STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY GAVIN NEWSOM, *Governor*

EMERGENCY MEDICAL SERVICES AUTHORITY
10901 GOLD CENTER DR., SUITE 400
RANCHO CORDOVA, CA 95670
(916) 322-4336 FAX (916) 322-1441

September 15, 2021

Mr. Dave Magnino, EMS Administrator
Sacramento County Emergency Medical Services Agency
9616 Micron Avenue, Suite 960
Sacramento, CA 95827

Dear Mr. Magnino:

This letter is in response to Sacramento County's 2020 emergency medical services (EMS) plan, and the St-Elevation Myocardial Infarction (STEMI), Stroke, Trauma, and Quality Improvement (QI) plan submissions to the EMS Authority on July 2, 2021.

The EMS Authority has reviewed the EMS plan, based on compliance with statutes, regulations, and case law. It has been determined the plan meets all EMS system components identified in Health and Safety Code (HSC) § 1797.103 and is approved for implementation pursuant to HSC § 1797.105(b). Based on transportation documentation provided, the EMS Authority has noted your Emergency Ambulance Zone as Non-Exclusive and has enclosed for reference.

The EMS Authority has also reviewed the STEMI, Stroke, Trauma, and QI plans, based on compliance with Chapters 7, 7.1, 7.2, and 12 of California Code of Regulations, Title 22, Division 9, and has approved for implementation.

In accordance with HSC § 1797.254, please submit an annual EMS plan to the EMS Authority on or before September 14, 2022. Please also submit an annual STEMI, Stroke, Trauma, and QI plan concurrently with the EMS plan. If you have any questions regarding the EMS Plan review, please contact Ms. Lisa Galindo, EMS Plans Coordinator, at (916) 431-3688.

Sincerely,

Angela L. Wise -FOR-

Tom McGinnis, EMT-P
Chief, EMS Systems Division

Enclosure

tm:lg

Sacramento County
2020 EMS Plan
Ground Exclusive Operating Areas

ZONE	EXCLUSIVITY			TYPE			LEVEL							NOTES
	Non-Exclusive	Exclusive	Method to Achieve Exclusivity	Emergency Ambulance	ALS	LALS	All Emergency Ambulance Services	9-1-1 Emergency Response	7-digit Emergency Response	ALS Ambulance	All CCT Ambulance Services	IFT	Standby Service with Transport Auth.	
Sacramento County	X													

Quality Improvement

Program Plan

Prepared By:

Sacramento County Department of Health Services

Emergency Medical Services Agency

2020 Annual Update

In accordance with State of California Code of Regulations (CCR), Title 22 – Division 9, Chapter 12, Sacramento County submits this EMS System Quality Improvement Program Plan Update.

Quality Improvement Program (Quality Improvement Plan or QIP)

The QIP provides comprehensive evaluations of prehospital patient care. Participants include representatives in communications, public and private transportation, Emergency Medical Services (EMS) training, and hospital emergency medical care. The QIP identifies areas needing improvement, takes steps to correct deficiencies, and recognizes excellence in performance and delivery of care.

Description of Agency

Sacramento County Emergency Medical Services Agency (SCEMSA) is located at 9616 Micron Ave, Suite 960, Sacramento, CA and oversees the hospitals and emergency medical providers servicing the Sacramento County area. Sacramento does not hold any Exclusive Operating Area (EOA) agreements. We are an equal opportunity county and strive for equality and transparency within the Agency.

Providers within the Sacramento County EMS System include:

- Twenty-three (23) approved prehospital EMS Providers
- Nine (9) hospitals including four (4) base hospitals and three (3) trauma centers
- Forty-nine (49) Training Programs consisting of Emergency Medical Responder, Emergency Medical Technician, Paramedic, Mobile Intensive Care Nurse, Continuing Education, and CCR Title 22, Division 9, Chapter 1.5 Optional Scope program that includes naloxone administration by Law Enforcement First Responders.

2020 Overview

SCEMSA continues to work diligently to define consistent documentation standards and improve the quality and accuracy of data reporting capabilities to meet or exceed the State of California standards. With nine (9) different ePCR platforms in use, every provider is submitting data to the CA EMS Information System (CEMSIS) using the latest Schematron on each ePCR platform. We continue to monitor documentation compliance and trend improvements via QI Audits and documentation dashboards in system monitoring.

2020 Update

The Technical Advisory Group (TAG) is the multi-stakeholder group that advises the Quality Improvement Program (QIP). During 2020, the TAG continued to focus on optimizing data collection and documentation practices to provide the highest quality data for quality improvement.

