



Trauma

Critical Care System Plan 2021 Annual Update

Prepared By:

Sacramento County

Department of Health Services

Emergency Medical Services Agency

**SACRAMENTO COUNTY
TRAUMA CRITICAL CARE SYSTEM PLAN
2021 ANNUAL UPDATE
May 4, 2022**

In accordance with State of California Code of Regulations, Title 22, Division 9, Chapter 7, Sacramento County submits this Trauma Care System Plan update.

Trauma Critical Care System Summary

The Sacramento County Trauma Care System is a network of three (3) in-county and one (1) out-of-county trauma centers. Sacramento County Emergency Medical Services Agency (SCEMSA) designates trauma centers to provide emergency medical care to any patient who, after evaluation by prehospital emergency medical service (EMS) personnel, requires direct transportation to a facility specializing in trauma care.

The system undergoes review on a continuous basis. Reviews include quarterly Trauma Review Committee (TRC) meetings. Trauma surgeons and other professionals within Sacramento County and nearby counties conduct the meetings.

Trauma Critical Care System Changes

The TRC reviewed trauma related policies, listed later in this document, as part of the SCEMSA'S biannual policy review process. With only minor changes in the final policy documents, there were no fundamental changes in the Sacramento County Trauma Care System in 2021.

Trauma Critical Care System Facilities

The following hospitals are in-compliance with current American College of Surgeons (ACS) standards and remain designated trauma-receiving facilities for Sacramento County trauma patients:

In-County

University of California Davis Medical Center

2315 Stockton Boulevard
Sacramento, CA 95817
(916) 734-2011
Level I Trauma Center
(Adult and Pediatric)

In-County

Mercy San Juan Medical Center

6501 Coyle Avenue
Carmichael, CA 95608
(916) 537-5000
Level II Trauma Center

In-County

Kaiser Permanente Medical Center - South Sacramento

6600 Bruceville Road
Sacramento, CA 95823
(916) 688-2000
Level II Trauma Center

Out-of-County

Sutter Roseville Medical Center

One Medical Plaza
Roseville, CA 95661
(916) 781-1200
Level II Trauma Center

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Trauma Critical Care System Goals and Objectives

The Trauma Critical Care System is a network of dedicated prehospital and hospital professionals tasked with maintaining or expanding the Sacramento region-wide Trauma Review Committee (TRC) forum through ongoing communication and teamwork. The focus is to enable detailed review and analysis of data, including unexpected surgical outcomes and to facilitate comprehensive data collaboration.

- Goal 1. *Improve mechanisms for ensuring continuing compliance with trauma critical care system standards through continuous quality improvement (CQI) activities and data collection from both designated trauma centers and non-trauma centers.*

The TRC reviews local trauma protocols and policies, making suggestions for ongoing trauma care improvement in the prehospital and hospital settings. The TRC provides unique educational opportunities to physicians and administrators throughout the region and has been in place for nearly two decades. Contributing participants include trauma managers and surgeons from Sacramento, El Dorado, Placer, San Joaquin, and Yolo Counties, as well as regional forensic pathologists.

- Goal 2. *Improve integration and coordination of trauma services within the emergency medical services system through continued data collection and analysis, as well as collaborative Trauma Critical Care System policy development through advisory committees.*

Inland Counties Emergency Medical Agency (ICEMA) functions as the repository of the Sacramento County trauma and EMS data. Under this system, trauma centers and EMS providers submit data directly to ICEMA, which hosts the California Emergency Medical Services Information System (CEMSIS). This system allows SCEMSA to review data as it is submitted, decreasing the time between submission, analysis, and review at advisory meetings.

SCEMSA works closely with the three (3) Sacramento County trauma centers to identify and correct any software issues associated with the direct submission of data to CEMSIS. Staff works to develop comprehensive reports, which incorporate the data fields requested from the TRC to identify positive trends and outcomes.

Figures 1, 2 & 3 below illustrate EMS-transports with a Trauma related Primary Impression per hospital. Red indicates the number of patients, who met trauma triage criteria (TTC), transported to each hospital. In the majority of cases involving patients meeting TTC taken to non-trauma hospitals, paramedics identified and documented paramedic judgement or high-speed motorized vehicle accidents as the positive TTC.

