage in May 2025.
  3. National AHA recommendations discussed; recognition that Sacramento County’s proposal is a partial adoption that stops short of full AHA alignment.
- iii. Operational Concerns
  1. Ensuring medics are not penalized for “unknown” histories.
  2. Emphasis on feasibility over theoretical ideal workflows.
  3. Consideration of patient cost and interfacility transfer burden.
- iv. Consensus Vote by Hospital System: Systems were asked for a clear “Yes” or “No” to moving forward with the limited triage model as written (with removal of stated contraindications).

<b>System</b>	<b>Position</b>
<b>Sutter Health</b>	<b>Yes</b> – Support removal of contraindications; support moving forward.
<b>Dignity Health</b>	<b>Yes</b> – Dr. Maidan voiced agreement.
<b>UC Davis Health</b>	<b>Yes</b> – Supportive with ongoing monitoring and future refinement.
<b>Kaiser Permanente</b>	<b>No</b> – Expressed concerns regarding evidence gaps, risk-benefit balance, and operational impacts.

**Outcome:**

**Three out of four systems voted YES → policy moves forward.**



e. Next Steps and Implementation Timeline:

- i. Policy 8060 will be presented at MAC/OAC on December 11, 2025 for final EMS stakeholder review.
- ii. Anticipated implementation date: May 1, 2026, aligning with countywide policy cycle and allowing for training time for paramedics.

#### 4. Stroke System Q2 Data Review

a. Discussion Points:

- i. Over 90,000 PCRs were submitted countywide for the quarter.
- ii. 1,029 patients had a primary impression of stroke documented by EMS.
- iii. 500 stroke patients arrived via EMS from a scene or home.
- iv. 314 field stroke alerts resulted in a confirmed stroke diagnosis (~35% confirmation rate).

b. Details:

- i. Stroke screen documentation remains high at 99%.
- ii. Glucose documentation declined, largely due to small-volume agencies missing a single measurement, which disproportionately affects percentages.
- iii. Pre-arrival notifications were completed in 91% of cases.
- iv. Several cases had missed stroke alerts despite positive CPSS findings or clear neurological deficits.
- v. Hospitals and EMS discussed reviewing ring-down recordings when a pre-hospital alert is not documented, to determine whether the alert was missed in documentation or was not called in by the medic.

c. Action:

- i. Improve glucose documentation across all agencies, with focused outreach to low-volume providers.
- ii. Increase accuracy and consistency in documenting "Stroke Alert" within the PCR (not solely in the narrative).

#### 5. Case Reviews - Mercy San Juan Medical Center & Sutter Roseville Medical Center



## 6. Roundtable Discussion:

- a. Mercy San Juan:
  - i. Proposed a May Stroke Awareness campaign that pulls both EMS and hospitals together to get educational fliers and magnets out to the public.
  - ii. San Juan is now a training center and can offer ASLS courses to EMS providers. Information will be shared with SCEMSA for distribution.
- b. Sacramento Fire Department:
  - i. Strong support for the May Stroke Awareness education campaign.
  - ii. Their media program may be able to assist with production of educational materials, such as a short video.
- c. General Discussion on Community Engagement:
  - i. Emphasis on parallel countywide initiatives related to cardiac arrest—hands-only CPR, AED placement and registration, PulsePoint integration.
  - ii. Noted that stroke, trauma, and cardiac arrest all represent time-sensitive conditions benefiting from coordinated public education efforts.
- d. UC Davis:
  - i. Nursing staff will be on strike Monday and Tuesday; message also communicated earlier during the STEMI meeting.
  - ii. SCEMSA will send notification to impacted EMS and stakeholder groups.

## 7. Adjournment

Next meeting Scheduled for **February 17, 2026**

	<b>COUNTY OF SACRAMENTO</b> EMERGENCY MEDICAL SERVICES AGENCY	<b>Document #</b>	8060.20
	<u>PROGRAM DOCUMENT:</u>  <b>Stroke</b>	<b>Initial Date:</b>	11/20/96
		<b>Last Approval Date:</b>	12/12/24
		<b>Effective Date:</b>	05/01/26
		<b>Next Review Date:</b>	09/01/25

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Signature on File

EMS Medical Director

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Signature on File

EMS Administrator

**Purpose:**

To establish a treatment standard for Emergency Medical Technicians and Paramedics in treating patients showing signs or symptoms of a suspected stroke.

