STATE OF CALIFORNIA
COMMISSION ON EMERGENCY MEDICAL SERVICES
March 21, 2018
10:00 A.M. – 1:00 P.M.
(Meeting may end early at the completion of all agenda items)
Sheraton Park Hotel Anaheim Resort
1855 South Harbor Blvd.
Anaheim, CA 92802
Reservations: (866) 837-4197

1. Call to Order and Pledge of Allegiance

2. Review and Approval of December 6, 2017 Minutes

3. Director's Report
- A. EMSA Program Updates [DMS] [Personnel] [Systems]
- B. Legislative Report

4. Consent Calendar
- A. Administrative and Personnel Report
- B. Legal Report
- C. Enforcement Report
- D. POLST eRegistry Update
- E. National Registry of EMTs Examination Results

Regular Calendar

5. EMS Administration
- A. Regulations Update

6. EMS Personnel
- A. Trial Studies
  1. Ventura County EMS Agency's 36-Month Air-Q Trial Study Report
  2. ICEMA and Riverside County EMS Agencies Combined 36-Month Tranexamic Acid Trial Study Report and Approve Recommendation
  3. Information on the Status of Other Current Trial Studies
- B. Community Paramedicine Pilot Project Report
- C. Pediatric Endotracheal Intubation for Paramedics

7. EMS Systems
- A. Approval of 2018 Core Measures Guidelines
- B. Ambulance Patient Offload Time Reporting
- C. EMS Plan Appeal Update

8. Disaster Medical Services Division
- A. Ambulance Strike Team Program Utilization

9. Election of Commission Officers for 2018

10. Items for Next Agenda

11. Public Comment

12. Adjournment

A full agenda packet will not be provided at the meeting; however, you can print a full packet, including the agenda from the Department's website at www.emsa.ca.gov. This event will be held in an accessible facility. Individuals with disabilities requiring auxiliary aids or services to ensure accessibility such as language interpreting, assisted listening device, materials in alternate formats or other accommodation, should contact Sandi Baker at (916) 431-3701, no less than 7 days prior to the meeting.

STATE OF CALIFORNIA
COMMISSION ON EMS
WEDNESDAY, DECEMBER 6, 2017
MARINES' MEMORIAL CLUB AND HOTEL
609 SUTTER STREET
SAN FRANCISCO, CA 94102

MINUTES

COMMISSIONERS PRESENT:
Dan Burch, Chair, Steve Drewniany, Vice Chair, Steve Barrow, Jaison Chand, James Dunford, M.D., Mark Hartwig, Richard O. Johnson, M.D., Eric Rudnick, M.D., Jane Smith, Carole Snyder, Lewis Stone, Atilla Uner, M.D., Susan Webb

COMMISSIONERS ABSENT:
Nancy Gordon, James Hinsdale, M.D., Daniel Margulies, M.D., David Rose, Dave Teter

EMS AUTHORITY STAFF PRESENT:
Howard Backer, M.D., Daniel R. Smiley, Adam Davis, Craig Johnson, Jennifer Lim, Tom McGinnis, Lou Meyer, Sean Trask

AUDIENCE PRESENT (partial list):
Cathy Chidester, Los Angeles County EMS Agency
Dave Duncan, M.D., CAL FIRE and CALSTAR
Marianna Gausche-Hill, M.D., Los Angeles County EMS Agency
Brian Henricksen, Napa County
Kristi Koenig, M.D., San Diego County
Lisa Schoenthal

1. CALL TO ORDER AND PLEDGE OF ALLEGIANCE

Chair Dan Burch called the meeting to order at 9:08 a.m. Thirteen Commissioners were present. Vice Chairman Drewniany led the Pledge of Allegiance.

2. REVIEW AND APPROVAL OF SEPTEMBER 13, 2017, MINUTES

Action: Commissioner Uner moved approval of the September 13, 2017, Commission on Emergency Medical Services Meeting Minutes as presented. Commissioner Snyder seconded. Motion carried with Commissioners Rudnick and Smith abstaining.

3. DIRECTOR'S REPORT

A. EMSA Program Updates

Howard Backer, M.D., EMSA Medical Director, introduced new staff members Elizabeth Winward, Trauma Coordinator; Lisa Dattolico, Financial Analyst; and Cheryl Hsu,

Attorney; Reba Anderson and Nancy Marker are retiring; and Corrine Fishman has begun her new role as Regulation Coordinator.

Dr. Backer presented his report.

- H.R. 304, which allows control substances in Emergency Medical Services (EMS) to be used through standing protocols, has been signed into federal law.
- Community paramedicine legislation will be heard in the upcoming session.
- Staff has been working with air ambulance companies to standardize their scope of practice to include procedures that require additional training and skills maintenance, such as pediatric intubation.
- EMS has long been using naloxone (Narcan) to reverse narcotic overdose. Most public safety personnel now include naloxone nasal spray in the war against the national opioid crisis. One jurisdiction reported that the majority of overdoses in their area were individuals who overdosed on prescription drugs as opposed to addicts.
- Administrators and medical directors are collaborating on the appropriate criteria to air medical companies to include pediatric intubation in their scope of practice and rapid sequence induction for intubation and how to implement it. They are also determining implementation of a new policy by Anthem BC BS to reimburse for patient evaluation without transport.
- The core measures have been revised for 2018. A detailed description of these measures will be presented at a future Commission meeting.
- An advisory committee will be convened to evaluate and advise on data use, determining dashboards for data, and benchmarks for performance measures.
- Commission input on how to use and effectively apply the ambulance patient offload time (APOT) data will be valuable to help solve the problem and influence policy.
- Leadership changes at the California Department of Public Health (CDPH) have caused the work to be delayed on creating a stroke registry that will link EMS and hospital records through the hospital registrar.
- Daniel Smiley, Chief Deputy Director, and Leslie Witten-Rood, Program Manager, Health Information Exchange Project, are working to obtain funding for Health Information Exchange to obtain a 90/10 matching grant from the Centers for Medicare and Medicaid Services (CMS).
- EMSA recently sponsored an after-action discussion with all departments within the Health and Human Services Agency in response to Northern and Southern California fires.

<u>Questions and Comments</u>

Commissioner Hartwig stated the California Fire Chiefs Association (CalChiefs), first responders, and transporters would be interested in being part of the discussion about

the reimbursement by commercial providers for the delivery of medical care by providers without transport.

Dr. Backer stated he was not aware that first responders were reimbursed without transport. He stated he thought Anthem Blue Cross/Blue Shield was the first major insurance provider to consider more flexibly managing patients in the field. He asked Daniel Smiley, EMSA Chief Deputy Director, to comment on the statutory implications of this issue.

Mr. Smiley stated there are no statutory or regulatory prohibitions against a "release at scene" but it should be under control of the medical director of the local EMS agency (LEMSA). He suggested that medical directors create a standardized template to address this issue and stated additional training may be required in the future.

Public Comment

Kristi Koenig, M.D., EMS Medical Director, San Diego County, and past Commissioner, spoke in support of exploring reimbursement without transport but strongly encouraged creating a process to record the outcomes from these patients after they have been released at the scene. She suggested the terminology "assess and refer" rather than "treat and release." She stated patients who need to go to the emergency department but not necessarily by ambulance can be referred to other transportation.

B. Legislative Summary for 2017

Jennifer Lim, EMSA Deputy Director, Policy, Legislative, and External Affairs, summarized the Legislative Summary for 2017, which was included in the meeting packet. She stated legislators have contacted staff expressing their interest in bolstering and streamlining the mutual aid response process for EMS due to recent fires. She stated Assembly Member Rodriguez is interested in branding a new type of peace officer, the Tactical Medic. Staff will invite Assembly Member Rodiguez's office to attend the next California Tactical EMS Advisory Committee (C-TEMS) meeting to discuss the bill. Ms. Lim stated she will share the bill language with the Commission before it goes to print.

Questions and Comments

Vice Chair Drewniany asked about the next C-TEMS meeting. Mr. Smiley stated it will be in February of 2018. The exact date is yet to be determined.

4. CONSENT CALENDAR

A. Administrative and Personnel Report
B. Legal Report
C. Enforcement Report
D. EMS Plan Appeal Update
E. EMS Plan Review Process
F. POLST eRegistry Update

Action: Commissioner Johnson moved approval of the consent calendar. Commissioner Chand seconded. Motion carried unanimously. The item was noted and filed.

REGULAR CALENDAR

5. EMS ADMINISTRATION

A. Approval of Office of Administrative Law Rulemaking Calendar

Ms. Lim reviewed the 2018 Rulemaking Calendar, which was provided in the meeting packet.

6. EMS PERSONNEL

A. Community Paramedicine Pilot Project

Lou Meyer, Project Manager, Community Paramedicine Pilot Project, presented his report.

- The Office of Statewide Health Planning and Development (OSHPD) has approved EMSA's request to extend the current projects through November of 2018.
- The request included deleting the alternate destination urgent care concept in its entirety. Those projects have concluded.
- The Butte County Enloe Medical Center, a post-discharge pilot project, was asked to change its protocols from doing phone triage to determine if a home visit is necessary to mandating home visits for patients enrolled in the post-discharge program. The November data shows a significant reduction in readmission rates since this change was implemented.
- OSHPD has approved additional proposals submitted in response to Dr. Backer's solicitation for interest in Community Paramedicine Pilot Projects. The approved proposals are listed in the meeting packet.
- An updated report by the UCSF independent evaluator covering the last 25 months of the Community Paramedicine Pilot Project has been posted on the website.

Questions and Discussion

Commissioner Barrow asked about the type of readmission. Mr. Meyer stated they were congestive heart failure patients.

Commissioner Barrow asked what the Sierra-Sacramento Valley post-discharge intends to do. Mr. Mayer stated those two projects also focus on congestive heart failure patients.

B. Pediatric Endotracheal Intubation

Sean Trask, Chief of the EMS Personnel Division, stated the Emergency Medical Services Medical Directors Association's (EMDAC) Scope of Practice Committee has had lengthy discussions at quarterly meetings throughout this year regarding the future of pediatric intubation, and has recommended that pediatric endotracheal intubation be phased out by July 1, 2018, with a future pathway for flight and ground critical care paramedics.

Questions and Discussion

Commissioner Uner cautioned against unintended consequences. He stated the importance of air ambulances in the medical care of California children, especially those who are in rural areas far removed from pediatric trauma centers and pediatric critical care centers. The flight nurse and paramedic work as a team. He stated removing pediatric intubation from the flight paramedic scope of practice would task-overload the flight nurse.

Commissioner Barrow asked for more detailed information on potential negative consequences.

Commissioner Hartwig stated the importance of including critical care paramedics who serve rural areas along with the flight paramedics. He suggested including providers on the Scope of Practice Committee.

Public Comment

Dave Duncan, M.D., Medical Director, CAL FIRE and CALSTAR, stated there are always unintended consequences in EMS work. The removal of pediatric intubations will have the unintended consequence of doing more harm than good for critically ill pediatric patients. He stated the importance of considering that 50 percent of pediatric intubations performed by EMS in California are performed by flight paramedics.

Marianna Gausche-Hill, M.D., Medical Director, Los Angeles County EMS Agency, stated there are also unintended consequences to allowing a skill that cannot be maintained and that has fatal complications if done inappropriately or incorrectly. She stated EMSAAC and EMDAC are committed to considering the wellbeing of pediatric patients and the current evidence, and ensuring the competency of the providers performing the skill.

Action: Commissioner Uner moved to revisit this issue at the next Commission meeting, including a detailed plan on the flight paramedic exception. Commissioner Johnson seconded. Motion carried unanimously.

7. EMS SYSTEMS

A. Ambulance Patient Offload Time (APOT) Report

Tom McGinnis, Chief of the EMS Systems Division, introduced Adam Davis, Lead, Quality Improvement Coordinator, who provided an overview, accompanied by a slide presentation, of the APOT submissions received to date.

Questions and Discussion

Commissioner Uner stated the cost of patient offload delays is not just in dollars. There is also a human cost that the EMTs pay.

Commissioner Barrow stated it would be useful to learn about best practice facilities and the underlying conditions of patients that experience offload delays.

Chair Burch suggested an update on this issue at the next Commission meeting.

Commissioner Dunford stated the National Quality Forum brought forward the need for a national way to identify the transition of care from an ambulance bed to a hospital bed. He stated payment reform is one of the solutions to this.

Commissioner Rudnick asked staff to send the presentation slides to Commissioners. Mr. Smiley stated it will be posted on the website.

Public Comment

Cathy Chidester, Director, Los Angeles County EMS Agency, stated the data submitted by Los Angeles County is not accurate. It will take another six months to a year to improve accuracy.

B. CEMSIS Program Update

Mr. McGinnis summarized the CEMSIS data program to date. He stated the project will be relaunched after the first of the year to ensure that the data submitted by the LEMSAs is accurate. He stated the National Highway Traffic Safety Administration (NHTSA) has requested that the data system be updated to the National EMS Information System (NEMSIS) Version 3.5 by January of 2019, but they agreed to push that date back to at least 2021 since EMSA is soon to implement Version 3.4.

EMSA partnered with NHTSA on the $1.2 million handheld device grant to get devices into the field for provider agencies. Staff is closing out the final phase of this successful program.

Questions and Discussion

Commissioner Barrow asked if there is a need for another grant. Mr. McGinnis stated assessment will be made this year to determine the gaps, further funding that may be required, and the avenue to secure those funds.

Commissioner Barrow asked for a future presentation on training for frontline individuals to help them understand the problems errors cause.