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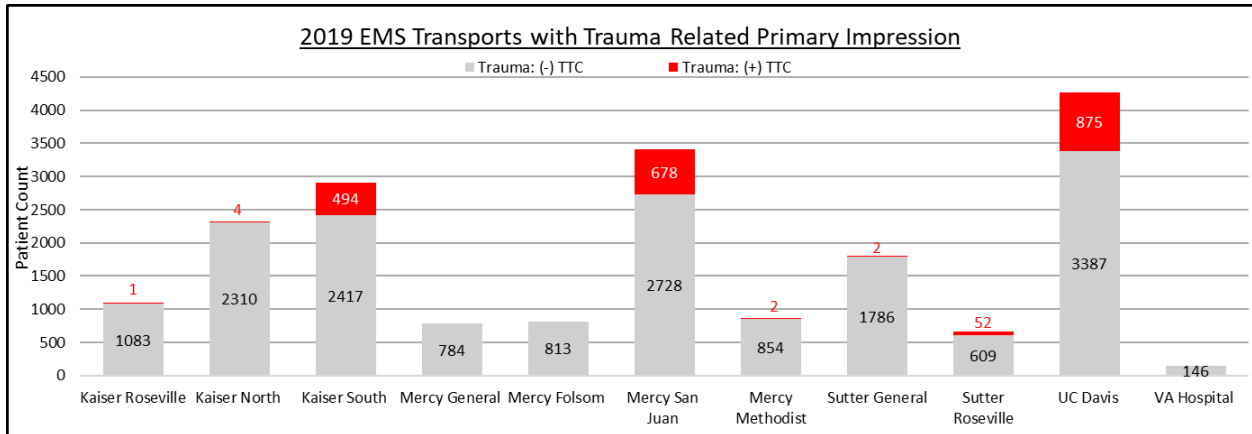