TAG Developments / Focus 2019:

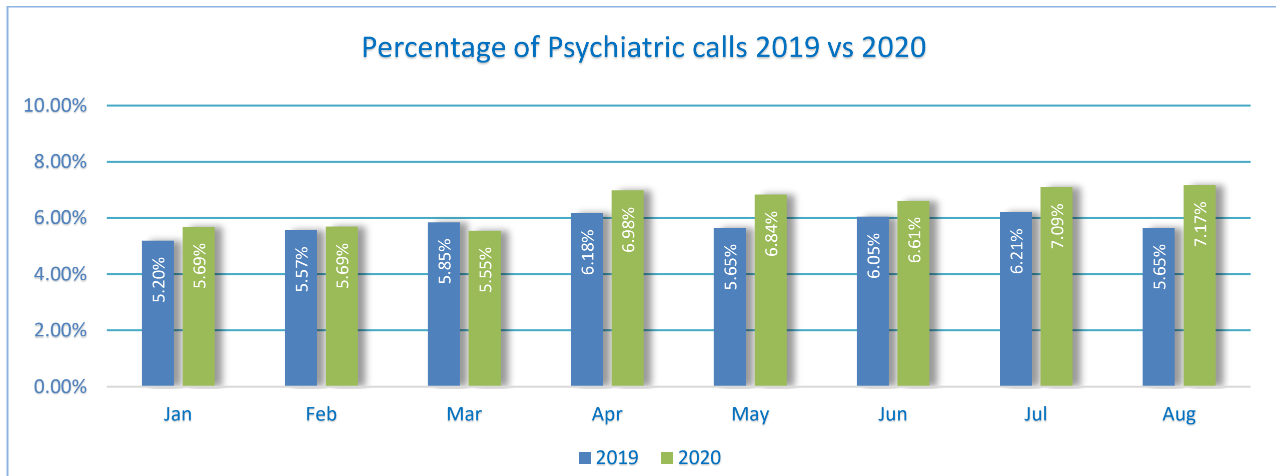
- Cardiac Dashboard
- Focus on faxing ECGs to receiving PCI facilities
- Monitoring new medications and changes in policy to measure their efficacy

TAG Developments / Focus 2020:

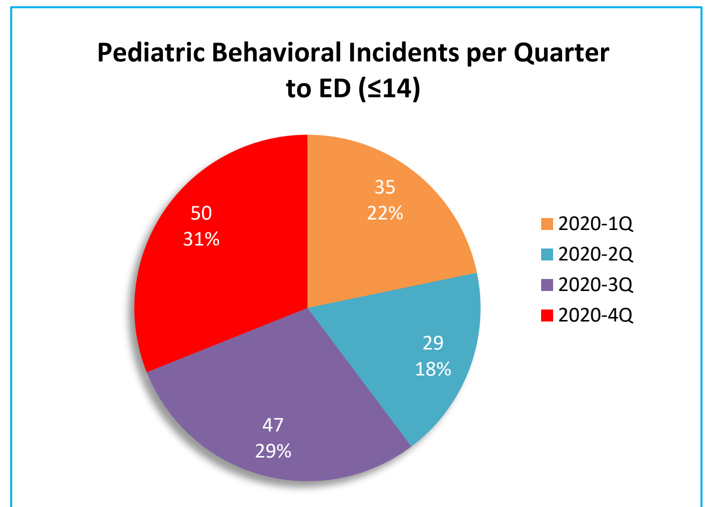
- Psychiatric Emergencies / Behavioral Crisis
- Acute Respiratory illness monitoring (COVID-19)
- ePCR Reconciliation
- APOT 3 - New metric

Psychiatric Emergency Transports to ED 2019 vs 2020

SCEMSA focused on behavioral emergency responses during 2020, noting an increase when compared to 2019. In the review of behavioral incidents, SCEMSA explored creating a policy specific to the pediatric population which represents 2.22% of all behavioral incidents. The use of Midazolam in behavioral calls is also illustrated and it is used in 2% of the behavioral incidents.