C. EMS Core Measures Report

Mr. McGinnis reviewed the summary of the Core Measures Project for last year, which was included in the meeting packet. He stated an ad hoc committee recently was created to reevaluate and realign the core measures and make recommendations to the Core Measure Task Force. Sixteen core measures were recommended for the 2018 calendar year.

Questions and Discussion

Commissioner Rudnick asked if the California EMS Compass and the American Heart Association are collaborating on stroke and STEMI metrics. Mr. McGinnis stated the Compass Project was never completed because funding ran out.

Commissioner Dunford suggested incentivizing LEMSAs and communities to participate and improve.

8. DISASTER MEDICAL SERVICES DIVISION

A. Medical and Health Mutual Aid System Response to the October Fires

Craig Johnson, Chief of the Disaster Medical Services Division, provided an overview, accompanied by a slide presentation, of the Medical and Health Mutual Aid System (MHMAS) and the recent Northern California fire response.

Questions and Discussion

Commissioner Stone asked who determines if patients will be evacuated or sheltered in place. Mr. Johnson stated a number of individuals make the decision in collaboration.

Public Comment

Brian Henricksen, EMS Administrator, Napa County, stated that determination was made by the sheriff in conjunction with incident comment in charge of the fire in the case of the Yountville Veterans patients.

Lisa Schoenthal stated she was pleased with the medical response to the fires. She stated law enforcement and the fire service also make these decisions at the local level.

9. NOMINATION OF OFFICERS FOR MARCH 2018 - MARCH 2019

Chair Burch entertained nominations for the position of EMSA Chair, Vice Chair, and Administrative Committee Members for 2018-2019.

- Commissioner Drewniany was nominated for Chair.
- Commissioner Hartwig was nominated for Vice Chair.
- Commissioners Chand and Stone were nominated for membership in the Administrative Committee.

Chair Burch stated nominations will be left open until the next Commission meeting.

10. APPROVAL OF 2019 MEETING DATES

Action: Commissioner Barrow moved approval of the proposed 2019 meeting dates. Commissioner Uner seconded. Motion carried unanimously.

11. ITEMS FOR NEXT AGENDA

Chair Burch stated items for the next agenda are pediatric intubation and APOT. He asked Commissioners to email additional suggestions for the next agenda to staff.

12. PUBLIC COMMENT

Dr. Koenig suggested an update on the wireless 9-1-1 progress at a future Commission meeting.

13. ADJOURNMENT

Action: Commissioner Johnson moved to adjourn the meeting. Commissioner Hartwig seconded. Motion carried unanimously.

Chair Burch adjourned the meeting at 11:15 a.m.

Emergency Medical Services Authority
Disaster Medical Services Division (DMS)
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
1. Ambulance Strike Team (AST) – Medical Task Force (MTF)	Michael Frenn, ext. 435	AST/MTF Leader Trainings are conducted on an ongoing basis, as requested. There was significant utilization in the Program for the Oroville Dam incident, the Santa Rosa/Napa Fires and the recent Southern California Fires. This has resulted in a noticeable increase in interest for Strike Team Leader trainings. The Disaster Medical Support Units (DMSU), which support and have affiliated ASTs, are strategically placed with local EMS Agencies and ambulance providers throughout the State. All available DMSUs have been distributed, providing a total of 41 DMSUs with affiliated ASTs in the State.
2. California Medical Assistance Teams (CAL-MAT) Program	Michael Frenn, ext. 435	Recruitment by EMSA-DMS for persons interested in participating in the CAL-MAT program continues and Program membership is growing. The first successful deployment of Cal-MAT personnel, including hiring and compensation using the new Emergency Hire process, occurred during the Santa Rosa/Napa fire response. Initial recruitment is being targeted at existing federal Disaster Medical Assistance Team (DMAT) members (Phase I). The program plans for up to 8 Units spread throughout the State, trained and equipped for rapid deployment to provide high-quality medical care in all-hazard disaster events in California.
3. CAL-MAT Cache	Markell Pierce, ext. 1443	EMSA is currently working on the second bi-annual inventory and resupply of the (3) CAL-MAT Medical supply caches for the 2017-2018 fiscal period. This ensures that all medical supplies are 100% accounted for, in date, and ready for immediate deployment. The revised CAL-MAT pharmacy formulary has been completed, approved, and implemented to include new medications.
4. California Public Health and Medical Emergency Operations Manual (EOM)	Craig Johnson, ext. 4171	The Regional Disaster Medical and Health Specialists (RDMHS) conduct EOM training on an ongoing basis. The EOM Workgroup is currently in the process of revising the EOM based on lessons learned since the initial 2011 release. Additional Function Specific topics will be added.
5. California Crisis Care Operations Guidelines	Bill Campbell, ext. 728	EMSA is working with CDPH to acquire funding to develop a Crisis Care/Scarce Resources guidance document.

Emergency Medical Services Authority
Disaster Medical Services Division (DMS)
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
6. Disaster Healthcare Volunteers (DHV) of California (California's ESAR-VHP program): Registering, Credentialing & Mobilizing Health Care Personnel	Patrick Lynch, ext. 467	The DHV Program has over 23,500 volunteers registered. Over 20,900 of these registered volunteers are in healthcare occupations. All 58 counties have trained DHV System Administrators in their MHOAC Programs. EMSA provides routine training and system drill opportunities for all DHV System Administrators. Over 9,300 of the 23,500 plus DHV registered responders are Medical Reserve Corps (MRC) members. EMSA trains and supports DHV System Administrators in each of the 36 participating MRC units. DHV System Administrator training, DHV user group webinars, and quarterly DHV drills are ongoing. On, January 10, 2018, EMSA conducted a quarterly DHV drill for System Administrators. On January 31, 2018, EMSA conducted a quarterly DHV User Group webinar. EMSA publishes the "DHV Journal" newsletter for all volunteers on a tri-annual basis. The most recent issue was released on January 29, 2018. The "DHV Journal" is available on the DHV webpage of the EMSA webpage: http://www.emsa.ca.gov/disaster_healthcare_volunteers_journal_page. The DHV website is: https://www.healthcarevolunteers.ca.gov.

Emergency Medical Services Authority
Disaster Medical Services Division (DMS)
Major Program Activities
March 21, 2018

7. Training		
Weapons of Mass Destruction (WMD)	Bill Campbell, ext. 728	The California Emergency Medical Response to Weapons of Mass Destruction Incidents (with Med-Plus) course is offered on a continuous basis, requiring a minimum enrollment of 12 students.
Medical Health Operations Center Support Activities (MHOCSA)	Bill Campbell, ext. 728	The Medical Health Operations Center Support Activities (MHOCSA) Train-the-Trainer course was taught in June 2017. Regions I, VI and II will be holding classes in May 2018.
8. 2018 Statewide Medical and Health Exercise (2018 SWMHE)	Theresa Gonzales, ext. 1766	The 2018 Statewide Medical and Health Exercise (SWMHE) is tentatively scheduled for November 5th through November 9th and November 13th through November 16th, 2018. The Emergency Medical Services Authority in conjunction with the California Department of Public Health and emergency management partners continue to plan for the annual exercise. The exercise is designed as a multiphase exercise program for statewide participants to exercise response to an infectious disease incident. Focusing on Region IV. In addition, the exercise will include objectives for Ambulance Services, Behavioral Health, Community Clinics, Emergency Medical Services Agencies, Fire Services, Hospitals, Law Enforcement, Long Term Care Facilities, Medical Examiners/Coroners, Offices of Emergency Management, and Public Health. The jurisdiction-specific objectives are designed to further enhance participants' exercise play.
9. Hospital Available Beds for Emergencies and Disasters (HAvBED)	Nirmala Badhan, ext. 1826	Federal requirements for HAvBED reporting have been discontinued. However, EMSA is working with the California Department of Public Health (CDPH) and other partners to determine how to continue to integrate hospital data collection for California use.

10. Hospital Incident Command System (HICS)	Virginia Hartley, ext. 413 hics@emsa.ca.gov	The Hospital Incident Command System (HICS) is sponsored by the California Emergency Medical Services Authority (EMSA). EMSA is assembling a National HICS Advisory Committee to assist with matters relating to the HICS Program. This committee will serve as technical advisers on the development, implementation, and maintenance of EMSA's HICS program and activities. An Introductory Webinar of the HICS National Advisory Committee took place on November 8, 2017. The Fifth Edition of HICS, Frequently Asked questions (FAQ), and additional program information are available on the recently revised EMSA website: http://www.emsa.ca.gov/disaster_medical_services_division_hospital_incident_command_system_resources.
11. Mission Support Team (MST) System Development	Michael Frenn, ext. 435	Position Duty Statements developed as part of the CAL-MAT program includes positions needed to staff MSTs, that would be needed to support EMSA's Mobile Medical Assets when deployed to major events. EMSA-DMS is recruiting persons interested in filling these positions as part of the recruitment for the CAL-MAT Program.

12. Response Resources	Markell Pierce, ext. 1443	The bi-annual inventory maintenance of the Mission Support Team (MST) caches was completed in December 2017. The MST caches are constantly being refined based on After Action Reports following exercises and real word deployments. The Response Resources Unit (RRU) has implemented new I.T. and telecommunications equipment to improve MST networking infrastructure and Internet functionality in the field. The RRU continued audits on the 41 Disaster Medical Support Unit (DMSU) vehicles located around the State. During the audits, EMSA verified that all the DMSU vehicles are being properly maintained and utilized according to written agreements. New audits are in progress focusing on Region 2 & 3. Annual servicing of the biomedical equipment for the California Medical Assistance Teams (CAL-MAT) caches was completed in January 2018. Currently the CAL-MAT cache resupply process is underway for 2017/18. All our portable generators have been inspected and permitted by the Sacramento Metropolitan Air Quality Management District. Routine maintenance for generators, forklifts, and fleet vehicles is ongoing. There are currently no major problems.
13. Information Technology	Rick Stricklin, ext. 1445	Identification and inventory of IT equipment to be surveyed is in-progress and near completion. We are replacing failed wireless access point equipment. We continue to perform analysis of Station 1 network connectivity and services that current and future providers can provide, including redundancy during a disaster response. This includes continued evaluation of the Meraki wireless system to provide field connectivity for data (Cellular, VSAT, wired) and video capabilities during field deployments. Annual servicing of Disaster Medical Support Unit (DMSU) radio systems by Cal OES Public Safety Communications (PSCO) is being planned. Building of the Kenwood TK 980 800 MHz frequency re-banding load is expected to be completed 3rd quarter 2018. The EMSA Station 1 vehicle fleet will also be included in the annual servicing. Work continues with the C3 communications vehicle to identify outdated technology and discover new technologies to increase its capabilities and functionality in the field.

14. Mobile Medical Shelter Program (MMSP)	Bill Hartley, ext. 1802	Working with other state agencies, and within existing resources, the EMS Authority has redesigned the Mobile Field Hospital (MFH) program into the California Mobile Medical Shelter program. The purpose of the redesign is to modify and expand the potential uses of the equipment into general staging, stabilization and shelter capacity. 1. The structures and durable equipment of the first MFH stored at the EMS Authority have been separated by like items for ease of deployment to meet the mission requirements of the Mobile Medical Shelter program. 2. The EMS Authority has reconfigured the 2nd MFH into six (6) multiuse modules to distribute to local partners. We are working with the RDMHSs and LEMSAs to locate one module in each Cal OES Mutual Aid Region. The modules will include the shelters, infrastructure equipment, and durable equipment, but will **not** include biomedical equipment and medical supplies. This redistribution of the MFH would allow local partners to deploy this resource rapidly. Potential uses include field sites for Local/Regional incidents, triage/treatment during flu season surge, medical clinic, medical shelter, emergency operations center, staff quarters, disaster exercise, and any other use that requires a field facility. Deployment would be at the discretion of the locals without requiring a state resource request. Modules are placed in Long Beach, Riverside, and Santa Cruz. Module placement in San Mateo and Sacramento will be completed soon. We are targeting Northern Sacramento valley for the placement of the sixth module. 3. The third MFH was transferred on September 8, 2016, to the State Military Department for use by the California National Guard.
15. Regional Disaster Medical/Health Specialists (RDMHS) Program and Medical Mutual Aid System	Nirmala Badhan, ext. 1826	The RDMHS program works with EMSA and California Department of Public Health (CDPH) staff to support major disaster planning activities in addition to supporting information management processes. The RDMHSs have been instrumental in response to 2017 California wildfires that included Ambulance Strikes Teams for patient evacuations and MRC participation in shelter support.

16. Medical Reserve Corps (MRC)	Lauran Capps, ext. 466	36 MRC units have trained Disaster Healthcare Volunteers (DHV) System Administrators. These MRCs are regular users of the DHV system and active participants in quarterly DHV drills and quarterly DHV user group webinars. About 9,300 of the DHV Program's 23,500 volunteers are Medical Reserve Corps volunteers.
17. Statewide Emergency Plan (SEP) Update	Jody Durden, ext. 702	The Governor's Office of Emergency Services (Cal OES) has completed updating the Statewide Emergency Plan (SEP) and is moving toward better implementation of the Emergency Functions (EFs). EMSA, along with CDPH, is a lead participant in the development of the Public Health and Medical Emergency Function (EF 8) of the SEP. EMSA also supports the development of six other EFs.
18. Southern California Catastrophic Earthquake Response Plan	Theresa Gonzales, ext. 755	Cal OES is currently leading the revision of the Southern California Catastrophic Earthquake Plan. EMSA is working with the California Department of Public Health and the Assistant Secretary of Preparedness and Response to update the Public Health and Medical Fact Sheet and Survivor Movement and Mass Care and Shelter Fact Sheet portions of the plan.
19. Patient Movement Plan	Jody Durden, ext. 702	The draft Statewide Patient Movement Plan is currently posted on the EMSA website for public comment. The public comment period ended on January 12, 2018. EMSA is conducting comment review and will update the draft plan as appropriate.
20. Bay Area Catastrophic Earthquake Plan	Bill Campbell, ext. 728	EMSA participated in the Medical Planning Group for the Bay Area Catastrophic Earthquake Plan revision. EMSA continues to participate in the socialization of the plan.
21. Northern California Catastrophic Flood Response Plan	Nirmala Badhan, ext. 1826	EMSA is working with the Governor's Office of Emergency Services (Cal OES) for the development of the Northern California Catastrophic Response Plan. EMSA worked closely with the California Department of Public Health to develop a Public Health and Medical Information Analysis Brief. This document is the basis of the Public Health and Medical section of the response plan. The draft plan was presented to Cal OES Executive leadership on May 31, 2017 and is now in the final stages of editing.

