

**SACRAMENTO COUNTY**  
**2019 TRAUMA SYSTEM ANNUAL UPDATES**  
**October 15, 2020**

*In accordance with established guidelines, submitted is the annual update to the Sacramento County Trauma Care System Plan.*

**Trauma System Summary**

The Sacramento County Trauma Care System is a network of three in county and one out-of-county trauma centers. Sacramento County Emergency Medical Services Agency (SCEMSA) designates trauma centers to provide emergency medical care to any patient evaluated by prehospital emergency medical service personnel and requiring transportation to a trauma center.

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

**Changes in Trauma System**

SCEMSA amended the Hemorrhage in Trauma Policy to include the use of Tranexamic Acid (TXA) in non-compressible torso hemorrhage. The change became effective March 1, 2019. SCEMSA removed the use of vehicle speed greater than 40 MPH as a Trauma Triage Criteria guideline. Flail chest practice to use a hand or pillow to stabilize the area or make patient more comfortable was removed from pediatric Trauma Policy #9017 and from Trauma Policy #8015.

**Number and Designation Level of Trauma Centers**

No potential problems or pending changes in designation currently exist for any of the trauma centers listed below.

**In County:**

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

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

Mercy San Juan Medical Center  
6501 Coyle Avenue  
Carmichael, CA 95608  
(916) 537-5000  
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 System Goals and Objectives**

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

- 1. Improve mechanisms to ensure continuing compliance with trauma 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 setting. 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.

- 2. Improve integration and coordination of trauma services within the emergency medical services system through continued data collection, analysis and trauma 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 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 Sacramento County trauma centers to identify and correct any software issues associated with the direct submission of data to CEMISIS. Staff works to develop reports incorporating the data fields requested from the TRC.

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Figures 1, 2 & 3 illustrate incidents for EMS originating patients per hospital. Red indicates number of patients that met Trauma Triage Criteria transported to each hospital. In the majority of cases involving patients taken to non-trauma hospitals, paramedics identified and documented paramedic judgement or high-speed motorized vehicle accidents.