Figure 1

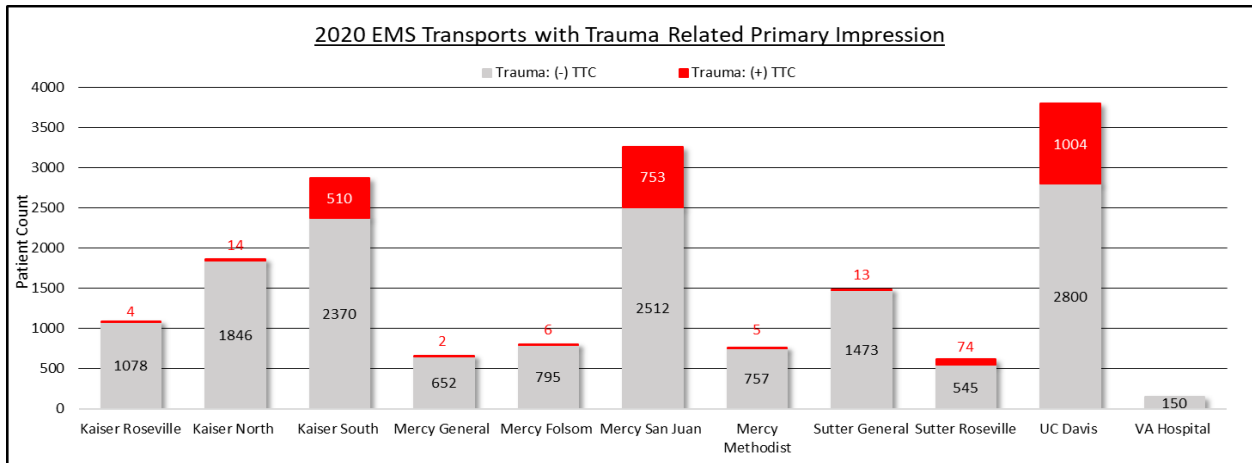


Figure 2

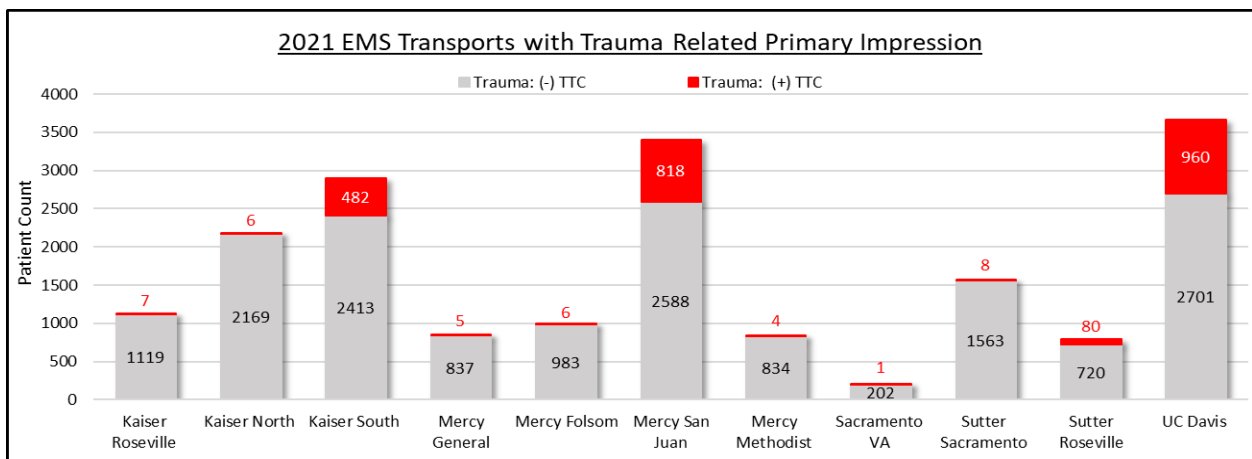


Figure 3

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Goal 3. *Improve coordination with adjacent counties of local trauma activities with regional trauma services, through involvement in CQI activities with out-of-county trauma centers and trauma systems.*

SCEMSA supports and participates in the North Regional Trauma Coordinating Committee (RTCC), resulting in improved communication among the North RTCC, out-of-county trauma centers, and SCEMSA.

Goal 4. *Improve accountability and objective evaluation of the trauma care system through data collection and analysis, utilizing a trauma registry and an audit and review process.*

In addition to ongoing local and regional trauma data review and analysis, each Sacramento County designated trauma center's data registry undergoes inspection every three (3) years. An independent, nationally recognized team of trauma surgeon experts from the American College of Surgeons Committee on Trauma conducts the inspections. Members of the inspection team review a sampling of patient charts. Data records undergo review for appropriateness and identify areas of improvement to practice when indicated.

Due to the COVID-19 State of Emergency, the American College of Surgeons (ACS) did not conduct inspections for calendar year 2021. The ACS issued the following Letters of Extension:

- *University of California, Davis Medical Center (Adult and Pediatric) – Current Verification Cycle: April 21, 2021. Verification COVID-19 Extension: April 21, 2022.*
- *Mercy San Juan Medical Center – Current Verification Cycle: September 22, 2021. Verification COVID-19 Extension: September 22, 2022.*
- *Kaiser Permanente Medical Center - South Sacramento – Current Verification Cycle: March 16, 2022. Verification COVID-19 Extension: March 16, 2023.*

Changes to Implementation Schedule

No changes in the current implementation schedule.

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System Performance Improvement

Prioritization of the Trauma Critical Care System objectives and goals, and active engagement at RTCC meetings drive Trauma Critical Care System improvement through:

➤ **Policy Review**

In 2021, due to COVID-19, the TRC continued to conduct meetings via Zoom in a virtual setting. The policy reviews conducted via email communication with the TRC members included:

#9004 **Pediatric Burns** – Clerical updates only.

#2007 **Trauma Hospital Data Elements** – Existing data points amended, added, and/or deleted as necessary.

#2026 **Trauma Review Committee** – Clerical updates only.

#9017 **Pediatric Trauma** – Clerical updates only.

#8032 **Traumatic Cardiac Arrest (Draft)** – In 2021, SCEMSA began work developing a new policy to address clinical and operational decision-making relative to traumatic arrest. This policy will specifically address the use of vasoactive agents in the presence of traumatic arrest (Figure 4 identifies preliminary 2021 system data). The new policy is in the final stages of stakeholder review with a tentative schedule implementation in mid-2022.