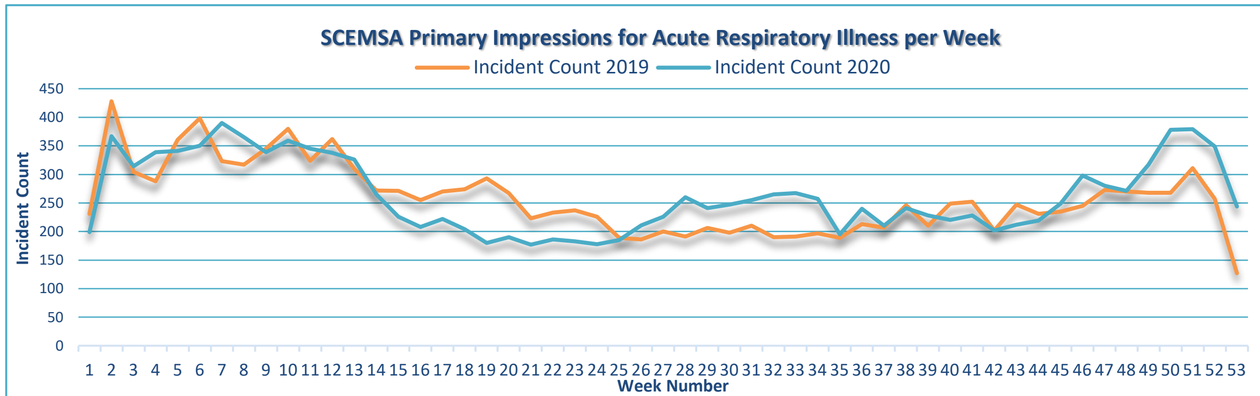


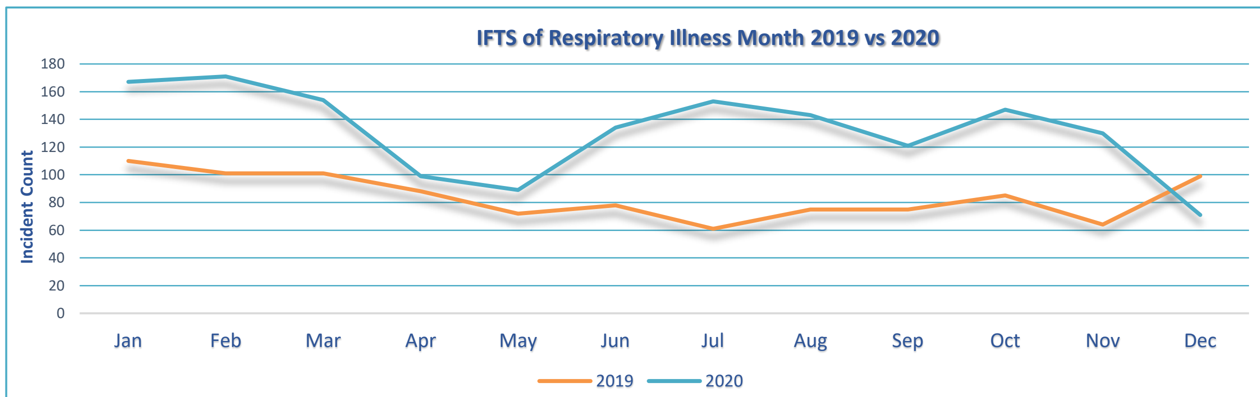
Month	Behavioral Calls	Behavioral + Midazolam
Jan-20	638	7
Feb-20	586	8
Mar-20	538	11
Apr-20	536	10
May-20	622	16
Jun-20	648	11
Jul-20	724	22
Aug-20	737	21
Sep-20	689	4
Oct-20	601	12
Nov-20	610	6
Dec-20	307	
Grand Total	**7236**	**128**



Acute Respiratory Related Primary Impressions 2019 vs 2020

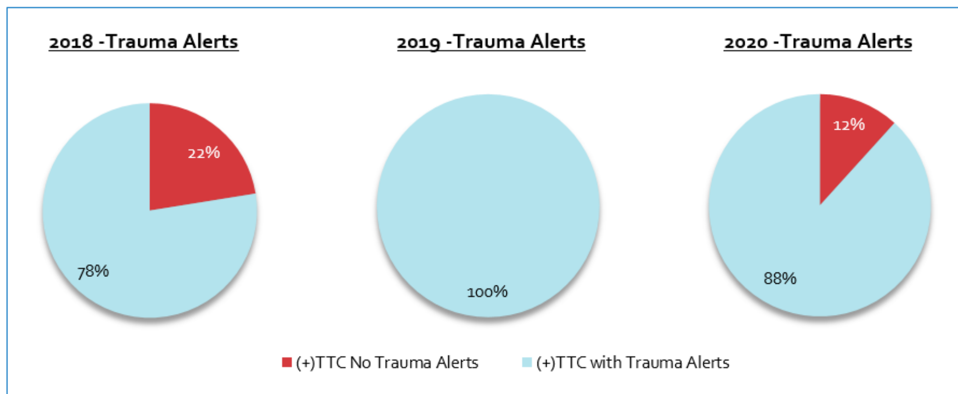
In direct response to the COVID-19 Pandemic, SCEMSA began running regular reports to compare the variance in respiratory illness calls for service. Overall, the years were similar. It was noted that Inter-Facility Transfers (IFT) between facilities for respiratory illness had an increase every month until a steep decline in December.