Figure 1

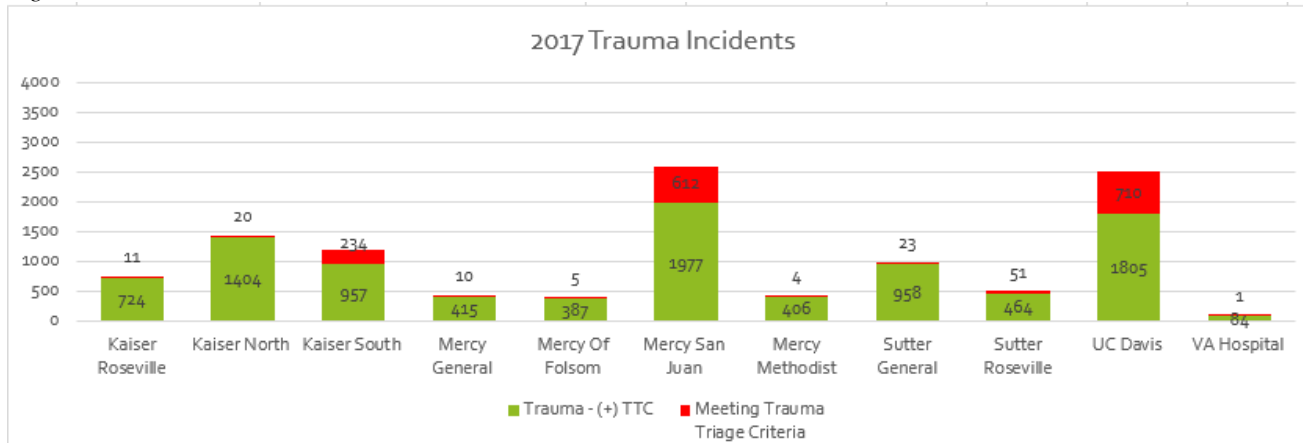


Figure 2

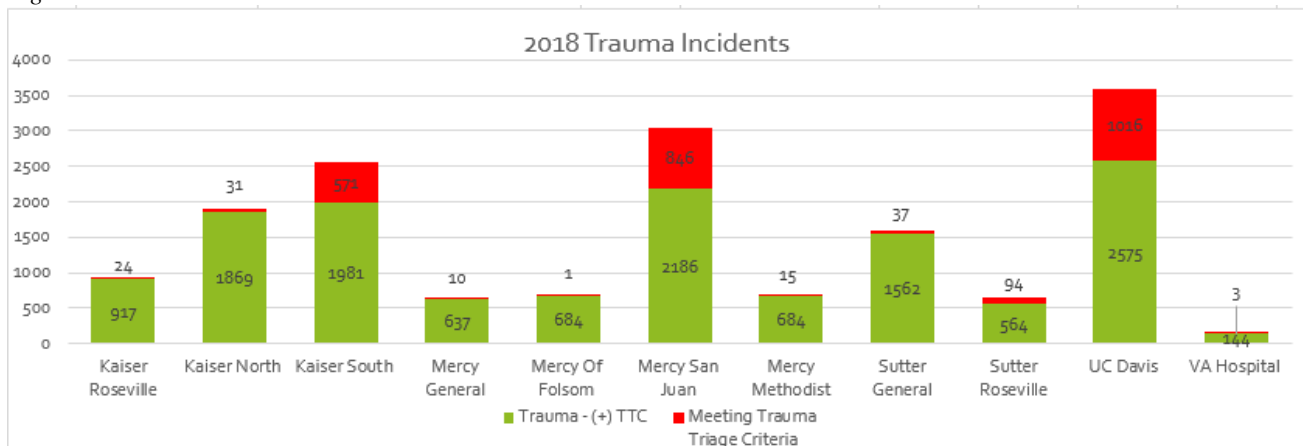
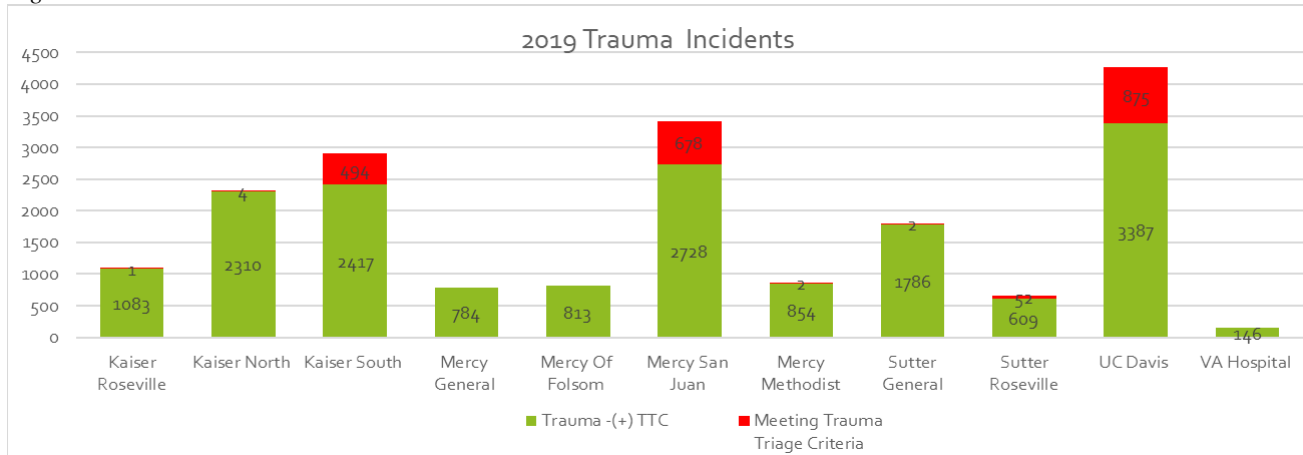


Figure 3



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3. *Improve coordination of local trauma activities with trauma services, in adjacent counties, 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 the EMS Agency. The SCEMSA Administrator chairs the prehospital subcommittee at the request of North RTCC Chairman, Dr. David Shatz, and University of California (UC) Davis Medical Center.

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 data registry undergoes inspection every three (3) years. An independent, nationally recognized team of trauma surgeon experts from American College of Surgeons, Committee on Trauma (ACSCOT) conducts the inspections. Members of the inspection team review a sampling of patient charts. Data records undergo review for appropriateness and inform improvement to practice when indicated.

Inspections by American College of Surgeons for calendar year 2019 included the following:

- Kaiser Permanente Medical Center - South Sacramento – Inspected in January 2019 and re-verified as a Level 2 Trauma Center. Verification valid for a period of three (3) years.