Emergency Medical Services Authority
EMS Personnel Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-9875	Updates
1. First Aid Practices for School Bus Drivers	Mark Olivas, ext. 445	There are 8 School Bus Driver training programs currently approved. There are currently 0 pending reviews. Technical assistance to school staff and school bus drivers is ongoing. The EMSA Child Care Training website is updated monthly.
2. Child Care Provider First Aid/CPR Training Programs	Mark Olivas, ext. 445	There are currently 18 approved First Aid/CPR programs. Staff is reviewing 3 program renewals. Technical assistance is being provided to child care training program instructors and directors, licensing staff, and child care providers. EMSA First Aid and CPR sticker sales are ongoing. EMSA is continuing work to revise the Chapter 1.1 Training Standards for Child Care Providers, which includes First Aid and CPR training standards.
3. Child Care Preventive Health Training Programs	Lucy Chaidez, ext. 434	There are 24 preventive health and safety practices training programs approved. There are 12 programs in the review process. EMSA will host the Child Care Regulatory Workgroup quarterly meeting in March. EMSA Preventive Health sticker sales are ongoing.
4. Child Care Training Provider Quality Improvement/Enforcement	Mark Olivas, ext. 445 and Lucy Chaidez, ext. 434	EMSA is continuing its work to revise the Chapter 1.1 Training Standards for Child Care Providers, including First Aid, CPR, and Preventive Health training standards. Technical assistance and education regarding compliance issues is provided to approved training programs, child care providers, DSS community care licensing, and child care resource and referral staff. Review of rosters, an auditing tool, is ongoing. There is one open complaint case involving an EMSA-approved training program. EMSA is participating in both the statewide Child Care Regulatory Workgroup and the CDPH Early Childhood Nutrition workgroup. We completed the CDC MiniCollN project to reduce childhood obesity. EMSA has been asked to participate in a campaign to provide a unified message to child care providers regarding new CDSS Licensing infant safe sleep regulations that are on the horizon.

Emergency Medical Services Authority
EMS Personnel Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-9875	Updates
5. Automated External Defibrillator (AED) Requirements for EMT's, Public Safety and Layperson	Betsy Slavensky, ext. 461	Ongoing technical support and clarification is provided to public safety agencies, LEMSA's and the general public regarding all AED statutes and regulations. EMSA is working on a webpage to provide information regarding AED statutes for clarification. Review and approval of public safety AED programs according to Chapter 1.5 Section 100021 continues. California State Parks and Rec will be submitting their AED Service Provider Program for re-approval in the next 30 days.
6. BLS Training and Certification Issues	Betsy Slavensky, ext. 461	EMSA provides ongoing support and technical assistance to EMTs, prospective EMTs and 73 Certifying Entities. EMSA continues to assist all certifying entities with questions and clarification on the EMT regulations that were effective July 1, 2017. EMSA fields calls/questions about Emergency Medical Responders (EMR) processes and relays that there are no regulations specific to EMR, but program approval and scope for public safety EMRs falls under Chapter 1.5. All other questions are directed to the local EMS in which to assist.
7. State Public Safety Program Monitoring	Betsy Slavensky, ext. 461	EMSA provides ongoing review, approval & monitoring of EMSA approved Public Safety First Aid/CPR, EMR, EMT and CE programs for statutory and regulatory compliance. The BLS Coordinator provides support and clarification to LEMSAs and all statewide public safety agencies regarding the Chapter 1.5 regulations and approval requirements. EMSA approved Public Safety First Aid/CPR courses in 2017 for POST, California State Parks & Recreation and Cal Fire. The training program database has been updated to allow the addition of public safety programs that are approved by EMSA and the LEMSAs. California Fire Fighter Joint Apprenticeship Committee received a pre-apprenticeship grant, submitted an EMT training program to EMSA for approval (based upon Health and Safety Code 1797.109) and was approved January 19, 2018. EMSA anticipates receiving EMR training programs to re-approve from CHP and Parks & Recreation in the next 30-60 days. Parks & Recreation and Cal Fire also will be submitting their EMT and CE Programs for re-approval this year. Site visits to programs are pending scheduling and fiscal approval.

Emergency Medical Services Authority
EMS Personnel Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-9875	Updates
8. My License Office/ EMT Central Registry Audit	Betsy Slavensky, ext. 461	EMSA monitors the EMT Central Registry to verify that the 73 certifying entities are in compliance with the California Code of Regulations regarding data entry, including background checks and disciplinary notification for all EMT personnel. Correspondence is maintained via Newsletter, email, phone, and LEMSA Coordinator meetings with certifying entities to disseminate updates, changes and corrections. Website improvements, such as the updated EMT page, FAQs based upon the new regulation, and archived newsletters continue to be implemented for ease of certification staff use and EMT resources. Ongoing development and updates of discipline and certification procedures support central registry processes and reduce time spent on technical support. Certifying entities continue to work with EMSA staff to find and correct erroneous certifications in the Registry.
9. Epinephrine Auto-injector Training and Certification	Nicole Mixon, ext. 420	On January 1, 2016 the EMS Authority began accepting applications for training programs to provide training and certification for the administration of epinephrine auto-injectors to the general public and off-duty EMS personnel. EMSA has approved 14 training programs and has issued 654 lay rescuer certification cards.

Emergency Medical Services Authority
EMS Systems Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
1. Trauma	Elizabeth Winward ext. 460	State Trauma Advisory Committee (STAC): The STAC teleconference on January 31, 2018 was cancelled due to schedule conflicts. The next STAC meeting is in-person on May 9, 2018 in San Diego. In-between meetings, STAC members will be briefed on the status of the 2018 Trauma Summit, CA-TQIP progress, and any other items that need their attention. Trauma Summit: The 2018 Trauma Summit will take place at the Holiday Inn Bayside, San Diego on May 8 and May 9. The agenda is finalized and faculty members are confirmed. Registration is underway through EventBrite. CE and CME credits will be available to attendees. Regional Trauma Coordinating Committees (RTCC) Each Regional Trauma Coordinating Committee representative provides regional activity updates at the STAC meeting and provides documents approved by the RTCC and available for statewide use. The EMSA Trauma Coordinator participated in the South East RTCC teleconference on January 4, 2018, and presented at the in-person North RTCC meeting on January 18, 2018. Details of current activities can be found on the EMSA website at www.emsa.ca.gov Re-Triage Project The re-triage project was initiated January 1, 2017 as part of the Strategic Highway Safety Program. Data on re-triaged cases are being collected from 11 Trauma Centers across the state. Data will be analyzed to determine the time to definitive care on re-triaged cases. EMSA anticipates having analysis on 3 months of data in June 2018. Performance Improvement and Patient Safety (PIPS) Plan The PIPS Plan is being re-established as a work project and will be sent out for public comment in the near future. Regional Trauma Network for Re-Triage Subcommittee The Regional Trauma Network for Re-Triage guidance document is on hold due to staffing changes and will be re-established as a work project in the near future.

Emergency Medical Services Authority
EMS Systems Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
2. STEMI/Stroke Systems of Care	Farid Nasr, ext. 424	STEMI and Stroke Regulations The draft Stroke and STEMI regualtions have been approved by the Health and Human Service Agency and moved to the Department of Finance for review. Upon receiving the final approval from the Department of Finance, EMSA will open the rulemaking process with the Office of Administrative Law.
3. EMS System, Standards, and Guidelines	Lisa Galindo, ext. 423	Draft changes to EMS System Standards and Guidelines #101 - 103 (dated June 1993 and March 1994) have been developed and are undergoing Executive review. An EMS Plan Workgroup was developed in November 2015 to revise the required EMS Plan documentation and update the EMS Plan submission process. The workgroup has met regularly and developed draft changes to the required EMS Plan documentation. The EMS Authority is in the process of researching EMS Plan automation options and drafting a stage one business analysis with the Department of Technology.

Emergency Medical Services Authority
EMS Systems Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
4. EMS Transportation	Laura Little, ext. 412	EMS Systems Regulations Work Group / Chapter 13 Task Force: On hiatus, pending outcome of litigation, related to the subject matter involved in the regulation draft. Request for Proposals: Request for Proposals (RFPs) for Exclusive Operating Areas continue to go through a dual review process, to ensure that they meet Federal and State statutory requirements, that there is no bid rigging, collusion, bid chilling, and to address EMSA Guideline #141 "Competitive Process for Creating Exclusive Operating Areas". EMSA continues to provide technical assistance to LEMSAs by in-person meetings, email, phone, and mail in order to help them create a RFP that meets all required criteria. EMS Plan Appeals Review past EMS Plan submissions, correspondence, conduct public records requests, and further historical documentation to map out the issue under appeal. Complaints/Allegations EMSA conducts an initial investigation into any allegations involving violations of Federal and State laws, including but not limited to Sherman Act Violations. If allegations are proven to be true, a formal investigation is conducted and action is taken. Transportation Litigation EMSA tracks case law and current litigation involving EMS transportation issues. Website Updates EMS System webpages are updated monthly, or daily depending on the topic, to ensure that the most up-to-date information is available to the public and our constituents. Technical Assistance: EMSA provides daily technical assistance to public and providers on exclusive operating areas, interpretation of statute and regulations, EMS provider information and direction on who to contact outside of EMSA for further information.

5. California Poison Control System	Lisa Galindo, ext. 423	The California Poison Control System (CPCS) is one of the largest single providers of poison control services in the U.S. The CPCS is made up of four designated Poison Control Centers. The CPCS receives approximately 330,000 calls a year from both public and health professionals through a toll-free hotline that is accessible 24-hours a day, 7 days a week. Quarterly Report The Quarterly Report consists of data and narrative reports. The data report for the 2nd quarter, October 1, 2017 - December 31, 2017, was received on January 12, 2018, and the narrative report was received on January 17, 2018. Both were reviewed for consistency with contractual objectives. There were no areas of concern. Request for Information (RFI) RFI C17-029 was approved and sent on October 10, 2017, seeking information from prospective service providers interested in serving as the sole provider of poison control services for the State of California; there were no responses. The RFI was sent again on November 13, 2017, to an expanded list of providers; two providers responded (one withdrew submission on January 16, 2018). Contract for 2018/2019 The current contract with the CPCS expires on June 30, 2018. Based on the lack of interest received from the RFI, the EMS Authority will proceed with the development of a new contract with the CPCS for Fiscal Year 2018/2019. Request for Offer (RFO) RFO C17-030, seeking a California Multiple Award Schedules (CMAS) Contractor to perform a comprehensive program and fiscal evaluation of the CPCS, was approved and sent out on October 11, 2017; there were no responses. RFO C17-033 was sent on December 13, 2017, to an expanded list of CMAS Contractors; one contractor responded. On January 26, 2018, the Department of General Services advised the CMAS Contractor selected was unapproved as their classification was inconsistent with the type of RFO audit, and recommended a Request for Quote (RFQ) be conducted to solicit small business interest. On January 29, 2018, RFQ C17-036 was sent to five small businesses; two responses were received. The CMAS Contractor selected during the RFO process was the low bidder of the two and the awardee.
6. EMS Plans	Lisa Galindo, ext. 423	Review

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
		The EMS Authority continues to review EMS Plans and annual Plan Updates as they are submitted by Local EMS Agencies (LEMSA). A bi-weekly update is provided to management on the staff review of EMS Plan submissions. <u>Technical Assistance</u> EMSA provides technical assistance as needed to LEMSAs on the EMS Plan development and submission process. Electronic reminders to the LEMSAs are being provided at a minimum of two months in advance of their scheduled submissions.
7. EMS for Children Program	Heidi Wilkening, ext. 556	<u>Regulations:</u> The EMS for Children regulations were forwarded to Department of Finance by Agency for review. Once returned to EMSA, the regulations will be forwarded to the Office of Administrative Law to open the rule making package. <u>Educational Forum:</u> The 20th Annual EMS for Children Educational Forum was held on Thursday, November 9, 2017 in Sacramento. Speakers and skills stations received rave reviews. The next EMSC Educational Forum will be on Friday, November 2, 2018. The location will be changed to Fairfield, CA. Additional information will be provided in the near future. <u>NEDARC Survey:</u> The EMSC Program survey for 9-1-1 EMS responding agencies was held August 1 – November 30, 2017. The final response rate for California was 80.2%. For Performance Measure EMSC 02 (Pediatric Emergency Care Coordinator), the California percentage was 25.3% and for Performance Measure EMSC 03 (Use of Pediatric Specific Equipment), California was at 20.7%. The next EMSC survey will evaluate Performance Measures EMSC 06 and 07, which pertain to EMSC Interfacility Transfer Guidelines and Agreements. This upcoming survey will occur from May – August 2018.

