

# Mobile Stroke Unit Case Study: Bringing the Hospital to the Patient



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# Mobile Stroke Unit

- ▶ Novel and innovative
- ▶ Leverages pre-hospital systems of care
- ▶ Parallel processes



# What Happens After I Call 911

- ▶ Call is received by dispatch
- ▶ Complaint is put through EMD (Emergency Medical Dispatch)
- ▶ Correct resources are deployed
- ▶ Assessment done on scene
- ▶ Protocols guide where the patient is transported

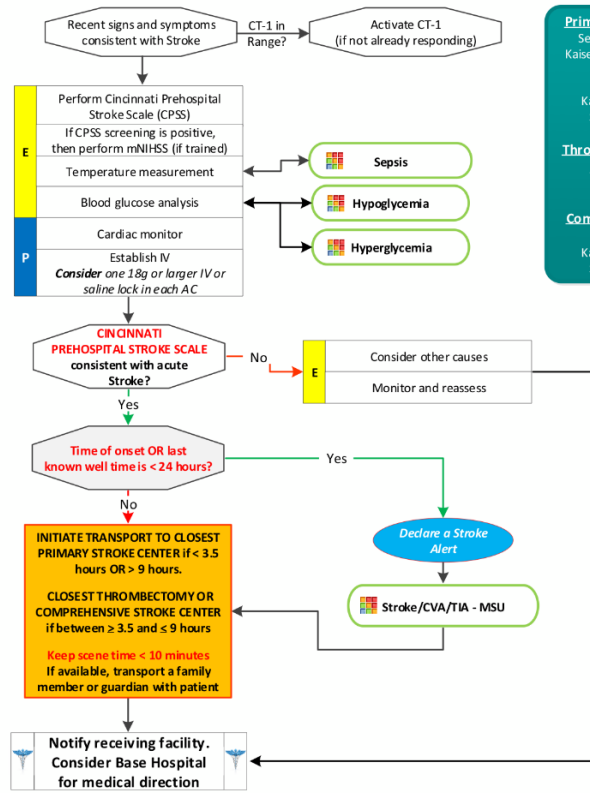
# MSU Deployment

- ▶ MSU integrated within San Mateo County EMS
  - ▶ If EMD card “stroke” or “headache” or otherwise concern for stroke symptoms, MSU auto-activated
  - ▶ Deployed in tandem with regular 911 ambulance
  - ▶ Can be activated from the field if missed by central dispatch
- ▶ MSU catchment area
  - ▶ Based upon response time (GPS) and destination hospital
  - ▶ Default destination hospital for patients is as per San Mateo County EMS protocol

# Stroke/CVA/TIA

For suspected stroke or transient ischemic attack (stroke symptoms that resolve rapidly)

<p><b>History</b></p> <ul style="list-style-type: none"> <li>Last seen normal</li> <li>A&amp;O Status and GCS</li> <li>Family members phone number</li> <li>Previous stroke or TIA or brain hemorrhage</li> <li>Major surgery within last 2 weeks</li> <li>Signs of active bleeding, including Melena</li> <li>Associated diseases (DM, HTN, CAD)</li> <li>Atrial fibrillation</li> <li>Medications (blood thinners)</li> <li>History of trauma</li> <li>History of brain tumor, aneurysm, or AVM.</li> </ul>	<p><b>Signs and Symptoms</b></p> <ul style="list-style-type: none"> <li>Altered mental status</li> <li>Weakness or paralysis</li> <li>Blindness or other sensory loss</li> <li>Aphasia or dysarthria</li> <li>Syncope</li> <li>Vertigo or dizziness</li> <li>Vomiting</li> <li>Headache</li> <li>Seizure</li> <li>Respiratory pattern change</li> <li>Hypertension/hypotension</li> <li>Diplopia or double vision</li> </ul>	<p><b>Differential</b></p> <ul style="list-style-type: none"> <li>See Altered Mental Status</li> <li>TIA</li> <li>Sepsis</li> <li>Seizure/Todd's paralysis</li> <li>Hypoglycemia</li> <li>Stroke                         <ul style="list-style-type: none"> <li>Thrombotic or embolic (~85%)</li> <li>Hemorrhagic (~15%)</li> </ul> </li> <li>Tumor</li> <li>Trauma</li> <li>Dialysis or renal failure</li> <li>Bell's Palsy</li> </ul>
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**Primary Stroke Centers**  
 Seton Medical Center  
 Kaiser South San Francisco  
 Sequoia Hospital  
 Mills-Peninsula  
 Kaiser Redwood City  
 Stanford Hospital