Trauma Alerts

Prehospital Trauma Alert notifications in patients with positive Trauma Triage Criteria per year are illustrated below:

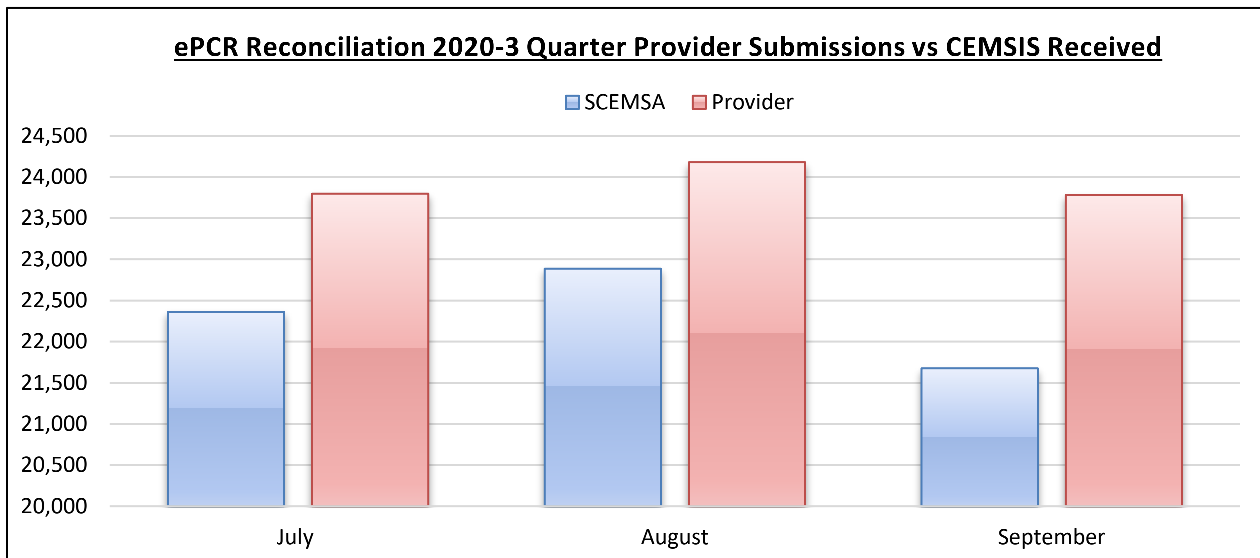


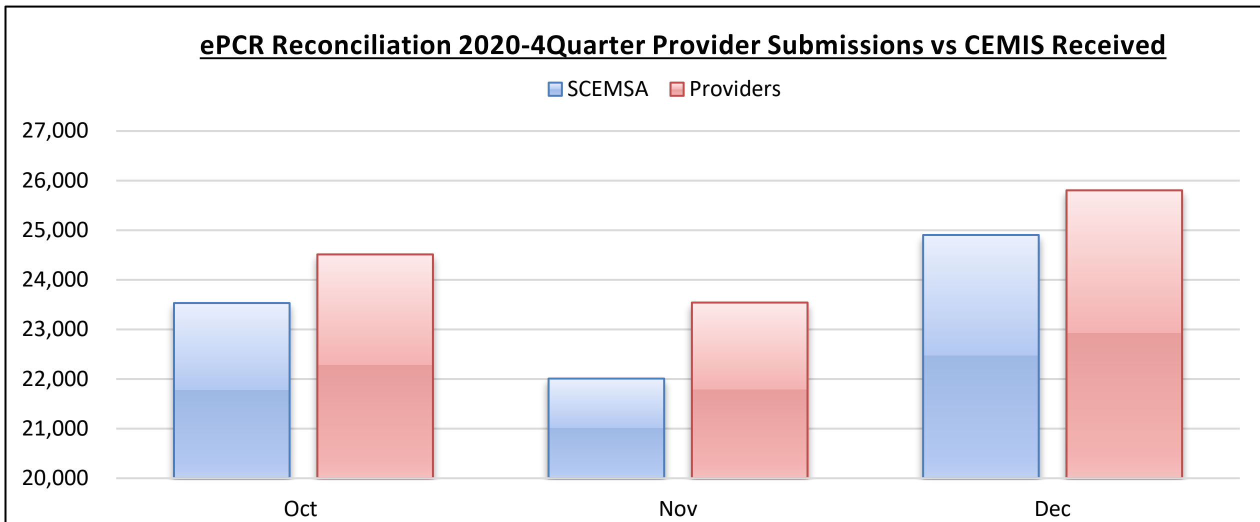
During 2018 there were 2,648 incidents documented as meeting trauma triage criteria, of which 2,053 incidents (78%) received a Trauma Alert notification. In 2019 there were

2,108 incidents meeting critical trauma triage criteria with 100% documented trauma alerts. In 2020 there were 2,386 incidents documented as meeting trauma triage criteria, of which 2,106 incidents (88%) received a Trauma Alert notification.

Electronic Patient Care Report Reconciliation

During 2020 it was discovered that there were discrepancies between total incident counts from CEMSIS versus total incident counts reported per providers. The discrepancies are attributed to the CEMSIS value lists which provide specific pick lists for Cause of Injury, Symptoms, Provider Primary and Secondary Impression, and Location Type. When documenting each field the value must match the value list provided by Emergency Medical Services Authority (EMSA). When the value documented does not match one of the options listed by EMSA the record is rejected. After working with the state contractor, Inland Counties Emergency Medical Agency (ICEMA), SCEMSA learned that if a record is rejected, the providers and SCEMSA are unaware. SCEMSA is working diligently with each provider agency to identify documentation gaps and ensure that each Electronic Patient Care Record (ePCR) submitted is received by CEMSIS. The graphs below illustrate the progress made in the 4th quarter of 2020.