**Authority:**

- A. California Health and Safety Code, Division 2.5
- B. California Code of Regulations, Title 22, Division 9

**Definitions:**

- A. **Stroke** - A condition of impaired blood flow to a patient's brain resulting in brain dysfunction, most commonly through occlusion or hemorrhage.
- B. **Onset of Symptoms** - The specific date and time when current symptoms were known to have started.
- C. **Last Known Normal/Well (LKW)** - When the "onset of symptom" cannot be reliably determined (no witness or a poor historian), the Last Known Well time is the most recent time a reliable historian can say the patient was at their baseline health without current symptoms.
- D. **Wake Up Stroke** - Patient awakens with stroke symptoms that were not present prior to falling asleep.
- E. **Suspected Stroke** - Suspected Stroke with one (1) new onset of lateralizing neurological signs; and/or two (2) unexplained new altered level of consciousness (Glasgow Coma Scale < 14) without response to Glucose, Glucagon, or Naloxone (excluding head injury).

**Protocol:**

- A. If possible, document a reliable time of day that the patient was last observed to be normal either by the patient or witness. A patient who wakes up with symptoms is considered as having an **UNKNOWN** time of onset.

BLS	
<ol style="list-style-type: none"> <li>1. Ensure patent airway.</li> <li>2. Supplemental O<sub>2</sub> as necessary to maintain SPO<sub>2</sub> ≥ 94%. Use the lowest concentration and flow rate of O<sub>2</sub> as possible.</li> <li>3. Perform Blood Sugar determination.</li> <li>4. Transport.</li> </ol>	
ALS	
<ol style="list-style-type: none"> <li>1. Advanced airway adjuncts as needed.</li> <li>2. Cardiac Monitoring.</li> <li>3. Determine Cincinnati Prehospital Stroke Scale (CPSS). Normal response is 0, Abnormal is 1, Maximum Score is 3.</li> <li>4. Initiate vascular access. If time allows, without delaying transport, initiate a second access line. Minimum 20g in AC when possible.</li> <li>5. If CPSS is &gt; 0, and “last seen normal” *time, including wake-up Stroke, is twenty-four (24) hours or less, <b>perform Los Angeles Motor Score (LAMS):</b> <ol style="list-style-type: none"> <li>a. LAMS Scoring:               <ol style="list-style-type: none"> <li>i. Facial Droop: Absent = 0, Present = 1</li> <li>ii. Arm Weakness: Absent = 0, Drifts = 1, Falls Rapidly = 2</li> <li>iii. Grip Strength: Equal = 0, Weak = 1, No Grip = 2</li> <li>iv. Total Score Range: 0–5</li> </ol> </li> <li>b. LAMS score ≤ 3 transport to closest <b>Stroke Receiving Center</b></li> <li>c. Transport to a <b>***Thrombectomy Capable Center if:</b> <ol style="list-style-type: none"> <li>i. LAMS score ≥ 4 <b>AND</b></li> <li>ii. LKWT is ≥ 4.5 hours OR meets any of the following contraindications to lytics:                   <ul style="list-style-type: none"> <li>• History of Intracranial Hemorrhage</li> <li>• History of stroke within the past 3 months</li> <li>• Actively taking anticoagulations</li> </ul> </li> </ol> </li> <li><b>AND</b></li> <li>iii. Travel time ≤ 30 minutes</li> </ol> </li> <li>6. Prehospital personnel will contact the receiving hospital and clearly announce: “Stroke Alert” and give the following information if available:           <ol style="list-style-type: none"> <li>a. Last time of day observed to be “normal,” reported by bystanders.</li> <li>b. Patient’s name, date of birth, or medical record number, if known.</li> <li>c. Baseline Mental Status.</li> </ol> </li> <li>7. When possible and safe to do so, transport a family member or Durable Power of Attorney (DPOA) or obtain and relay to the receiving hospital the name/contact information of the individual(s) who can verify the time of onset of symptoms or last known normal/well time.</li> </ol>	
<p><b>*If CPSS is=0, OR “last seen normal” time is &gt; twenty-four (24) hours, the patient is <u>NOT</u> a “stroke alert,” and destination is per Policy PD# 5050 – Destination.</b></p>	
<p><b>***Note Thrombectomy Capable Center Include:</b></p> <ul style="list-style-type: none"> <li>• UC Davis Medical Center</li> <li>• Mercy San Juan Medical Center</li> <li>• Kaiser Permanente North</li> <li>• Sutter Sacramento</li> <li>• Sutter Roseville</li> </ul>	