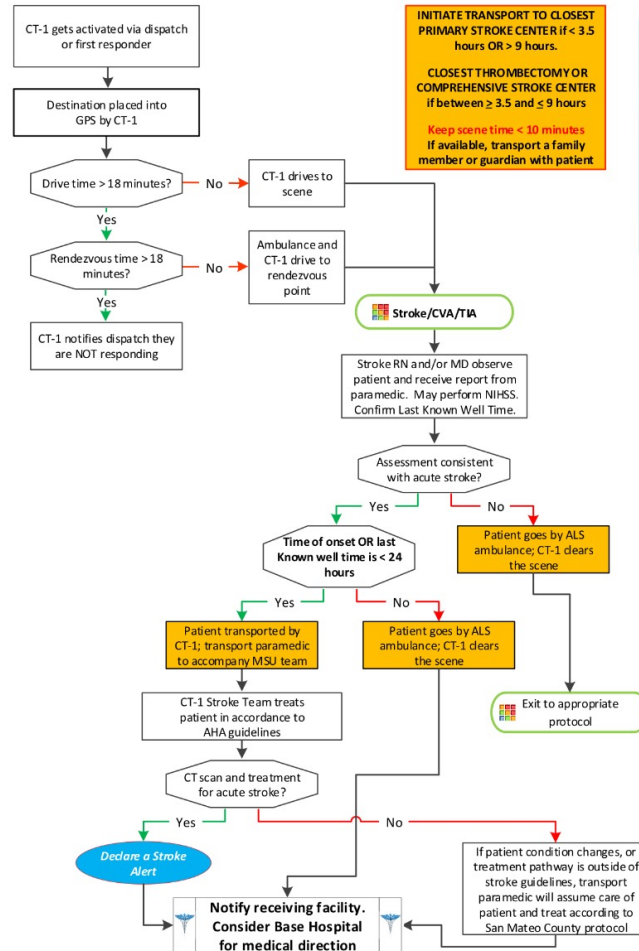
**Thrombectomy Capable Stroke Centers**  
 Mills-Peninsula

**Comprehensive Stroke Centers**  
 Kaiser Redwood City  
 Stanford Hospital

Adult Medical Treatment Protocols

# Stroke/CVA/TIA – Mobile Stroke Unit (CT-1)

For suspected stroke or transient ischemic attack (stroke symptoms that resolve rapidly)



- Primary Stroke Centers**
  - Seton Medical Center
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  - Mills-Peninsula
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  - Mills-Peninsula
- Comprehensive Stroke Centers**
  - Kaiser Redwood City
  - Stanford Hospital

Adult Medical Treatment Protocols

# Rendezvous System

- ▶ Expands MSU coverage to the coastal communities
- ▶ Designated meeting points with space for 2 rigs and level ground
- ▶ Does not change destination hospital
- ▶ MSU meets transport ambulance en-route to receiving facility to expedite evaluation
- ▶ MSU is a “Primary stroke center on wheels“
  
- ▶ Rendezvous primarily in the North County, as we are able to access most locations quickly in the South

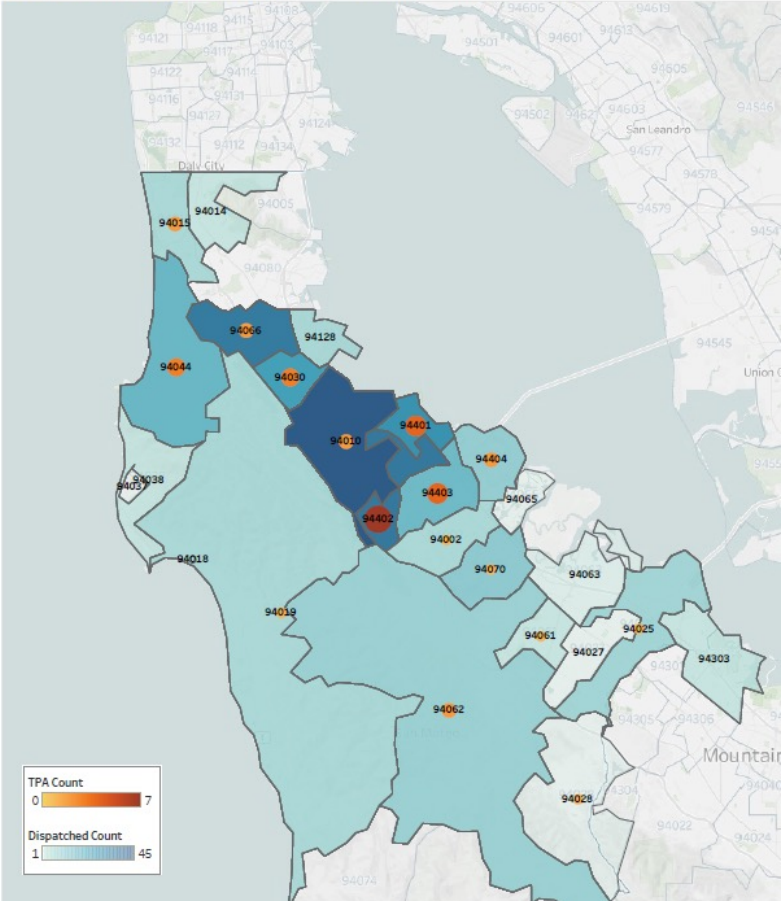


# Rendezvous Points





# San Mateo County Responses



THANK YOU