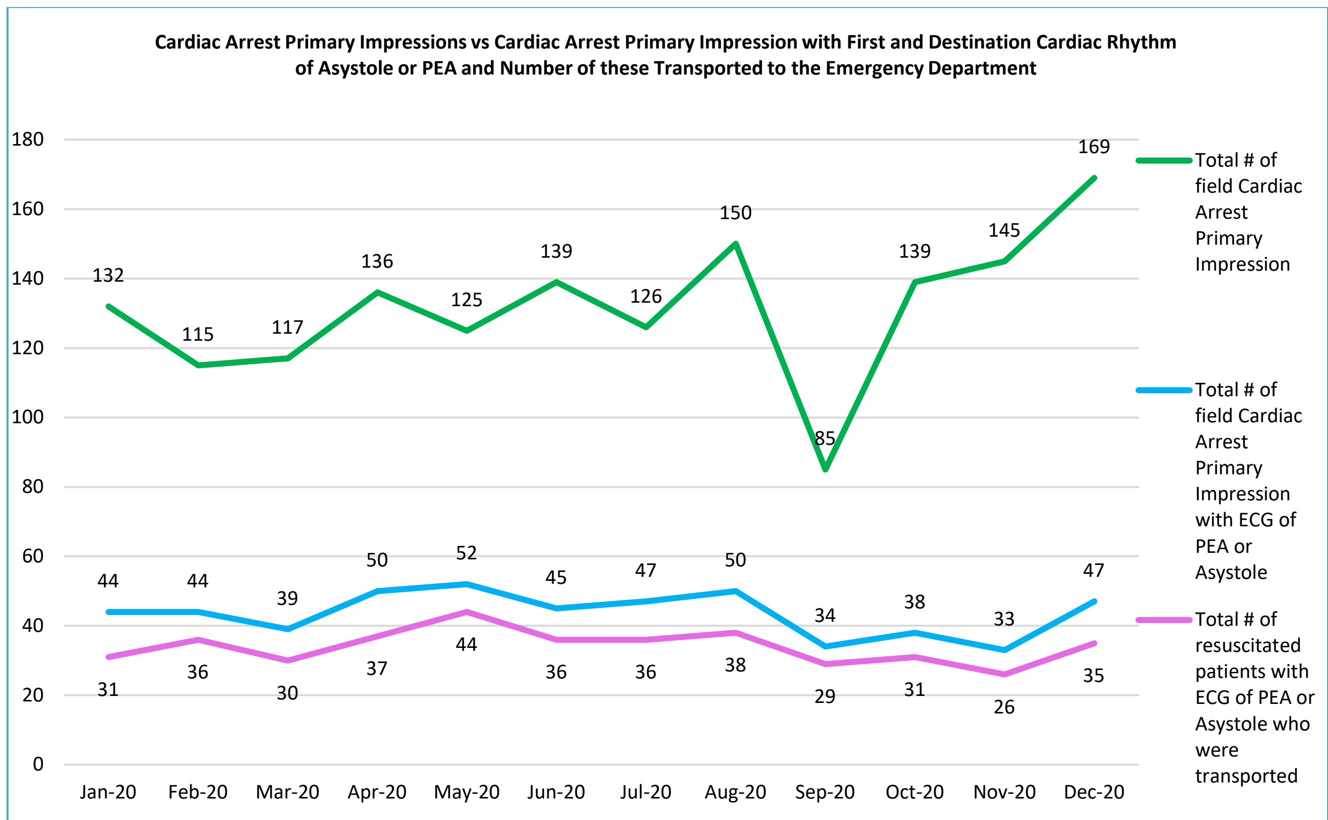




Cardiac Arrest Dashboards

In July 2019, SCEMSA changed policy language to encourage resuscitation efforts on scene to maximize chances of Return of Spontaneous Circulation (ROSC). Monitoring of the cardiac arrests with a cardiac rhythm of Pulseless Electrical Activity (PEA) or Asystole indicate that there has been little change in practice. The TAG group discussed the findings and it was noted that some departments have been utilizing High Performance CPR since 2017; this could account for the minimal change in numbers.

Discussion of social factors suggests that some paramedics may struggle morally and ethically declaring a younger individual dead. SCEMSA discussed in meetings with prehospital providers that the Sacramento County Chaplaincy and Law Enforcement Chaplaincy have training courses that may be considered to address these factors.