Cincinnati Prehospital Stroke Scale (CPSS)			
Sign / Symptom	How tested	Normal 0	Abnormal + 1
Facial Droop	Have the patient show their teeth or smile	Both sides of the face move equally	One side of the face does not move as well as the other
Arm Drift	The patient closes their eyes and extends both arms straight out for 10 seconds	Both arms move the same, or both do not move at all	One arm either does not move, or one arm drifts downward compared to the other
Speech	The patient repeats "The sky is blue in Cincinnati"	The patient says correct words with no slurring of words	The patient slurs words, says the wrong words, or is unable to speak

LAMS SCORING	
Assessment Item	Score
Facial Droop	Absent = 0 Present = 1
Arm Weakness	Absent = 0 Drifts = 1 Falls Rapidly = 2
Grip Strength	Equal = 0 Weak = 1 No Grip = 2
<b>Total Score Range</b>	0-5

**Cross Reference:** PD# 2525 – EMS Radio Report Format  
 PD# 2060 – Hospital Services  
 PD# 5050 – Destination  
 PD# 5060 – Hospital Diversion

# Hospital / EMS Stroke Data

2Q 2025

<b>SCENE Calls (911-Response) –2Quarter 2025</b>	<b>Incident Count</b>	<b>Percentages</b>
Total ePCRs received	90,445	100%
Responses (Emergency Primary Response Area)	67,687	74.83%
<b>Treated and Transported</b>	<b>40,381</b>	<b>44.64%</b>
<b>EMS Data</b>		
<b>Primary Impressions of Treated and Transported -911-Response (Scene)</b>	<b>Incident Count</b>	<b>Percentages</b>
ALOC - (Not Hypoglycemia or Seizure) (R41.82)	1103	2.73%
Stroke / CVA / TIA (I63.9)	1029	2.54%
Sepsis (A41.9)	1244	3.08%
<b>Hospital Data (From GWTG)</b>		
<b>Patient Arrival for Stroke/ CVA/ TIA (I63.9)</b>	<b>Incident Count</b>	<b>Percentages</b>
Total Patient Count	1133	100%
EMS from home/scene	500	44.13%
Transfer From Another Hospital	296	26.12%
Private Vehicle	330	29.12%
Other /Unknown /Not Documented	7	0.62%
<b>Hospital Data (Patient Registry)</b>		
<b>Stroke alerted in field w/final clinical dx of Stroke</b>		
Total % = of In County Stroke Alerts	314*	34.96%

# Stroke Dashboard - EMS Data

Stroke	System Total	System Total	System Total	System Total
	2024 3Q	2024 4Q	2025 1Q	2025 2Q
Total transported patients with Primary impression of Stroke	1018	1019	1004	1029
Number of patients with documented Stroke Screen	996	1003	1004	1020
% of patients with documented Stroke Screen	97.83%	98.43%	100%	99%
Documented Glucose	1001	1019	1003	877
% of documented glucose	98.33%	100.00%	99.90%	85.23%
Patients with a Stroke pre-arrival notification / or no due to over 24hrs	895	922	947	943
% of Stroke pre-arrival notification	87.91%	90.48%	94.32%	91.64%
Stroke Primary impression arriving at out of County Hospitals	90	105	111	95
% Stroke Primary impression taken to out of county hospitals	8.84%	10.30%	11.05%	9.23%

Positive stroke Scale  
Less than 24hour  
onset without a  
documented Stroke  
Alert (eDisp.24)

<b>Audit Findings</b>	<b>Count of Findings</b>
Alert documented in narrative	27
CT- Alert likely done	3
Positive- Prior deficits	1
Slurred speech, Facial Droop	2
Facial Droop, Arm Weakness	2
Slurred Speech	1
<b>Grand Total</b>	<b>36</b>

## Stroke Primary Impression for Treated and Transported Patients - EMS Data

<b>Hospital Name</b>	<b>3Q-2024</b>	<b>4Q-2024</b>	<b>1Q-2025</b>	<b>2Q-2025</b>
KHR	54	57	63	56
KHN	160	162	171	173
KHS	189	167	156	153
MGH	65	71	53	55
MHF	59	68	64	56
MSJ	192	193	174	194
MHS	73	82	73	86
VAMC	0	0	0	0
SMCS	110	90	116	103
SRMC	32	42	45	34
UCD	80	81	86	114
OOA	4	6	3	5
<b>Total</b>	<b>1018</b>	<b>1019</b>	<b>1004</b>	<b>1029</b>