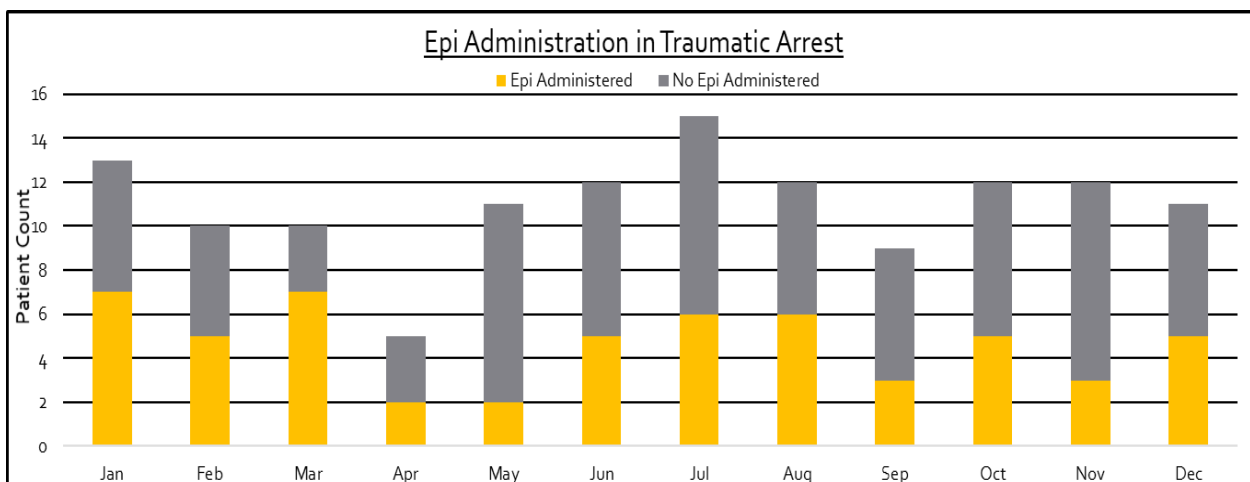


Figure 4

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➤ Data submission and presentation

One (1) fulltime EMS Specialist oversees the Continuous Quality Improvement (CQI) Program and conducts data collection and presentation. The specialist works with trauma hospitals and surgeons to identify relevant indicators to improve the Trauma System.

Indicators include:

- Mechanism of injury
- Mode of Arrival
- Inter Facility Transports Data
- Patient Age
- Injury Severity Score Range
- Emergency Department Disposition
- Hospital Discharge Disposition

➤ Additional reports as part of ongoing Trauma CQI

In 2021, SCEMSA reviewed scene time data for patients meeting trauma triage criteria with performance feedback provided to County EMS providers. Figure 5 illustrates the results after communication and education provided.

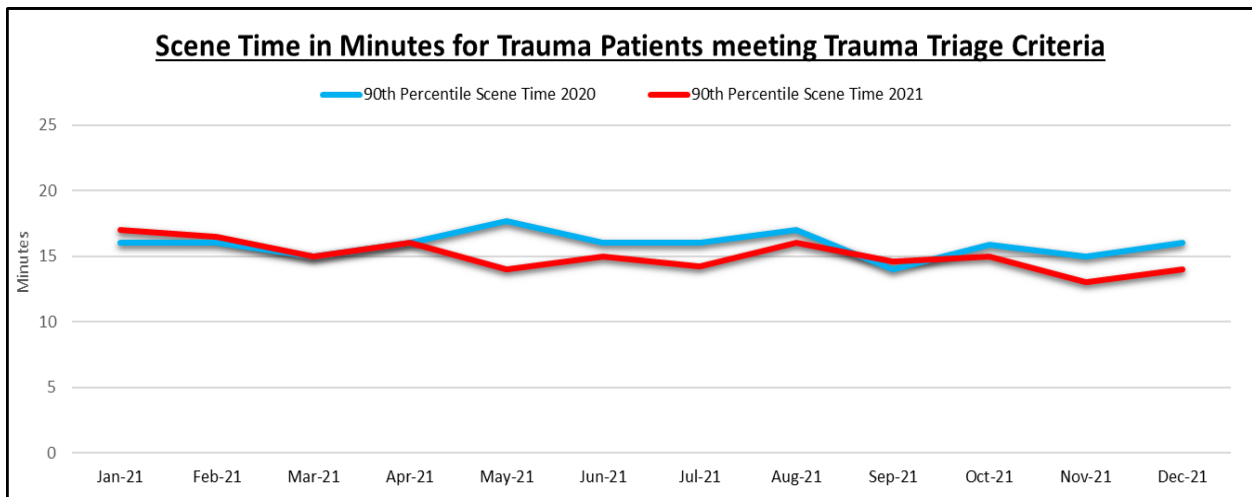


Figure 5

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- Benchmarking key data points helps to evaluate overall Trauma System performance.

Trauma System participants regularly review data elements, which include:

- Prehospital scene times
- Wait time for inpatient rehabilitation beds for traumatic brain injury and spinal cord injury patients
- Secondary transfers of pediatric traumas
- Tranexamic Acid (TXA) Utilization
- Under-triage for trauma patients

SCEMSA continues expanding its collaboration between EMS providers and trauma centers through review and analysis of patient care data to effect system changes, which improve patient care and trauma incident outcomes in Sacramento County. Calendar year 2022 will bring more robust reporting on this topic.