Cardiac Arrest in age range 20-35, 2019 vs 2020

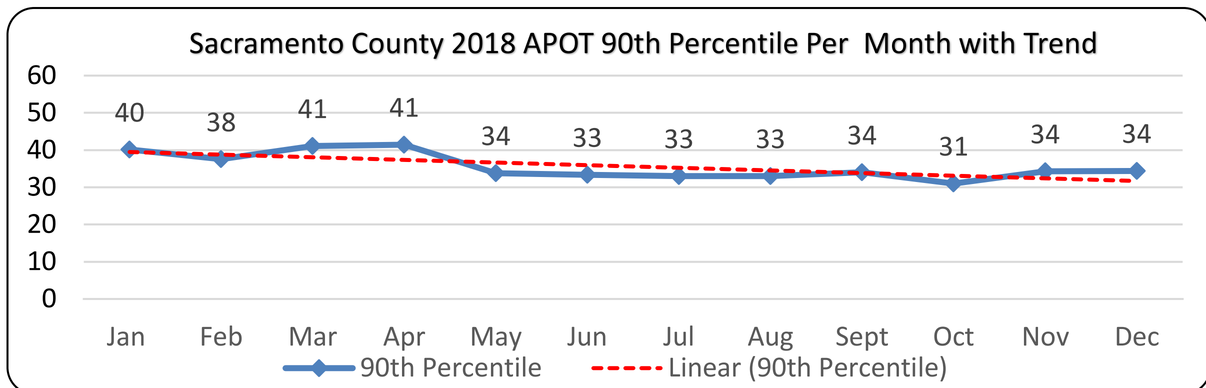
Following discussion in the TAG we learned that prehospital providers saw a cardiac arrest increase in patients under age 35. The information sparked concerns that the increase may be related to the opiate crisis. An audit was conducted in an attempt to capture unexpected arrests in this age group without known heart disease that may be attributed to opiate use.

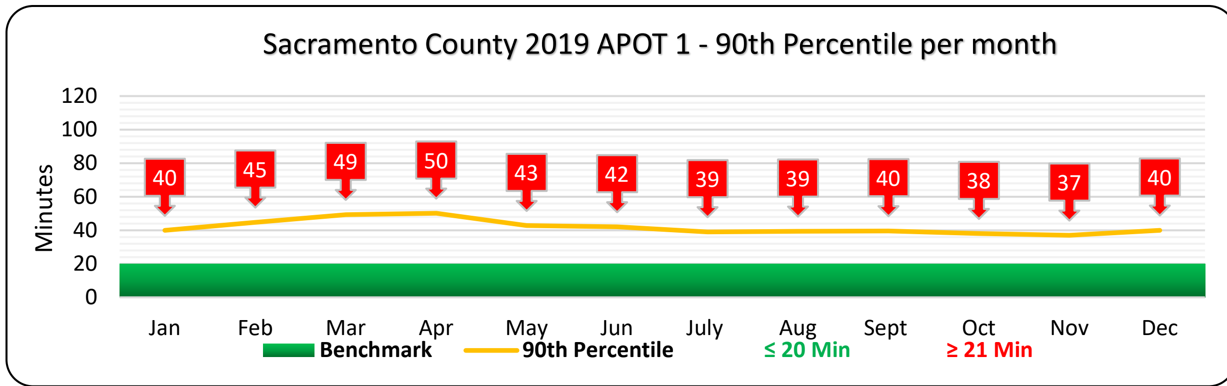
The SCEMSA medical director has contacted the coroner's office to clarify whether the increase is due to opiate use. Overall a decrease was seen in traumatic arrest despite the twenty-five (25) percent increase in cardiac arrest for the 20-35 age group. In the 20-35 age group there is a percentage increase of 24.72% for patients with documented primary impression of cardiac arrest and obvious death.

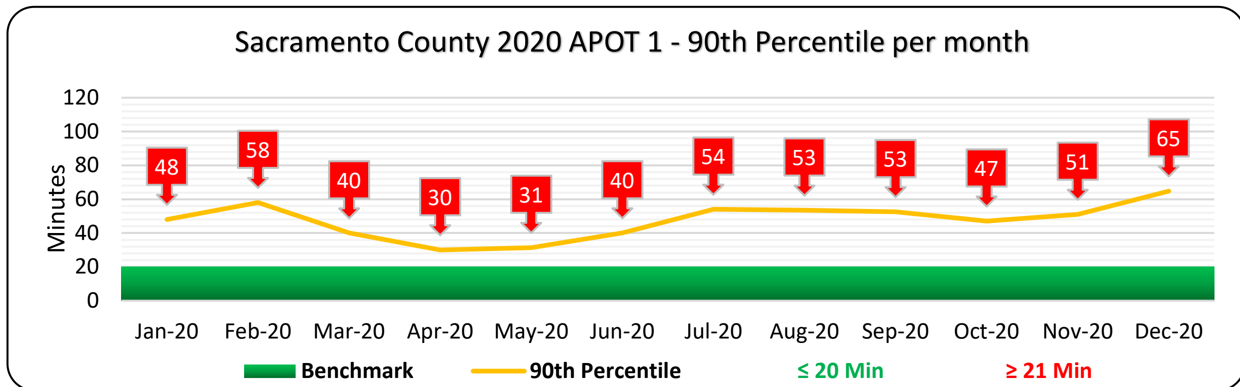
Primary Impression	2019	2020	Total
ALOC - (Not Hypoglycemia or Seizure) (R41.82)	1	1	2
Cardiac Arrest -Non-traumatic (I46.9)	95	102	197
General Weakness (R53.1)	1		1
Not Recorded	1	4	5
Obvious Death (R99)	39	76	115
Overdose/Poisoning/Ingestion (F19)	2	5	7
Respiratory Arrest / Respiratory Failure (J96.9)	2	2	4
Shock/Hypotension (I95.9)		1	1
Smoke Inhalation (J70.5)	1		1
Submersion/Drowning (T75.1XXA)	2	1	3
Traumatic Arrest (I46.8)	37	23	60
Traumatic Injury (T14.90)	5	10	15
Total	**186**	**225**	**411**