<b>Hospital Stroke Calls</b>	<b>Count</b>	<b>Percentages</b>
Total Hospital Stroke Patients	<b>1133</b>	<b>100%</b>
Brought in by EMS	<b>500</b>	<b>44.13%</b>
<b>Of Patients Brought in by EMS</b>	<b>Count</b>	<b>Percentages</b>
Stroke Alerted (or identified but care transferred) *	<b>314</b>	<b>62.80%</b>
Blank / PCR Not Found/ Out of County provider	<b>45</b>	<b>8.40%</b>
Symptoms Greater than 24 Hours	<b>10</b>	<b>2.00%</b>
<b>No Stroke Alert Documented (Not including Symptoms &gt;24 hours)</b>	<b>131</b>	<b>26.20%</b>
<b>Of No Stroke Alert Documented</b>	<b>Count</b>	<b>Percentages</b>
<b>No Stroke Scale documented</b>	<b>17</b>	<b>12.97%</b>
Negative CPSS (including TIA = resolved)	<b>92</b>	<b>70.22%</b>
Inconclusive/Unable to complete	<b>19</b>	<b>14.50%</b>
Positive CPSS but not alerted (2-stroke identified but no alert) *	<b>3</b>	<b>2.29%</b>
<b>Top 5 Primary Impressions of Stroke Patients not alerted in field</b>		
General Weakness	<b>22</b>	<b>16.79%</b>
ALOC	<b>15</b>	<b>11.45%</b>
Headache/HTN	<b>13</b>	<b>9.92%</b>
TIA resolved PTA	<b>13</b>	<b>9.92%</b>
No Medical Complaint	<b>11</b>	<b>8.39%</b>
Other (N/V, Trauma, Sepsis, Behavioral etc.)	<b>57</b>	<b>43.51%</b>

# Hospital Diagnosed Strokes – No Field Stroke Alert

*Positive CPSS documented; no  
stroke alert transmitted to  
receiving hospital.*

- “Pt is a/o x1 lethargic, appears confused, has slurred speech, and incomprehensible sounds. Per Staff pt was having lunch when at 1345 he had a sudden onset of dysphasia along with confusion, slurred speech, left sided facial droop, and the incomprehensible sounds. During transport symptoms resolved and has no stroke-like symptoms”

Documented Patient initial stroke scale score as positive

Primary Impression: Stroke/CVA/TIA

- “74 y/o female complaining of having difficulty speech. CPSS was assessed on scene and patient was found to be negative for any stroke activating symptoms.” BP 214/87

Documented Patient initial stroke scale score as positive

Primary Impression: None documented

- “Per son who was in passenger seat patient started complaining about a headache and then feeling dizzy and went unresponsive. Patient was able to be awoken and was confused. Her son patient was slurring when speaking”

Documented Patient initial stroke scale score as positive

Primary Impression: Stroke/CVA/TIA

# No CPSS Assessment in Field

*Stroke later confirmed in hospital.*

- “dispatched to a 56 y/o male for nausea and vomiting. Upon arrival patient was found seated upright on chair appearing diaphoretic and pale. EMS was unable to establish baseline mental status on patient due to language barrier. EMS obtained a blood sugar and 12 lead.”

\*Primary Impression: Nausea/Vomiting BP 210/64

- “Arrive to find 64 y/o female with a chief complaint of weakness. Pt reports having a ground level mechanical fall with a positive head strike, negative loss of consciousness, negative blood thinners. Pt presents with minor slurred speech however pt reports chronic slurred speech with diabetic emergencies.” No BGL recorded, no treatment for hypoglycemia

\*Primary Impression: No Medical Complaint BP 110/60

- “Patient was alert, GCS 15, with a chief complaint of headache over the last 5 days. Patient states that he was nauseous but had not been vomiting.”