Emergency Medical Services Authority
EMS Systems Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
8. CEMSIS EMS Data	Adrienne Kim, ext. 742	CEMSIS now has 25 LEMSAs participating at some level in the submission of EMS data. In 2017, many LEMSAs transitioned to NEMSIS V3.4. EMSA is providing technical assistance and guidance to LEMSAs that are still in the process of transitioning to NEMSIS Version 3.4, consistent with AB 1129 that implemented HSC 1797.227. <u>Reports:</u> The annual EMS report for CY 2015 and 2016 is currently underway. The annual Trauma report for CY 2016 is also under development with the new trauma coordinator.
9. CEMSIS – Trauma Data	Tom McGinnis, ext. 695	There are 27 Local EMS agencies (LEMSA) with designated Trauma Centers. Trauma Centers are physically located in 37 of the 58 counties. Currently 26 LEMSAs are transmitting into CEMSIS-Trauma representing 77 of the 79 designated Trauma Centers.
10. Communications	Heidi Wilkening, ext. 556	EMSA personnel attend various California communications meetings to learn more on public concerns on issues related to Wireless 9-1-1. The position for 911 communications is currently vacant and a recruitment process will start in the near future.
11. Core Measures	Adam Davis, ext. 409	EMSA received Core Measure submissions from 28 of the 33 LEMSAs. EMSA staff is developing a report for review by the Core Measures Task Force. The Task Force met in the Fall of 2017 to revise and enhance the Core Measure Set in the NEMSIS 3 data standard. The report of 2017 Calendar Year data is expected to be finalized by May 31, 2018.
12. Grant Activity/Coordination	Lori O'Brien, ext 401	<u>Office of Traffic Safety (OTS) Grants:</u> EMS Systems Division has two OTS grants in process. 1. The **CEMSIS** project continues to improve the data traffic profile within the EMS and Trauma data that is collected in CEMSIS. First quarter reporting and claims were completed and submitted to OTS on January 30, 2018. 2. The **TQIP** grant is in process. EMSA staff attended training in November 2017, provided by the American College of Surgeons in Chicago. A contract with

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
		ACS is expected to be executed in February 2018. First quarter reporting and claims were completed and submitted to OTS on January 30, 2018. On January 30, 2018, EMSA submitted an OTS grant application for FFY 2019. This grant application for the CEMSIS project, which will continue to facilitate the collection of local EMS agency (LEMSA) pre-hospital and trauma data. <u>Health Resource Services Administration (HRSA) Grant:</u> EMSA staff continues the work associated with the Health Resources Services Administration (HRSA) grant in furthering the integration of the Emergency Medical Services for Children (EMSC) into the State EMS system. A new, competing continuation application was submitted to HRSA on January 8, 2018 for the EMSA 2018 EMSC Partnership Grant. This grant, if awarded will fund EMSC program at $130,000 per year, from April 1, 2018 – March 30, 2022. <u>Preventative Health and Health Services Block Grant (PHHSBG):</u> EMSA staff remains fully engaged in the Preventative Health and Health Services Block Grant. EMS Systems has nine programs identified with associated objectives and activities that were approved by CDPH. Annual Reports for all nine programs were submitted on December 15, 2017. Success Stories were written and submitted for all nine programs on December 29, 2017.

Emergency Medical Services Authority
EMS Systems Division
Major Program Activities
March 21, 2018

Activity & Description	Primary Contact EMSA (916) 322-4336	Updates
13. Office Support	Tiffany Pierce ext. 900	<u>Communications Manual:</u> Updates have been made to the Communications Manual. Additionally, a template has been created for LEMSAs that did not have a portion in the manual prior to the update <u>Documents and Letters:</u> Processed Systems Division letters and documents including the following: 1. Maddy EMS Fund Report 2. MOU for Federal Block Grant 3. EMS Plan Updates for Orange County, North Coast, Merced County, San Mateo County, and San Benito County. <u>2017 Food Drive:</u> The State of California conducts an annual food drive to support needy families. For the 2017 drive the Systems Office Technician, Tiffany Pierce, volunteered to lead the Food Drive for EMSA. <u>State Operations Center:</u> Volunteered to represent EMSA at the State Operations Center during the Southern California fires and was able to assist for a shift.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Jennifer Lim
Deputy Director, Policy, Legislative & External Affairs

SUBJECT: Legislative Report

RECOMMENDED ACTION:

Receive information regarding current bills potentially affecting EMS.

FISCAL IMPACT:

None

DISCUSSION:

Due to the dynamic nature of the legislative process, the Legislative Report to the Commission on EMS will be posted on the EMSA website at http://www.emsa.ca.gov/current_legislation. Copies of the printed Legislative Report will also be available at the Commission Meeting on March 21, 2018.

EMERGENCY MEDICAL SERVICES AUTHORITY
10901 GOLD CENTER DRIVE, SUITE 400
RANCHO CORDOVA, CA 95670-6073
(916) 322-4336 FAX (916) 324-2875

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Rick Trussell
Chief Fiscal and Administration Unit

SUBJECT: Administrative and Personnel Report

RECOMMENDED ACTION:

Information Only

FISCAL IMPACT:

None

DISCUSSION:

Emergency Medical Services Authority (EMSA) Budget:

2017-18

The 2017-18 enacted California State budget includes departmental expenditure authority in the amount of $36.8 million and 69 permanent positions. Of this amount, $15.9 million is delegated for State operations and $20.9 million is delegated to local assistance.

As of February 16, 2018, accounting records indicate that the Department has expended and/or encumbered $23.6 million or 64.1% of available expenditure authority. Of this amount, $7.0 million or 43.9% of State Operations expenditure authority has been expended and/or encumbered and $16.6 million or 79.4% of local assistance expenditure authority has been expended and/or encumbered.

The Department is still in the process of month-end closing (MEC) accounting activities and we are continuing to monitor and adjust both State operations and local assistance budgets to meet changing program priorities. An updated report will be distributed prior to the next Commission meeting.

2018-19

The Governor's Proposed Budget for 2018-19 released in January 2018 includes expenditure authority in the amount of $37.4 million and 69.9 permanent positions. Of this amount, $16.4 million is delegated for State operations and $21 million is delegated to local assistance. The following workload budget adjustments are included in the proposed budget:

- Increased Information Technology Security Resources: EMSA is requesting one 1.0 permanent position and a $356,000 General Fund augmentation which includes one-time funding of $196,000 for Information Technology (IT) infrastructure improvements. The additional resources will be utilized to strengthen the department's IT infrastructure and provide adequate staffing levels to ensure compliance with State policy and procedural requirements.

EMSA Staffing Levels:

As of February 16, 2018, the Department is authorized for 69 positions and also has 12.3 temporary (blanket positions and retired annuitants) positions for an overall staffing level of 81.3. Of the 81.3 positions, 6 positions are vacant at this time.

	Division				
	Admin/Exec	**DMS**	**EMSP**	**EMS**	**Total**
Authorized	17.0	20.0	23.0	9.0	69.0
Temporary Staff	5.0	1.5	1.3	4.5	12.3
Staffing Level	**22.0**	**21.5**	**24.3**	**13.5**	**81.3**
Authorized (Vacant)	0.0	-2.0	-2.0	0.0	-4.0
Temporary (Vacant)	-1.0	0.0	0.0	-1.0	-2.0
Current Staffing Level	**21.0**	**19.5**	**22.3**	**12.5**	**75.3**

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP, Director

PREPARED BY: Steven A. McGee, Administrative Adviser

SUBJECT: Legal Report

RECOMMENDED ACTION:

Receive information on Legal Office Activities.

FISCAL IMPACT:

None

DISCUSSION:

Disciplinary Cases:

From November 9, 2017, to February 16, 2018, the Authority issued thirteen new Accusations against existing paramedic licenses, issued three administrative fines, and issued decisions on three petitions for reduction of penalties. Of the newly issued actions, five of the Respondents have requested that an administrative hearing be set. There are currently six hearings scheduled, and nine waiting to be scheduled. There are currently thirty-eight open active disciplinary cases in the legal office.

Litigation:

Tagliere v. Backer, Los Angeles County Superior Court #BS1707101, Writ of Administrative Mandamus. Plaintiff has filed a writ seeking to overturn the revocation of his license subsequent to an administrative hearing. Hearing set for June 2018.

Americare Medservices, Inc.v. City of Anaheim, et al., Appeal from the United States District Court for the Central District of California, No. 8:16-cv-01703-JLS. The Authority has filed an amicus brief asking the court to certify the matter to the California Supreme Court for an interpretation of Health and Safety Code 1797.201.

Kern County EMS v. EMSA, OAH #'s 2016100453, 2017010313. Appeal of a denial of local EMS plans. Hearing set for March 13-15 at the Office of Administrative Hearings in Los Angeles.

Calchiefs v. EMSA and Alameda County EMS, Alameda County Superior Court, Case No. RG18890846. From the lawsuit: “This Petition seeks to set aside a request for proposal ("RFP") for the provision of ambulance and emergency medical services ("EMS") issued by Respondent and Defendant Alameda County Emergency Medical Services District ("ALCO EMS") and approved by Respondent and Defendant California Emergency Medical Services Authority ("EMSA").”

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Michael D. Smith
Supervising Special Investigator
Paramedic Enforcement Unit

SUBJECT: Enforcement Report

RECOMMENDED ACTION:

Receive information on Enforcement Unit activities.

FISCAL IMPACT:

None

DISCUSSION:

Unit Staffing:

As of February 1, 2018, the Enforcement Unit has 5 full-time Special Investigators, and 2 vacant positions, Associate Government Program Analyst (AGPA-Probation Monitor) and a Retired Annuitant position as a Special Investigator. One of the Special Investigator positions has been realigned to fulfill the primary functions of case management and probation monitoring.

Investigative Workload:

The following is a summary of currently available data extracted from the paramedic database.

Cases opened since January 1, 2018, including:

Cases opened:	22
Cases completed and/or closed:	20
EMT-Paramedics on Probation:	230

In 2017:

Cases opened:	282
Cases completed and/or closed:	307
EMT-Paramedics on Probation:	230

Status of Current Cases:

The Enforcement Unit currently has 99 cases in “open” status.

As of February 1, 2018, there are 36 cases that have been in “open” status for 180 days or longer: three (3) Fire Fighters’ Bill of Rights (FFBOR) cases and eight (8) cases waiting for California Society of Addiction Medicine (CSAM) evaluations. Respondents are directed to a physician who specializes in addition medicine for an examination/review in cases involving alcohol or other substance abuse.

Those 36 cases are divided among 5 Special Investigators and are in various stages of the investigative process. These stages include awaiting documents, preparing for and/or setting up interviews, report writing and corrections to be made, awaiting action by local law enforcement jurisdictions, the courts, etc.

Delays in the interview process are common due to unforeseen difficulties in obtaining certified copies of documents, court records, availability of witnesses and/or the subject(s) of an investigation due to medical action/disability issues, on-going investigations for FFBOR staff or on-going criminal investigations, court actions, plus the routine requirement for two or more follow-up interviews.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Priscilla Rivera, Manager
Personnel Standards Unit

SUBJECT: POLST eRegistry Update

RECOMMENDED ACTION:

Receive information regarding POLST eRegistry Pilot Project

FISCAL IMPACT:

The California Health Care Foundation has granted up to $3 million to fund the different aspects of the POLST eRegistry Pilot Project that includes, but is not limited to, the local pilot sites, the technology vendor, independent evaluator, project director, project consultant.

DISCUSSION:

Decisions on end of life care for oneself and for that of loved ones are difficult for anyone to make. The Physician Orders for Life-Sustaining Treatment (POLST) is a process that encourages open and thoughtful discussion between physicians, and their patients regarding end of life care. To address some of the current limitations with the accessibility to the POLST information, SB 19 (Wolk Chapter 504, 22015) was signed by the Governor authorizing a POLST electronic registry (eRegistry) pilot project under the aegis of the EMS Authority.

Multi Agency Coordination Activity (MAC)

As a member of the MAC, the California Emergency Services Authority's (EMSA) POLST eRegistry Coordinator, with the support of other members of the EMSA leadership team continues to participate in weekly MAC Conference Calls and in person meetings throughout the last quarter.

Report to the Legislature

The “Report to the Legislature” required by SB 19 (Wolk) is pending approval for release from the California Health and Human Services Agency, and the Governor’s Office.

Pilot Site Update

The pilot site in Contra Costa County, led by the Alameda Contra Costa Medical Association (ACCMA), has gone live with Sutter Delta and the Sutter Health System in Contra Costa County. ACCMA continues to work with their other hospital stakeholders to overcome barriers and to ensure active participation within the POLST eRegistry.

Vynca the technology vendor is collaborating with Contra Costa County EMS, Contra Costa Fire and American Medical Response (AMR). Testing against the Vynca production registry was successfully completed and is now awaiting a critical number of POLST Forms to be uploaded into the system before going live in the field.

Discussions on the timing of field training and go-live date are underway with the local EMS agency.

The pilot site in the City of San Diego is being led by San Diego Health Connect (SDHC). They continue to work with their hospital stakeholders to overcome barriers and to ensure active participation within the POLST eRegistry.

Additionally, SDHC manually uploading POLST forms in order to meet contractual milestones with the anticipation of having an electronic upload option in place by the end of March 2018.

Stella Technology, the technology vendor for the SDHC project, is collaborating appropriately with all parties at this time.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Kim Lew, Staff Services Manager I
Paramedic Licensure Unit

SUBJECT: National Registry of EMTs Examination Results

RECOMMENDED ACTION:

Receive information on the National Registry of EMTs paramedic and EMT pass rates in California.