Ambulance Patient Off-load Times (APOT) 1&2

APOT times continued to be a challenge in 2020 when compared to the previous year as illustrated in the figures below. The APOT-1 numbers include public and private agencies. We are actively working with the hospitals and EMS providers to address this and find a solution. APOT data is now available on the SCEMSA webpage to assist Hospital Emergency Departments in monitoring their APOT times.

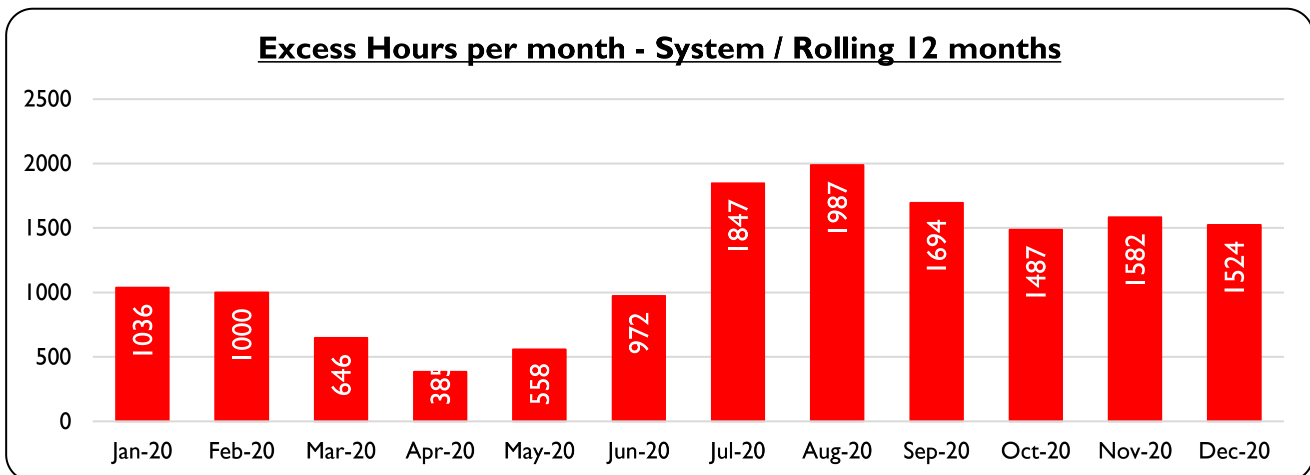






Ambulance Patient Off-load Times (APOT) 3

SCEMSA added a new metric to the APOT reports. APOT-3 is defined as total accumulated time on APOT in minutes. The intent is to measure the impact to EMS providers that takes place due to the loss of unit hours available for calls for service due to extended wait times.



Medical and Operational Advisory Committee (MAC/OAC)

The MAC/OAC includes all system wide stakeholders and provides input on education, training, quality improvement, and data collection. Accomplishments in 2020 include:

- Conducting all meetings via Zoom due to COVID-19 restrictions
- Addressing system challenges
- Policy reviews and updates
- Optional Scope Policy Reviews (COVID-19 Oral and Nasal Swabbing)
- Implementation of policies
- Education and training for new equipment

Policy Changes for Medications

- Nitroglycerin added to STEMI policies.
- Push Dose Epinephrine as a Standing Order.

Law Enforcement Administration of Naloxone

SCEMSA continues to monitor the administration of naloxone. Monitoring includes:

- Ensure law enforcement agencies train all officers in proper handling of naloxone
- Collect documentation and reports of incidents requiring naloxone administration
- Track patient care report data to ensure proper documentation from EMS provider
- Provide feedback and continuous support to law enforcement

The chart below illustrates the incidents in which law enforcement administered naloxone and the patient outcome in each documented incident.