\*Primary Impression: Headache-Non-traumatic BP 183/113

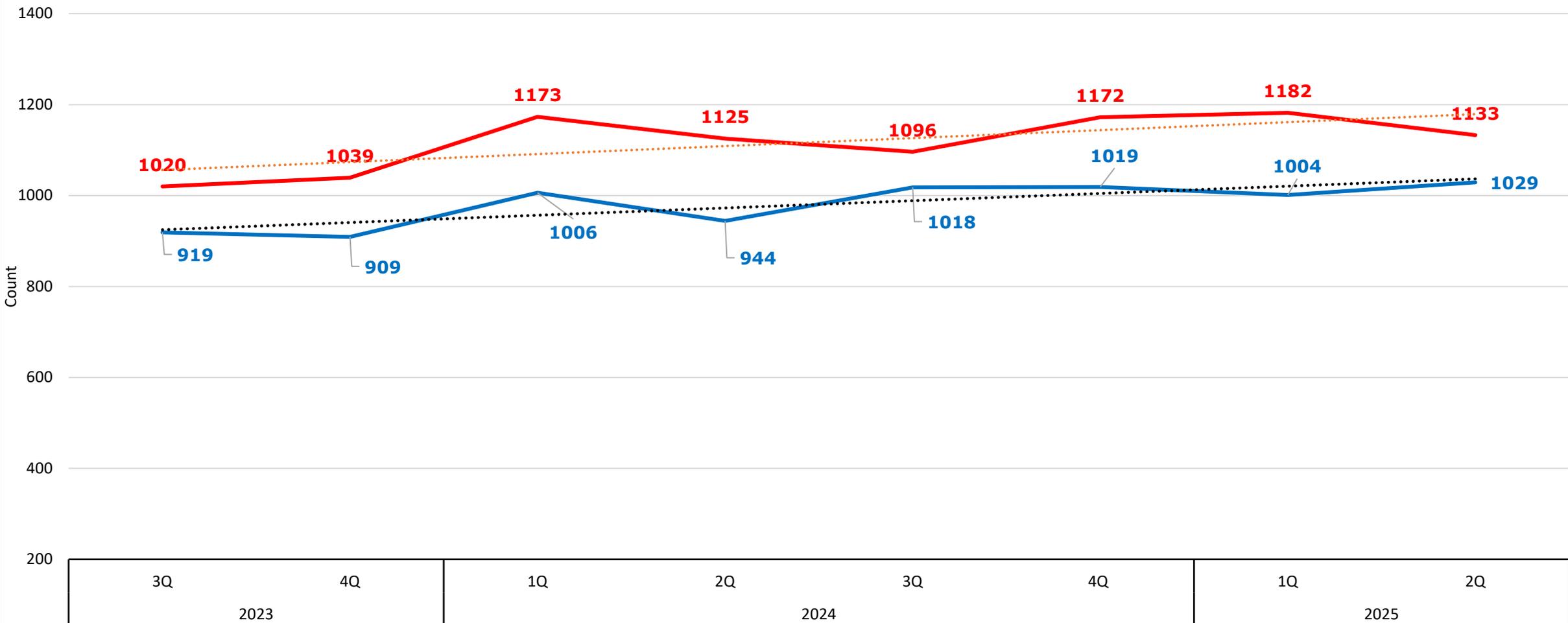
# Trend Count of EMS Patients (EMS Data) with Primary Impression of Stroke vs Hospital Stroke Patients (GWTG)

EMS Count

Hospital Counts

Linear (EMS Count)

Linear (Hospital Counts)





**Emergency Medical Services  
Stroke Critical Care Committee**

**2026 Meeting Dates**

<b>Day</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>
<b>Tuesday</b>	<b>February 17, 2026</b>	<b>12:00 PM – 1:30 PM</b>	<b>Sacramento County EMS Agency 9616 Micron Ave Suite 900 Conference Room 1</b>
<b>Tuesday</b>	<b>May 12, 2026</b>	<b>12:00 PM – 1:30 PM</b>	<b>Sacramento County EMS Agency 9616 Micron Ave Suite 900 Conference Room 1</b>
<b>Tuesday</b>	<b>August 18, 2026</b>	<b>12:00 PM – 1:30 PM</b>	<b>Sacramento County EMS Agency 9616 Micron Ave Suite 900 Conference Room 1</b>
<b>Tuesday</b>	<b>November 17, 2026</b>	<b>12:00 PM – 1:30 PM</b>	<b>Sacramento County EMS Agency 9616 Micron Ave Suite 900 Conference Room 1</b>



**Department of Health Services Emergency Medical Services Agency  
Stroke Care Committee  
2026 Case Presentation Rotation**

<b>Date:</b>	<b>2/17/2026</b>	<b>5/12/2026</b>	<b>8/18/2026</b>	<b>11/17/2026</b>
<b>KHN</b>	X			X
<b>KHR</b>		X		
<b>KHS</b>			X	
<b>MGH</b>				X
<b>MHF</b>	X			
<b>MHS</b>		X		
<b>MSJ</b>			X	
<b>SMCS</b>				X
<b>SRMC</b>		X		
<b>UCD</b>			X	