### Changes to Implementation Schedule

No changes in the current implementation schedule.

### System Performance Improvement

1. *Objectives, goals and RTCC meetings (January, May and September) enable improvement achievements. The trauma system review process is evolving as a tool to provide system wide improvement by:*

#### Policy updates:

8065- **Hemorrhage in Trauma** – In 2018 SCEMSA submitted a request for optional use of Tranexamic Acid (TXA) in non-compressible torso hemorrhage. EMSA approved the request on April 4, 2019. The policy change was effective July 15, 2019.

5053- **Trauma Triage Criteria** – On November 21, 2019, the TRC discussed and decided to remove the use of vehicle speed greater than 40 MPH as a Trauma Triage Criteria guideline. Change effective June 1, 2020.

8015- **Trauma** – On August 15, 2019, the TRC recommended removing the Flail Chest section from treatment options. Change effective June 1, 2020.

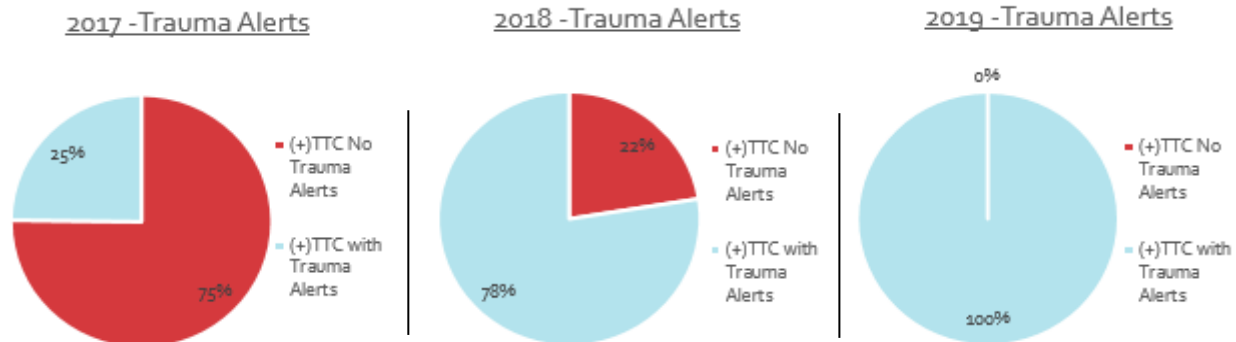
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Data submission and presentation: EMS Specialist oversees the CQI Program and conducts data collection and presentation. The specialist works with trauma hospitals and surgeons to identify relevant indicators to improve the trauma system. Indicators include:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Mechanism of injury</li> <li>• Mode of Arrival</li> <li>• Inter Facility Transports Data</li> <li>• Patient Age</li> </ul> | <ul style="list-style-type: none"> <li>• Injury Severity Score Range</li> <li>• Emergency Department Disposition</li> <li>• Hospital Discharge Disposition</li> </ul> |
|---|---|

Prehospital Documentation

SCEMSA worked closely with the EMS providers to improve documentation practices and ensure EMS completes prehospital Trauma Alerts on patients with positive Trauma Triage Criteria. Marked improvement occurred in each year after 2017, as shown below:



In 2017, prehospital providers documented 1,681 EMS incidents as positive trauma triage criteria. Of these, only 417 received a Trauma Alert notification. In 2018, prehospital providers documented 2,648 incidents as trauma triage criteria. Of these, 2,053 incidents received a Trauma Alert notification, representing a 393 percent increase in pre-alert notifications for trauma. In 2019, every patient meeting trauma triage criteria had a documented trauma alert.

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TRC Recommendations: The TRC made a recommendation to remove from the Trauma Policy the treatment option listed as the Flail Chest. Change effective June 1, 2020.

2. *Consider adding outcome measures so that some benchmarking can be done not only within the county and its Trauma Centers but also through your multicounty PI process.*

San Joaquin General Hospital's trauma program has a continuous invitation to attend quarterly TRC and North RTCC meetings.

Trauma System participants regularly review outcome data to improve system performance. Data elements include:

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

SCEMSA participates in the State's Re-Triage study to assist in data collection. The focus for this study is to improve time to definitive care in the trauma center. SCEMSA will continue its participation.