Law Enforcement Administration of Naloxone			
Date	**Patient Outcome**	**Date**	**Patient Outcome**
1/01/20	Unchanged	6/28/20	Improved
1/02/20	Unchanged	7/18/20	Unchanged
3/21/20	Unchanged	7/31/20	Improved
3/21/20	Improved	8/12/20	Unchanged
3/21/20	Unchanged	9/01/20	Unchanged
4/05/20	Improved	9/19/20	Improved
4/11/20	Unchanged	11/03/20	Unchanged
5/01/20	Improved	11/23/20	Improved
5/27/20	Improved	12/19/20	Improved

9/18 (50%) patients improved following naloxone administration.

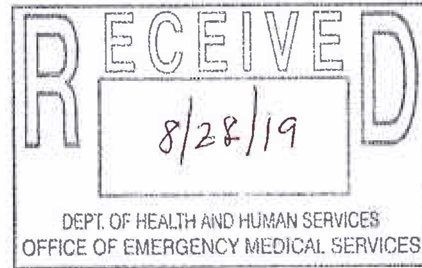
2021 Plans

We continue to work on improving reporting capabilities and provider accountability to meet or exceed the State of California standards while continuing to build relationships with EMS providers and hospitals throughout the region. Areas of focus include education, training, proper documentation, monitoring of Core Measures performance indicators and feedback to stakeholders. SCEMSA continues to collaborate with stakeholders to identify and address system needs.

Annex 1

2018 QUALITY IMPROVEMENT PLAN UPDATE: APPROVAL LETTERS

EMERGENCY MEDICAL SERVICES AUTHORITY
10901 GOLD CENTER DR., SUITE 400
RANCHO CORDOVA, CA 95670
(916) 322-4336 FAX (916) 324-2875



August 15, 2019

Dave Magnino, Administrator
Sacramento County EMS Agency
9616 Micron Ave, Ste 960
Sacramento, CA 95827

Dear Mr. Magnino:

After a review, the Emergency Medical Services Authority has determined that the Sacramento County EMS Agency Quality Improvement Program is in compliance with Title 22, Division 9, Chapter 12 EMS System Quality Improvement.

An update will be due 12 months from the date of this letter (August 15, 2019). If you have any questions regarding the plan review, please call Adam Davis, at (916) 322-4336, extension 409.

Sincerely,

Tom McGinnis, EMT-P
EMS Systems Division Chief

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Annex 2

2019 QUALITY IMPROVEMENT PLAN UPDATE: APPROVAL LETTERS

EMERGENCY MEDICAL SERVICES AUTHORITY
10901 GOLD CENTER DR., SUITE 400
RANCHO CORDOVA, CA 95670
(916) 322-4336 FAX (916) 322-1441

May 14, 2021

Mr. Dave Magnino, EMS Administrator
Sacramento County Emergency Medical Services Agency
9616 Micron Avenue, Suite 960
Sacramento, CA 95827

Dear Mr. Magnino:

This letter is in response to Sacramento County's 2019 emergency medical services (EMS) plan, and the St-Elevation Myocardial Infarction (STEMI), Stroke, Trauma, and Quality Improvement (QI) plan submissions to the EMS Authority on October 13, 2020.

The EMS Authority has reviewed the EMS plan, based on compliance with statutes, regulations, and case law. It has been determined the plan meets all EMS system components identified in Health and Safety Code (HSC) § 1797.103 and is approved for implementation pursuant to HSC § 1797.105(b). Based on transportation documentation provided, the EMS Authority has noted your Emergency Ambulance Zone as Non-Exclusive and has enclosed for reference.

The EMS Authority has also reviewed the STEMI, Stroke, Trauma, and QI plans, based on compliance with HSC §§ 1797.257 and 1797.258, and Chapters 7, 7.1, 7.2, 12, and 14 of California Code of Regulations, Title 22, Division 9, and has approved for implementation.

In accordance with HSC § 1797.254, please submit an annual EMS plan to the EMS Authority on or before May 14, 2022. Please also submit an annual STEMI, Stroke, Trauma, and QI plan concurrently as part of your EMS plan. If you have any questions regarding the EMS Plan review, please contact Ms. Lisa Galindo, EMS Plans Coordinator, at (916) 431-3688.

Sincerely,

Angela Wise -For-

Tom McGinnis, EMT-P
Chief, EMS Systems Division

Enclosure

tm:lg

Sacramento County
2019 EMS Plan
Ground Exclusive Operating Areas

ZONE	EXCLUSIVITY			TYPE			LEVEL							NOTES
	Non-Exclusive	Exclusive	Method to Achieve Exclusivity	Emergency Ambulance	ALS	LALS	All Emergency Ambulance Services	9-1-1 Emergency Response	7-digit Emergency Response	ALS Ambulance	All CCT Ambulance Services	IFT	Standby Service with Transport Auth.	
Sacramento County	X													