FISCAL IMPACT:

There is no fiscal impact.

DISCUSSION:

The below table identifies the State of California and national first attempt NREMT examination pass rates of all Paramedics and EMTs for the 2017 calendar year. The percentages noted reflect a 9% increase in first attempt pass rates from the previous year.

2017	Attempted the exam	Pass 1st attempt	% Change from Previous Year
Paramedic			
California	871	86%	+4%
National	9,435	75%	+3%
EMT			
California	9,554	76%	+2%
National	66,568	71%	+1%

Currently, there are 36,960 NREMT nationally certified EMS professionals in the State of California.

Attached are data from the NREMT that list the first attempt pass results of paramedics and EMTs affiliated with California approved training programs. Local EMS agencies approve most training programs; however, the EMS Authority approves statewide public safety agency EMT training programs, which include the California Highway Patrol, Cal Fire, and the State Department of Parks and Recreation.

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Alameda County EMS Agency													
ALCO EMS Corps EMT Program	CA-01031									10	40%	26	62%
American Health Education	CA-10009	49	67%	70	71%	64	54%	63	63%	53	66%	119	67%
Bay Area Training Academy	CA-01030	29	59%	32	56%	36	64%	19	68%	22	72%	41	68%
Bear EMT Program	CA-01028									42	74%	56	64%
Berkeley STEP	CA-01029									3	100%	4	75%
Chabot College	CA-01014	34	85%	36	75%	43	70%	38	74%	38	79%	31	55%
East Bay	n/a	7	71%	0		0							
Fast Response School of Health Care Ed.	n/a	72	78%	62	84%	124	77%	144	84%	185	81%		
Las Positas College	CA-01001	39	95%	33	88%	27	89%	46	83%	44	80%	47	83%
Merritt College/Alameda County	CA-01022	38	63%	39	64%	39	51%	29	52%	40	58%	59	61%
Quest Nursing Education Center	n/a	2	50%	0		0							
Unitek College	CA-01003	343	73%	521	67%	464	69%	351	73%	330	70%	299	76%
University of California Police EMT Training	n/a	85	85%	36	94%	0							
Agency Total		**698**	**73%**	**829**	**75%**	**797**	**68%**	**690**	**71%**	**767**	**72%**	**682**	**68%**
Central California EMS Agency													
Alert Medical Training	CA-61027											55	71%
American Ambulance	CA-61005	100	78%	109	71%	105	83%	53	87%	16	100%	54	74%
Auberry Volunteer/Alert Medical Training	n/a	8	63%	13	69%	49	69%	48	56%	33	61%		
California State University Fresno	CA-61006	7	57%	1	0%	0		7	43%	7	71%	3	33%
Clovis Unified School District - ROP	n/a	1	100%	0		0							
College of the Sequoias	CA-61019	23	65%	12	42%	15	80%	21	48%	24	33%	30	33%
Dinuba Fire Department	n/a	16	38%	14	43%	9	67%	16	31%	13	15%		
Fresno Adult School	n/a	10	30%	4	0%	8	63%						
Fresno City College Fire Academy	CA-61008	31	65%	37	70%	40	73%	39	41%	58	52%	35	49%
Valley ROP	CA-61042	0		0		0				1	100%	26	31%
Hume Lake Fire Department	CA-61037									3	100%	1	100%
Institute of Technology-Clovis	n/a	0		4	0%	0							
Madera Adult School	CA-61017	11	82%	6	67%	7	43%	4	25%	8	50%	6	67%
Minarets Adult Education EMT-Basic	CA-61032	3	100%	7	57%	10	70%	19	47%	19	74%	9	78%
NAS Lemoore F&ES EMT Program	n/a									3	33%		
Orange Cove Fire Department	CA-61013	24	67%	15	40%	16	25%	15	40%	6	17%	14	36%
Porterville Community College	CA-61024	24	46%	34	47%	24	58%	25	48%	22	59%	10	60%
Selma Fire Department	CA-61003	0		2	50%	0		12	25%	8	38%	20	0%

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Central California EMS Agency (Cont'd)													
West Hills College	CA-61004	19	63%	24	63%	28	75%	24	54%	18	67%	14	36%
WestMed College-Fresno	n/a	11	55%	0		0							
Agency Total		**384**	**67%**	**286**	**46%**	**311**	**64%**	**283**	**45%**	**239**	**58%**	**277**	**51%**
Coastal Valleys EMS Agency													
Mendocino College Mendocino County	CA-66006	24	75%	23	57%	15	47%	21	76%	54	74%	35	66%
Mendocino County Office of Education ROP	CA-66005	13	62%	19	68%	31	68%	17	71%	7	100%	7	71%
Santa Rosa Junior College	CA-66001	120	79%	155	86%	137	81%	106	83%	120	97%	95	96%
Agency Total		**157**	**72%**	**197**	**70%**	**183**	**65%**	**144**	**77%**	**181**	**90%**	**137**	**78%**
Contra Costa County EMS Agency													
Contra Costa College	CA-07001	28	68%	20	75%	20	50%	7	29%	23	57%	4	25%
Los Medanos Community College	CA-07003	46	52%	69	41%	73	55%	86	47%	122	75%	144	72%
Mt Diablo Adult Education	CA-07002	16	38%	12	75%	7	43%	8	88%	16	75%	14	29%
Agency Total		**90**	**53%**	**101**	**64%**	**100**	**49%**	**101**	**55%**	**161**	**69%**	**162**	**42%**
El Dorado County EMS Agency													
El Dorado County Training Officer's Assn	CA-09002	32	63%	28	82%	23	78%	22	77%	29	66%	17	100%
Lake Tahoe Community College	CA-09001	46	83%	45	71%	30	77%	33	85%	37	65%	43	72%
Agency Total		**78**	**73%**	**73**	**77%**	**53**	**78%**	**55**	**81%**	**66**	**66%**	**60**	**86%**
Imperial County EMS Agency													
Bureau of Land Management	CA-13004			0		0				14	86%	2	100%
El Centro Sector BORSTAR	n/a	10	70%	0		0							
Imperial Community College	CA-13002											1	100%
Imperial Valley College	CA-13001	57	70%	40	70%	62	55%	45	58%	31	71%	45	71%
Agency Total		**67**	**70%**	**40**	**70%**	**62**	**55%**	**45**	**58%**	**45**	**79%**	**48**	**90%**
Inland Counties EMS Agency													
Barstow Community College	CA-62001	17	65%	15	80%	12	58%	9	56%	9	56%	14	79%
Big Bear Fire Department	n/a									10	40%		
Cerro Coso Community College	CA-15007	24	79%	42	83%	32	72%	26	69%	28	86%	40	75%
Chaffey College	CA-62022	39	59%	43	53%	47	62%	46	54%	44	41%	36	64%
Copper Mountain College	CA-62003	7	86%	22	59%	21	81%	14	64%	34	71%	33	79%
CPR and More	CA-62042									57	68%	84	77%

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Inland Counties EMS Agency (cont'd)													
Crafton Hills College	CA-62008	123	69%	140	66%	138	51%	108	56%	136	68%	115	64%
High Sierra Prehospital Education	n/a	19	84%	0		0							
Inland Empire Healthcare Training Institute	CA-62041									2	0%	11	82%
Lone Pine Unified School District	n/a	0		2	50%	3	33%	1	100%				
Mono County EMS EMT Training Program	CA-62029											14	86%
Montclair Fire Department	CA-62023	133	70%	121	50%	103	56%	119	57%	90	56%	70	74%
San Bernardino Co. Fire Department	CA-62025											8	50%
San Bernardino County Fire Department	CA-94027											9	22%
So Cal EMT Fire Training	CA-62024	4	50%	9	56%	22	45%			88	75%	50	70%
So Cal EMT Fire Training - Oct 2017	CA-62030											3	100%
Southern Inyo Fire Protection District	CA-62027									8	63%	5	60%
Victor Valley Community College	CA-62006	72	63%	88	61%	105	54%	119	45%	117	46%	128	46%
Agency Total		**438**	**69%**	**482**	**62%**	**483**	**57%**	**442**	**63%**	**623**	**56%**	**620**	**69%**
Kern County EMS Agency													
Bakersfield College Allied Health	CA-15012	72	72%	68	62%	71	66%	79	62%	144	65%	162	64%
Bakersfield Community College	n/a	40	43%	39	44%	28	61%	29	59%				
B/P TEC	n/a			1	100%	0							
Kern County Sheriff Office EMT Training	n/a									8	63%		
Olive Drive Fire Training Facility	n/a			21	71%	12	92%						
Taft College	CA-15011	8	63%	11	36%	11	45%	4	50%	7	100%	14	79%
Agency Total		**120**	**59%**	**140**	**63%**	**122**	**66%**	**112**	**57%**	**159**	**76%**	**176**	**72%**
Los Angeles County EMS Agency													
Alhambra Unified School District	CA-19067									3	67%	2	100%
Antelope Valley College	CA-19019	17	41%	10	90%	15	93%	4	75%	9	89%	10	70%
Antelope Valley High School District ROP	CA-19014	64	77%	41	54%	8	50%	16	63%	21	90%	23	83%
Antelope Valley Medical College Inc.	n/a	72	69%	107	71%	114	64%						
California Institute of EMT	CA-19054	589	89%	653	84%	642	83%	554	82%	565	87%	532	89%
Cerritos College	n/a	18	94%	24	67%	0							
Charter College - LA	CA-19066											8	13%
Citrus Community College	CA-19002	61	70%	52	85%	49	82%	40	83%	57	84%	51	78%
CSU Long Beach	CA-19062	0		45	62%	60	62%	76	47%	45	58%	74	61%
College of the Canyons	CA-19017	119	87%	106	91%	115	83%	127	81%	123	89%	115	82%
Downey Adult School	CA-19064									40	30%	23	48%
East Los Angeles College	CA-19030	16	94%	27	81%	34	71%	41	54%	31	55%	28	57%
East San Gabriel Valley ROP	CA-19031	52	83%	60	47%	70	43%	43	40%	24	63%	18	61%

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Los Angeles County EMS Agency (cont'd)													
El Camino College	CA-19003	106	55%	113	59%	92	97%	126	48%	93	83%	129	78%
Glendale Community College	CA-19004	57	89%	58	91%	66	88%	62	87%	66	79%	61	85%
Long Beach City College	CA-19006	23	61%	33	39%	12	75%	13	46%	19	63%	12	75%
Long Beach Fire Department	CA-19035	0		0		5	80%			4	100%	13	69%
Los Angeles City Fire Department	n/a	1	100%	1	100%	0							
Los Angeles County Fire Department	CA-19007	34	100%	35	94%	36	100%	19	100%	31	94%	16	100%
Los Angeles County ROP	n/a	12	50%	4	25%	0							
Los Angeles County Sheriff's Department	CA-19009	4	75%	10	100%	0		2	100%	1	0%	5	100%
Los Angeles Harbor College	CA-19036	20	45%	20	60%	11	45%	19	58%	16	63%	7	57%
Los Angeles Valley College	CA-19010	79	38%	106	42%	80	40%	60	63%	72	65%	88	66%
Mt. San Antonio College	CA-19011	28	82%	34	68%	54	63%					53	60%
N. Hollywood Polytechnic Adult School	n/a	10	90%	0		0							
North Valley Occupational Center	CA-19039	80	34%	7	57%	28	61%	28	57%	18	44%	31	48%
Pasadena City College	CA-19040	61	56%	106	53%	95	55%	117	58%	128	63%	98	61%
Professional Career Development Center	CA-19068											1	100%
ProTech Life Safety Services	CA-30022											59	64%
West Coast EMT- Redondo Beach	CA-19070											38	95%
Rio Hondo College Fire Academy	CA-19058	131	79%	111	60%	92	72%	126	76%	114	73%	104	64%
San Antonio ROP	n/a	5	80%	0		0							
Southern California ROC	CA-19050	0		0		0		22	36%	28	57%	29	62%
Tri Cities ROP	n/a	48	27%	25	24%	0							
UCLA Center for Prehospital Care	CA-19013	419	98%	373	96%	384	96%	471	93%	515	95%	564	97%
University of Antelope Valley	CA-19001									66	39%	113	53%
Agency Total		**2126**	**72%**	**2161**	**68%**	**2062**	**72%**	**1966**	**67%**	**2089**	**68%**	**2305**	**72%**
Marin County EMS Agency													
College of Marin	CA-21001	13	92%	16	75%	11	91%	13	100%	12	92%	16	94%
Agency Total		**13**	**92%**	**16**	**75%**	**11**	**91%**	**13**	**100%**	**12**	**92%**	**12**	**92%**
Merced County EMS Agency													
Merced Community College	CA-24001	20	75%	24	50%	18	83%	36	64%	39	77%	31	77%
Merced County EMS Agency	n/a	17	59%	0		0							
Agency Total		**37**	**67%**	**24**	**50%**	**18**	**83%**	**36**	**64%**	**39**	**77%**	**39**	**77%**

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Monterey County EMS Agency													
Hartnell Community College	CA-27001	31	68%	5	60%	20	55%	38	42%	18	44%	28	43%
Monterey Peninsula College	CA-27002	43	60%	39	72%	71	63%	63	51%	53	70%	45	73%
Monterey Peninsula ROP	n/a	1	0%	1	0%	1	0%	1	0%				
Agency Total		**75**	**43%**	**45**	**44%**	**92**	**39%**	**102**	**31%**	**71**	**57%**	**71**	**57%**
Mountain Valley EMS Agency													
Academy for Professional Development	CA-60027									5	20%	18	22%
Abrams College	CA-60003	110	33%	112	38%	91	42%	107	41%	137	41%	114	42%
Ceres Unified Adult Education	CA-60002	36	56%	30	37%	0		20	55%	14	64%	24	33%
First Lady Permanente	CA-60028											15	33%
Hughson Fire Protection District	n/a	9	67%	4	50%	5	40%	12	58%	4	50%		
Ione Fire Department	n/a									51	43%		
Jackson Rancheria Fire Department	CA-60026	18	61%	16	63%	13	69%	19	47%			33	24%
Mariposa County Fire Department	n/a	12	58%	13	46%	8	75%			19	89%		
Modesto Junior College	CA-60001	32	75%	50	76%	33	88%	55	76%	50	90%	63	84%
Murphys Fire Protection District	CA-60013	32	75%	21	62%	23	61%	32	72%	30	70%	18	72%
Agency Total		**249**	**61%**	**246**	**53%**	**173**	**63%**	**245**	**58%**	**310**	**58%**	**285**	**44%**
Napa County EMS Agency													
Napa Valley College	CA-66009	31	84%	27	74%	31	68%	48	63%	37	49%	42	57%
Pacific Union College	CA-66010	21	71%	12	100%	14	79%	12	58%	4	75%	9	67%
Agency Total		**52**	**78%**	**39**	**87%**	**45**	**74%**	**60**	**61%**	**41**	**62%**	**51**	**62%**
North Coast EMS Agency													
College of the Redwoods	CA-63003	36	86%	47	77%	42	79%	41	83%	37	68%	41	85%
Del Norte Fire Training Consortium	CA-63005	5	100%	1	100%	0		28	79%			22	77%
Humboldt State University	CA-63007	23	91%	16	81%	16	81%	19	74%	18	72%	17	47%
Lake County Fire Protection District	CA-63001	0		0		0		11	82%			7	57%
Agency Total		**64**	**92%**	**64**	**86%**	**58**	**80%**	**99**	**80%**	**55**	**70%**	**87**	**67%**

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Nor Cal EMS Agency													
College of the Siskiyous	CA-65026	28	93%	30	77%	26	73%	33	67%	25	21%	28	68%
Downieville Fire Protection District	CA-64026											12	100%
Feather River College	CA-64007	8	100%	5	60%	12	67%	9	67%	7	43%	6	50%
Lassen Community College	CA-64005	3	100%	5	100%	1	0%	9	78%	4	25%	7	71%
Modoc Medical Center	CA-64019									6	100%	7	71%
Shasta Community College	CA-65022	59	63%	68	69%	74	61%	75	63%	57	61%	64	66%
Trinity County Life Support EMT Program	CA-64024									2	100%	3	100%
Agency Total		**98**	**89%**	**108**	**77%**	**113**	**50%**	**126**	**69%**	**101**	**58%**	**127**	**75%**
Orange County EMS Agency													
Central County ROP	CA-30008	7	57%	8	38%	0		1	0%			1	0%
Coastline Regional Occupational Program	CA-30002	45	49%	50	58%	37	43%	43	60%	72	68%	60	62%
North Orange County ROP	CA-30003	126	63%	124	68%	82	71%	63	57%	20	55%	11	55%
Orange Coast College	CA-30004	19	89%	30	90%	14	93%	24	88%	45	78%	32	84%
Orange County CPR	CA-30015	140	56%	171	63%	191	66%	235	60%	248	63%	142	59%
Orange County EMT	CA-30020											65	66%
Saddleback College	CA-30005	83	67%	68	63%	81	69%	80	70%	93	82%	92	85%
Santa Ana College	CA-30006	48	73%	59	64%	34	74%	31	68%	88	77%	95	81%
Santa Ana Fire Academy	n/a	94	53%	45	51%	0		16	63%				
South Coast ROP	CA-30001	21	62%	22	68%	23	78%	24	58%	27	37%	18	44%
West Coast Emergency Medical Training	CA-30019	205	73%	396	77%	365	75%	431	80%	543	73%	544	77%
Agency Total		**788**	**64%**	**973**	**64%**	**827**	**71%**	**948**	**60%**	**1136**	**67%**	**1060**	**68%**
Riverside County EMS Agency													
College of the Desert	CA-33004	27	59%	26	54%	31	58%	27	67%			34	88%
HealthPro EMT Training	CA-33013									9	78%	15	67%
Moreno Valley College	CA-33002	215	75%	208	79%	196	69%	161	72%	153	84%	137	83%
Mt San Jacinto College	CA-33005	106	73%	86	66%	64	69%	84	51%	53	57%	48	63%
Palo Verde College	n/a	5	20%	0		5	40%			2	50%		
Riverside County Office of Education ROP	CA-33007	0		9	33%	23	30%	11	9%			9	22%
Southern California EMS Training Institute	CA-33010									158	72%	78	78%
West Coast EMT-Riverside	CA-33011									257	72%	367	78%
Agency Total		**353**	**57%**	**329**	**58%**	**319**	**53%**	**283**	**50%**	**632**	**69%**	**688**	**68%**

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name		2012		2013		2014		2015		2016		2017	
	NREMT Program Code	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Sacramento County EMS Agency													
American River College	CA-34001	56	91%	75	85%	52	83%	92	77%	145	86%	128	91%
California Regional Fire Academy	n/a	105	69%	136	76%	22	77%	23	61%				
CA State Univ. Sac., Pre-Hospital Education	CA-34006	52	81%	66	68%	67	90%	93	75%	112	70%	158	76%
Cosumnes River College	CA-34002	39	95%	44	100%	42	90%	48	96%	47	91%	66	100%
Galt Adult School	n/a	0		15	60%	0							
Herald Fire District	n/a	0		0		0		13	8%				
Institute of Technology-Citrus Heights	n/a	7	100%	1	100%	1	0%						
Walnut Grove Fire District	CA-34020											7	57%
Agency Total		**259**	**87%**	**337**	**82%**	**184**	**68%**	**269**	**63%**	**304**	**82%**	**359**	**81%**
San Diego County EMS Agency													
Borrego Springs Fire Protection District	n/a	29	31%	12	42%	20	45%	20	25%	17	59%		
EMSTA Inc.	CA-37007	246	80%	276	83%	288	85%	333	74%	294	78%	290	76%
Grossmont Health Occupations Center	CA-37003	124	56%	60	77%	0		27	48%	45	44%	18	56%
Healthcare Academy of California	CA-37028									17	71%	71	48%
Link 2 Life, Inc.	n/a	33	61%	41	71%	39	49%	47	70%	11	73%		
Miramar College	CA-37005	367	83%	317	85%	338	82%	357	78%	357	85%	402	88%
National Polytechnic College	n/a	10	80%	17	59%	21	62%	7	57%	126	76%		
Palomar Community College	CA-37001	141	79%	172	85%	182	85%	215	79%	283	77%	301	82%
Southwestern Community College	CA-37006	62	84%	77	69%	65	85%	73	58%	69	59%	47	79%
US Border Patrol	n/a	20	85%	0		0							
WestMed College-Chula Vista	n/a	18	61%	0		0							
Agency Total		**1050**	**70%**	**972**	**71%**	**953**	**70%**	**1079**	**61%**	**1219**	**69%**	**1129**	**72%**
San Francisco EMS Agency													
City College of San Francisco	CA-38001	73	71%	82	66%	92	72%	67	60%	102	60%	91	67%
San Francisco Paramedic Association	n/a	109	98%	119	94%	26	96%						
University of San Francisco	CA-38008									23	91%	37	95%
Agency Total		**182**	**85%**	**201**	**80%**	**118**	**84%**	**67**	**60%**	**125**	**76%**	**128**	**81%**

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name	NREMT Program Code	2012		2013		2014		2015		2016		2017	
		# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
San Joaquin County EMS Agency													
Institute of Technology-Stockton	n/a	20	45%	6	17%	0							
Ripon Fire Department	CA-39003	31	58%	0		27	56%			10	60%	1	100%
San Joaquin County EMS Agency	n/a	5	40%	8	63%	0							
San Joaquin Delta College	n/a	1	100%	0		0							
Agency Total		**57**	**61%**	**14**	**40%**	**27**	**56%**	**0**	**0%**	**10**	**60%**	**10**	**60%**
San Luis Obispo County EMS Agency													
Cuesta College Allied Health-EMT	CA-40003	57	86%	52	77%	44	80%	44	75%	59	86%	64	75%
Agency Total		**57**	**86%**	**52**	**77%**	**44**	**80%**	**44**	**75%**	**59**	**86%**	**59**	**86%**
San Mateo County EMS Agency													
California EMS Academy Inc.	n/a	73	68%	0		0							
College of San Mateo	CA-41004	29	90%	34	97%	41	98%	35	94%	36	89%	41	98%
Skyline College	CA-41002	62	69%	55	85%	62	84%	60	87%	55	84%	55	78%
Agency Total		**164**	**76%**	**89**	**91%**	**103**	**91%**	**95**	**91%**	**91**	**87%**	**96**	**88%**
Santa Barbara County EMS Agency													
Allan Hancock College	CA-42001	25	68%	33	82%	35	54%	20	80%	35	49%	33	58%
Santa Barbara City College	CA-42002	121	82%	117	85%	97	79%	123	84%	95	78%	64	84%
Agency Total		**146**	**75%**	**150**	**84%**	**132**	**67%**	**143**	**82%**	**130**	**64%**	**97**	**71%**
Santa Clara County EMS Agency													
Foothill College	CA-43003											4	75%
Foothill Community College	CA-43008	93	66%	93	73%	101	70%	136	71%	108	81%	106	86%
Mission College	CA-43005	93	72%	71	63%	0		72	67%	80	66%	71	73%
National University	CA-37026											163	64%
San Jose City College	CA-43002	68	69%	87	72%	86	65%	47	83%	32	84%	33	79%
Silicon Valley Ambulance/ACE EMT Academy	CA-43012	24	67%	16	81%	33	61%	8	50%	10	60%	17	65%
South Bay Regional Public Safety Training	CA-43015									21	57%	20	55%
Stanford University	CA-43009	23	91%	20	100%	25	88%	16	100%	30	97%	23	100%
Sunnyvale Department of Public Safety	CA-43013	0		6	100%	10	100%	7	86%	18	100%	15	73%
Westmed College	n/a	61	56%	20	55%	0							
Agency Total		**362**	**70%**	**313**	**78%**	**255**	**77%**	**286**	**76%**	**299**	**78%**	**448**	**74%**

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name		2012		2013		2014		2015		2016		2017	
	NREMT Program Code	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Santa Cruz County EMS Agency													
Cabrillo College	CA-44002	60	82%	73	77%	75	71%	79	78%	83	65%	66	76%
Defib This EMT Program	CA-44004									78	62%	143	86%
Emergency Training Services, Inc.	n/a	92	67%	92	65%	53	51%						
Agency Total		**152**	**75%**	**165**	**71%**	**128**	**61%**	**79**	**78%**	**161**	**64%**	**209**	**81%**
Sierra-Sac Valley EMS Agency													
Absolute Safety Training EMT Program	CA-64004											24	46%
Burney Fire Protection District	CA-65036									6	50%	7	14%
Butte Community College	CA-65025	47	83%	51	71%	56	75%	48	75%	57	82%	60	80%
Cambridge Junior College	n/a									11	36%		
Institute of Technology	CA-65024	7	71%	6	67%	26	77%	19	84%	9	56%	6	50%
Karuk Tribe	CA-65039									3	67%	1	0%
NCTI- Bay Area	CA-65032									46	72%	43	81%
NCTI-Riverside	CA-65034									13	46%	13	62%
NCTI-Roseville	CA-65003	189	76%	196	82%	146	83%	96	77%	69	74%	74	80%
NCTI-Santa Barbara	CA-65035									51	92%	32	94%
NOLS Wilderness Medicine at COS	CA-65028	0		98	91%	97	91%	103	96%	99	97%	110	93%
Oroville Adult Education-AST	n/a									9	78%		
Placer School for Adults & PEP	n/a	6	67%	0		9	89%						
Sierra Community College	CA-65002	192	88%	168	85%	183	84%	217	79%	195	82%	173	79%
The 49er Regional Occupational Programs	n/a	7	86%	0		0							
Woodland Community College EMT Program	CA-65029	7	57%	23	87%	23	74%	20	65%			14	93%
Yuba Community College District	CA-65004	47	60%	37	51%	42	62%	21	86%	31	71%	26	88%
Agency Total		**502**	**74%**	**579**	**76%**	**582**	**79%**	**524**	**80%**	**599**	**69%**	**559**	**68%**
Solano County EMS Agency													
National Institute for Healthcare Education	n/a	8	38%	6	33%	6	83%			3	0%		
Solano Community College	CA-48001	36	81%	13	77%	15	60%	22	36%	31	58%	34	53%
Vallejo Regional Education Center	CA-48006											1	0%
Agency Total		**8**	**38%**	**6**	**33%**		**83%**	**0**	**36%**	**34**	**29%**	**35**	**27%**
Tuolumne County EMS Agency													
Columbia College	CA-55001	10	100%	14	79%	2	50%	8	88%	11	100%	13	85%
Agency Total		**10**	**100%**	**14**	**79%**	**2**	**50%**	**8**	**88%**	**11**	**100%**	**13**	**85%**

National Registry of EMTs, EMT Written Examination Results by Training Program

EMT Training Program Name		2012		2013		2014		2015		2016		2017	
	NREMT Program Code	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt	# Taken	% Pass 1st Attempt
Ventura County EMS Agency													
Conejo Valley Adult School	CA-56007	12	92%	24	100%	26	69%	26	77%	24	83%	37	78%
Charter College	CA-56015									22	59%	14	57%
EMS Training Institute Inc.	CA-56006	56	75%	81	63%	73	78%	93	71%	100	85%	11	82%
Moorpark College	CA-56001	16	75%	0		0				5	100%	49	80%
Oxnard College	CA-56002	105	59%	97	59%	115	64%	108	61%	104	71%	87	60%
Simi Valley Adult School	CA-56003	63	67%	57	63%	58	69%	60	65%	57	63%	60	68%
Ventura College	CA-56004	39	87%	50	74%	0		43	88%	58	67%	60	82%
Agency Total		**291**	**76%**	**309**	**72%**	**272**	**70%**	**330**	**72%**	**370**	**75%**	**318**	**72%**
Yolo County EMS Agency													
On-Site Medical Service-EMT-B-Training	CA-65023	57	86%	79	78%	108	73%	74	76%	46	80%	65	88%
University of California-Davis	n/a	59	71%	33	67%	0							
Agency Total		**116**	**79%**	**112**	**73%**	**108**	**73%**	**74**	**76%**	**46**	**80%**	**65**	**88%**
EMS Authority													
State Fire Marshal's Office													
Butte College Fire Academy	CA-94010	31	100%	35	94%	38	92%	37	86%	42	88%	32	88%
San Bernardino County Fire Department	n/a	0		11	45%	0		4	25%				
South San Francisco Fire EMT	n/a	0		6	50%	0				10	50%		
CA Dept. of Parks and Recreation													
Mott Training Center	CA-96001	0		23	96%	0		19	89%			30	100%
EMSA Total		**31**	**100%**	**75**	**71%**	**38**	**92%**	**60**	**67%**	**52**	**69%**	**62**	**94%**

National Registry of EMTs, Paramedic Written Examination Results by Training Program

		2012		2013		2014		2015		2016		2017	
Paramedic Training Program Name	**NREMT Program #**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**
Alameda County EMS Agency													
Fast Response School of Health	n/a									18	83%		
Las Positas College	CA-01001									2	100%	16	100%
National College of Technical Instruction- Livermore	CA-65032									96	79%	85	80%
Agency Total										**116**	**87%**	**101**	**90%**
Central California EMS Agency													
Fresno City College	n/a	1											
Fresno County Dept. of Health	CA-61002	22	95%	28	79%	27	81%	29	79%	22	77%	20	75%
West Hills College	CA-61004									5	40%	15	67%
WestMed College-Fresno	n/a									28	79%		
Agency Total		**22**	**95%**	**28**	**79%**	**27**	**81%**	**29**	**79%**	**55**	**65%**	**35**	**71%**
Coastal Valley EMS Agency													
Mendocino College Mendocino County	n/a	3	67%										
Santa Rosa Junior College	CA-66001	16	94%	16	100%	17	100%	12	100%	19	100%	14	93%
Agency Total		**19**	**81%**	**16**	**100%**	**17**	**100%**	**12**	**100%**	**19**	**100%**	**14**	**93%**
Imperial County EMS Agency													
Imperial Valley College	CA-13001	11	73%	1	100%	6	67%	14	71%	5	60%	1	0%
Agency Total		**11**	**73%**	**1**	**100%**	**6**	**67%**	**14**	**71%**	**5**	**60%**	**1**	**0%**
Inland County EMS Agency													
Hills College	CA-62009	11	91%	29	86%	19	74%	32	97%	22	82%	31	84%
Victor Valley Community College	CA-62006	14	86%	21	81%	25	72%	29	59%	26	69%	43	81%
Agency Total		**25**	**89%**	**50**	**84%**	**44**	**73%**	**61**	**78%**	**48**	**76%**	**74**	**83%**
Kern County EMS Agency													
Antelope Valley College	n/a	0	0%	21	71%			6	83%				
Bakersfield College Paramedic Program	CA-15004	18	100%	13	92%	9	100%	18	94%	10	80%	20	90%
Agency Total		**18**	**100%**	**13**	**82%**	**9**	**100%**	**24**	**89%**	**10**	**80%**	**20**	**90%**

National Registry of EMTs, Paramedic Written Examination Results by Training Program

		2012		2013		2014		2015		2016		2017	
Paramedic Training Program Name	**NREMT Program #**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**
Los Angeles County EMS Agency													
Los Angeles County Paramedic Training	CA-19008	86	76%	87	76%	84	76%	62	84%	62	86%	66	88%
Mt. San Antonio College	CA-19011	29	100%	43	100%	34	100%	30	90%	42	100%	13	100%
UCLA Paramedic Education Program	CA-19012	96	95%	97	94%	106	88%	111	88%	85	86%	105	90%
University of Antelope Valley	CA-19001									11	91%	19	84%
Agency Total		**247**	**94%**	**274**	**90%**	**224**	**88%**	**203**	**87%**	**200**	**90%**	**203**	**90%**
Napa County EMS Agency													
Napa Valley College	CA-66009	16	63%	15	73%	19	89%	11	100%	16	94%	8	88%
Agency Total		**16**	**63%**	**15**	**73%**	**19**	**89%**	**11**	**100%**	**16**	**94%**	**8**	**88%**
Northern California EMS Agency													
Absolute Safety Training Inc.	CA-64004	22	77%	17	65%	14	71%	16	69%	17	53%	10	30%
Agency Total		**22**	**77%**	**17**	**65%**	**14**	**71%**	**16**	**69%**	**17**	**53%**	**10**	**30%**
North Coast EMS Agency													
North Coast EMS	CA-63002	10	90%	1	100%	11	91%	19	74%	8	63%	16	75%
Agency Total		**10**	**90%**	**1**	**100%**	**11**	**91%**	**19**	**74%**	**8**	**63%**	**16**	**75%**
Orange County EMS Agency													
Saddleback College	CA-30005	24	75%	54	87%	36	81%	49	90%	19	84%	50	74%
Agency Total		**24**	**75%**	**54**	**87%**	**36**	**81%**	**49**	**90%**	**19**	**84%**	**50**	**74%**
Riverside County EMS Agency													
Moreno Valley College	CA-19011	15	93%	17	88%	18	83%	20	80%	24	83%	22	95%
National College of Technical Instruction - Riverside	CA-65034									67	76%	100	75%
Agency Total		**15**	**93%**	**17**	**88%**	**18**	**83%**	**20**	**80%**	**91**	**80%**	**122**	**85%**
Sacramento Valley EMS Agency													
American River College	CA-34001	8	100%	5	80%	8	100%	13	92%	9	89%	9	100%
Univ. Sacramento, Pre-Hospital Education Program	CA-34006	32	66%	50	72%	53	72%	52	67%	51	78%	57	81%
Emergency Medical Sciences Training Inst.	n/a	35	89%										
Agency Total		**110**	**86%**	**55**	**76%**	**61**	**86%**	**65**	**80%**	**60**	**84%**	**66**	**91%**

National Registry of EMTs, Paramedic Written Examination Results by Training Program

		2012		2013		2014		2015		2016		2017	
Paramedic Training Program Name	**NREMT Program #**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**
San Diego EMS Agency													
EMSTA Inc.	CA-37007	39	95%	35	69%	39	95%	33	85%	21	71%	43	86%
National College of Technical Instruction	n/a									2	50%		
Palomar Community College	CA-37001	41	98%	30	93%	44	95%	39	95%	35	97%	64	84%
Southwestern Community College	CA-37006	20	95%	15	93%	20	100%	25	100%	14	100%	16	100%
Westmed College Chula Vista	n/a			8	100%	18	83%	10	80%				
Agency Total		**100**	**96%**	**80**	**89%**	**121**	**93%**	**107**	**90%**	**72**	**80%**	**123**	**90%**
San Francisco EMS Agency													
City College of San Francisco	CA-38001	16	88%	14	86%	17	94%	5	80%	25	84%	24	100%
Agency Total		**16**	**88%**	**14**	**86%**	**17**	**94%**	**5**	**80%**	**25**	**84%**	**24**	**100%**
San Joaquin EMS Agency													
Emergency Responders Academy of Learning	n/a	2	0%										
Agency Total		**2**	**0%**										
San Luis Obispo County EMS Agency													
Cuesta College-CCPP	CA-40001	15	93%	16	64%	7	100%	16	81%	10	80%	14	79%
Agency Total		**15**	**93%**	**16**	**64%**	**7**	**100%**	**16**	**81%**	**10**	**80%**	**14**	**79%**
San Mateo County EMS Agency													
California EMS Academy Inc.	n/a	4	75%	17	65%	1	100						
Agency Total		**4**	**75%**	**17**	**65%**	**1**	**100**						
Santa Barbara County EMS Agency													
National College of Technical Instruction- Santa Barbara	CA-65035									17	88%	1	0%
Agency Total										**17**	**88%**	**1**	**0%**
Santa Clara County EMS Agency													
Foothill College	CA-43003	12	92%	22	100%	18	83%	30	80%	27	96%	29	97%
Westmed College- San Jose	CA-43014	11	82%	20	70%	14	79%	5	20%	24	83%	22	82%
Agency Total		**23**	**87%**	**42**	**85%**	**32**	**81%**	**35**	**50%**	**51**	**90%**	**51**	**90%**

National Registry of EMTs, Paramedic Written Examination Results by Training Program

		2012		2013		2014		2015		2016		2017	
Paramedic Training Program Name	**NREMT Program #**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**	**# Taken**	**% Pass 1st Attempt**
Santa Cruz County EMS Agency													
Emergency Training Services, Inc.	n/a	18	61%	29	86%	22	77%	13	77%				
Agency Total		**18**	**61%**	**29**	**86%**	**22**	**77%**	**13**	**77%**				
Sierra-Sac Valley EMS Agency													
Butte Community College	CA-65025	10	90%	16	75%	8	88%	14	64%	12	83%	9	100%
National College of Technical Instruction -Roseville	CA-65003	251	87%	319	78%	242	78%	62	77%	71	72%	73	90%
College of the Siskiyous	CA-65026			9	67%	22	82%	15	100%	20	90%	17	100%
Agency Total		**261**	**80%**	**344**	**73%**	**272**	**83%**	**91**	**80%**	**103**	**82%**	**99**	**97%**
Ventura County EMS Agency													
Ventura College	CA-56004	14	100%	12	100%	8	100%	14	86%	16	81%	23	83%
Agency Total		**14**	**100%**	**12**	**100%**	**8**	**100%**	**14**	**86%**	**16**	**81%**	**23**	**83%**

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Jennifer Lim, Deputy Director
Legislative, Regulatory, and External Affairs

SUBJECT: Regulations Update

RECOMMENDED ACTION:

For information only.

FISCAL IMPACT:

There is no fiscal impact.

DISCUSSION:

The following information is an update to the regulation rulemaking calendar approved by the Commission on EMS on December 6, 2017. In accordance with Health and Safety Code Section 1797.107, the Emergency Medical Services Authority is promulgating the following regulations:

	Chapter	Status
1.1	Training Standards for Child Care Providers	Under review by the Emergency Medical Services Authority
4	Paramedic	Under review by the California Health and Human Services Agency
7.1	ST-Elevation Myocardial Infarction (STEMI) Systems of Care	Under review by the Department of Finance
7.2	Stroke Systems of Care	Under review by the Department of Finance
10	California Emergency Medical Technician Central Registry	Under review by the Emergency Medical Services Authority
12	Emergency Medical Services System Quality Improvement	Under review by the Emergency Medical Services Authority
14	Emergency Medical Services for Children	Open for public comment March 16, 2018

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Sean Trask, Chief
EMS Personnel Division

SUBJECT: Ventura County EMS Agency's 36-Month Air-Q Trial Study Report

RECOMMENDED ACTION(S):

1. Receive information on the status of current trial studies and the preliminary 36-month trial study report on the Ventura County EMS Agency's Air-Q Airway Device.
2. Recommend that supra-glottic airway devices be added as a local optional scope item (California Code of Regulations, Title 22, Division 9 Chapter 4 §100147(j)(2)).

FISCAL IMPACT:

No fiscal impact.

DISCUSSION:

Air-Q Airway Device - Ventura County and Santa Barbara County EMS Agencies
On November 26, 2013, the EMS Authority received a trial study request from the Ventura County to study the effectiveness of their paramedics placing an Air-Q (supra-glottic) airway device in lieu of other advanced and basic airway management techniques. In 2015, Santa Barbara County requested permission to run a similar trial study. Both trial studies were approved by the EMS Authority. The Ventura County arm of this trial study started enrolling patients on December 12, 2014. The Santa Barbara County arm of this trial study started enrolling patients on May 18, 2015. Dr. Angelo Salvucci presented the findings from the Ventura County trial study at the December 14, 2016 Commission on EMS meeting. At this meeting the Commission recommended to the EMS Authority Director to extend the Ventura County trial study for an additional 18-months. The 18-month period expires on June 12, 2018. Attached is Ventura County's 36-month report and recommendations.

Description of the Device:

The Air-Q airway is a supra-glottic airway device similar to the laryngeal mask airway that is inserted blindly and sits above the vocal cords.

Purpose of the Study:

The purpose of this study is to evaluate the safety and effectiveness of the Air-Q airway when used by paramedics in the prehospital setting. The hypothesis of the study is that the Air-Q will be easier and quicker to insert than an endotracheal tube, provide better ventilation and aspiration protection than a bag-valve-mask, and be safer (risk of aspiration, reduction of carotid blood flow) than laryngeal tubes such as the King Airway.

For this trial study, the Air-Q would be used as an airway adjunct during cardiac arrest, respiratory failure with a decreased level of consciousness, or for an altered level of consciousness that requires an airway intervention. In the early part of both arms of this trial study, the Air Q was the primary airway in cardiac arrests. In July of 2015 the Air-Q device was changed to an alternate airway for cardiac arrests if BLS airway management techniques were not successful. There were two reasons for this change:

1. The mechanism to secure the Air-Q was not adequate. This was later changed to a device similar to the ones used to secure endotracheal tubes.

2. The need for a larger diameter suctioning tube to suction vomitus from the bowl of the airway. The suctioning issue is being addressed through redesign by the manufacturer of the Air-Q and by using a different suctioning device.

VENTURA COUNTY PUBLIC HEALTH

A Department of Ventura County Health Care Agency

Rigoberto Vargas, MPH
Director

Steven L. Carroll, EMT-P
EMS Administrator

Daniel Shepherd, MD
EMS Medical Director

Angelo Salvucci, MD, FACEP, FAEMS
Assistant EMS Medical Director

February 25, 2018

Howard Backer, MD, MPH, FACEP
Director, California Emergency Medical Services Authority
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670

Dear Dr. Backer:

This is the 36-month report on the Ventura County EMS trial on the paramedic use of the air-Q sp. On page 2 is a table of the results through December 2107.

There has been a total of 274 patients with an attempt to place the device with complete documentation in 270. Since the 18-month report there have been only 4 attempts - with 100% success – 2 “no air leak” and 2 “small air leak”, none with regurgitation or other complication.

Overall There were 9 failures to insert. We have defined a successful insertion as “no air leak” or “small air leak”. There were 217 cases of successful insertion, for an overall success rate of 80.0%

The air-Q was initially made the primary airway device, to be utilized after initial cardiac arrest measures (CPR, defibrillation, vascular access, first medication(s)). Revisions in Cardiac Arrest Management training has been a confounder in evaluating cardiac arrest outcomes, but we did not see an improvement during the initial portion of the trial. Because of this we altered our airway treatment protocol in July 2015 to make the air-Q an optional advanced airway device, to be considered if bag-mask ventilation was inadequate.

The two primary concerns with the device was an inadequate securing mechanism and regurgitated stomach contents. An improved securing device, similar to a standard endotracheal tube holder, is now available and has worked well. The manufacturer is just now shipping a more effective suction mechanism to address regurgitation.

The role of supraglottic devices in the management of cardiac arrest patients remains unclear. The air-Q appears to be an effective airway. The improved suction device may reduce the incidence of regurgitation but this has not been evaluated to date. We recommend that the air-Q be added to the Paramedic Local Optional Scope of Practice.

Sincerely,

Angelo Salvucci, MD, FACEP
Assistant Medical Director

Ventura County EMS Agency
Use of air-Q
December 12, 2014 to December 31, 2017

Note: on July 10, 2015, the air-Q was moved in priority of airway management from primary to secondary, to be used only if BLS airway management techniques were not successful

Total patients with an attempt to place air-Q		273	%
Ease of Use	Very Easy to Use	71	26.0%
	Easy to Use	106	38.8%
	Neither Easy nor Difficult to Use	58	21.2%
	Difficult to Use	29	10.6%
	Impossible to Use	5	1.8%
	Not Documented	4	1.5%
Did patient vomit with air-Q?	Yes	70	25.6%
	No	199	72.9%
	Not Documented	4	1.5%
If vomiting, did air-Q allow adequate suctioning? (N=70)	Yes	32	45.7%
	No	34	48.6%
	Not Documented	4	1.5%
Did securing strap function well?	Yes	171	62.6%
	No	98	35.9%
	Not Documented	4	1.5%
Was seal adequate for ventilation?	Yes, no audible air leak noted	139	50.9%
	Small audible air leak noted	77	28.2%
	No, large audible air leak; unable to ventilate	44	16.1%
	NA, unable to insert	8	2.9%
	NA, “not placed due to rigor”	1	0.36%
	Not Documented	4	1.5%
Complications	NO complications	174	63.7%
	Failure to ventilate	46	16.8%
	Gastric distention	19	7.0%
	Bleeding	15	5.5%
	Unable to insert	11	4.0%
	Difficult to insert	3	1.1%
	Unable to insert “rigor”	1	0.36%
	Not Documented	4	1.5%

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Sean Trask, Chief
EMS Personnel Division

SUBJECT: ICEMA, Riverside County, and Alameda County EMS Agencies
Trial Study Report

RECOMMENDED ACTION:

Receive the combined 36-month trial study report from the Riverside County, Alameda County, and Inland Counties EMS Agencies TXA. Approve the addition of TXA to the paramedic local optional scope.

FISCAL IMPACT:

No fiscal impact.

DISCUSSION:

Study Design:
This is a multi-centered, prospective, observational cohort study. From March 2015 to July 2017, patients ≥ 18-years-old who sustained blunt or penetrating trauma with signs of hemorrhagic shock who met inclusion criteria identified by first responders in the prehospital setting were considered for TXA treatment. Initially San Bernardino County and Riverside County participated in this trial study. Alameda County was added in 2016, all three counties have level I and II trauma centers. A control group was formed of patients seen in the five years prior to data collection cessation (June 2012 to July 2017) at each receiving center who were not administered TXA. Control group patients were selected through propensity score matching based on gender, age injury severity scores, and mechanism of injury. The primary outcome measured was mortality. Secondary outcomes measured included the total blood products transfused, the hospital and intensive care unit length of stay, and the incidence of known adverse events associated with TXA.

Results:
A total of 724 patients were included in the final analysis, with 362 patients in the TXA intervention and control group. Improved mortality was noted at 28-days in the TXA intervention in comparison to the control group (3.6% vs 8.3% for TXA intervention and

control, respectively, p<0.0075). The mortality difference was greatest in severely injured patients. A trend toward a decreased mortality at 24-hours and 48-hours was also observed in the TXA intervention group, although these differences were not statistically significant (1.9% vs 3.6%,p=0.1737, and 2.8% vs 4.4%, p=0.2308, respectively). Furthermore, a significant reduction in total blood product transfused was observed after TXA administration (p<0.0001).

Conclusion:
Findings from this trial study suggest that TXA use in the civilian prehospital setting may safely improve mortality outcomes in patients who have sustained traumatic injury with signs of hemorrhagic shock.

Inland Counties Emergency Medical Agency
1425 South D Street, San Bernardino, CA 92415-0060 ▪ (909) 388-5823 ▪ Fax (909) 388-5825 ▪ www.icema.net

Serving San Bernardino, Inyo, and Mono Counties
Tom Lynch, EMS Administrator
Reza Vaezazizi, MD, Medical Director

February 6, 2018

Howard Backer, MD, MPH, FACEP, Director
Emergency Medical Services Authority
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670

Dear Dr. Backer:

On behalf of Doctors Benson, Neeki, Sporer and myself, please accept this report on the trial study "*Tranexamic Acid in Prehospital Civilian Trauma Care in the California Prehospital Antifibrinolytic Therapy Study*".

We are prepared to present this at the March 21, 2018, Commission on EMS meeting with the recommendation to add Tranexamic Acid to Local Optional Scope of Practice for Paramedics in California.

If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Reza Vaezazizi, MD
Medical Director

RV/jlm

Enclosure

c: Peter Benson, MD, Napa County EMS
Michael Neeki, MD, Arrowhead Regional Medical Center
Karl Sporer, MD, Alameda County EMS
File Copy

Tranexamic Acid in Prehospital Civilian Trauma Care in the California Prehospital Antifibrinolytic Therapy Study

FINAL REPORT

February 6, 2018

Prepared for:
State EMS Authority

By:
Michael Neeki, MD, Arrowhead Regional Medical Center

Reza Vaezazizi, MD, Medical Director
Inland Counties Emergency Medical Agency/ Riverside County Emergency Medical Services Agency

Tranexamic Acid in Prehospital Civilian Trauma Care in the California Prehospital Antifibrinolytic Therapy Study

Short title: **TXA in Prehospital Traumatic Hemorrhagic Shock**

Word Count: 3,780

Michael M. Neeki, DO, MS[a,k] - michaelneeki@gmail.com

Fanglong Dong, PhD[b] - fanglong.dong@gmail.com

Jake Toy, BA[a] – jake.toy@gmail.com

Reza Vaezazizi, MD[c,d] - reza.vaezazizi@cao.sbcounty.gov

Joe Powell, EMT-P[e] - jpowell@confire.org

David Wong, MD[f,k] - davewo@msn.com

Michael Mousselli, BS[a] - michael.mousselli@westernu.edu

Massoud Rabiei, BS[a] - massoud.rabiei@gmail.com

Alex Jabourian, DO[a] - jabouriaa@armc.sbcounty.gov

Nichole Niknafs, DO[a] - nniknafs10@gmail.com

Troy Pennington, DO [a,k] - troypenn@aol.com

Richard Vara, RN[a] - varari@armc.sbcounty.gov

Shanna Kissel, RN, MSN[d] - shkissel@rivcocha.org

Xian Luo-Owen, MD, PhD[g] - xluoowen@llu.edu

Karen R. O'Bosky, MD[g] - kobosky@llu.edu

Daniel Ludi, MD[h] - danludi@gmail.com

Karl Sporer, MD[i] - karl.sporer@acgov.org

Tommy Lee MD[f,k] - leetom@armc.sbcounty.gov

Rodney Borger, MD[a,k] - borgerr@armc.sbcounty.gov

Eugene Kwong, MD [a,k] - ggkwong@aol.com

[a] Department of Emergency Medicine, Arrowhead Regional Medical Center, 400 N Pepper Ave, Colton, CA, 92324, USA

[b] Graduate College of Biomedical Sciences, Western University of Health Sciences, 309 E 2nd St. Pomona CA 91766, USA

[c] Inland Counties Emergency Medical Agency, 1425 South D Street, San Bernardino County, CA, 92415, USA

[d] Riverside County Emergency Services Agency, 4210 Riverwalk Pkwy, Suite 300, Riverside, CA, 92505, USA

[e] City of Rialto Fire Department, 131 S Willow Ave, Rialto, CA, 92376, USA

[f] Department of General Surgery, Arrowhead Regional Medical Center, 400 N Pepper Ave, Colton, CA, 92324, USA

[g] Department of General Surgery, Loma Linda University Medical Center, 11234 Anderson St. Loma Linda, CA, 92354, USA

[h] Department of Surgery, Riverside University Health System Medical Center, 26520 Cactus Ave, Moreno Valley, CA 92555

[i] Alameda County Emergency Medical Services Agency, 1000 San Leandro Blvd, Suite 200, San Leandro, CA, 94577, USA

[j] California University of Sciences and Medicine, 1405 W Valley Boulevard, Suite 101, Colton, CA, 92321, USA

Corresponding Author: All questions should be addressed to Michael Neeki, DO, MS, Department of Emergency Medicine, Arrowhead Regional Medical Center, 400 N Pepper Ave, Medical Office Building Suite 7, Colton, CA, 92324

Phone: 909-528-6332 Email: michaelneeki@gmail.com

No conflicts of interest.

This manuscript has not been presented at prior conferences or meetings.

No funding was received.

ABSTRACT

BACKGROUND: The California Prehospital Antifibrinolytic Therapy (Cal-PAT) study seeks to evaluate the safety and efficacy of TXA use in the civilian prehospital setting in cases of traumatic hemorrhagic shock.

METHODS: The Cal-PAT study is a multi-centered, prospective, observational cohort study. From March 2015 to July 2017, patients ≥ 18-years-old who sustained blunt or penetrating trauma with signs of hemorrhagic shock identified by first responders in the prehospital setting were considered for TXA treatment. A control group was formed of patients seen in the five years prior to data collection cessation (June 2012 to July 2017) at each receiving center who were not administered TXA. Control group patients were selected through propensity score matching based on gender, age injury severity scores, and mechanism of injury. The primary outcome measured was mortality. Secondary outcomes measured included the total blood products transfused, the hospital and intensive care unit length of stay, and the incidence of known adverse events associated with TXA.

RESULTS: A total of 724 patients were included in the final analysis, with 362 patients in the TXA intervention and control group. Improved mortality was noted at 28-days in the TXA intervention in comparison to the control group (3.6% vs 8.3% for TXA intervention and control, respectively, $p<0.0075$). The mortality difference was greatest in severely injured patients. A trend toward a decreased mortality at 24-hours and 48-hours was also observed in the TXA intervention group, although these differences were not statistically significant (1.9% vs 3.6%, $p=0.1737$, and 2.8% vs 4.4%, $p=0.2308$, respectively). Furthermore, a significant reduction in total blood product transfused was observed after TXA administration ($p<0.0001$).

CONCLUSIONS: Findings from the Cal-PAT study suggest that TXA use in the civilian prehospital setting may safely improve mortality outcomes in patients who have sustained traumatic injury with signs of hemorrhagic shock.

Introduction:

In the United States, traumatic injury is the leading cause of death and disability among those aged one to 44 years old.[1] Amongst trauma victims, hemorrhage accounts for 30% to 40% of the mortality.[2-4] Within the prehospital setting, hemorrhage is one of the top causes of death and comprises the largest portion of preventable deaths.[2,3] Significant blood volume loss leads to the depletion of coagulation factors and activation of the coagulation system. Combined, these factors threaten the body's ability to maintain hemodynamic stability and may result in cardiovascular collapse. The burden of trauma-induced acute coagulopathies has been demonstrated in more than half of trauma patients following arrival to trauma centers and has been associated with a significant increase in the risk of trauma-induced mortality.[5-9] Historically, paramedics have not had access to medications that specifically target the reversal of acute coagulopathies secondary to trauma.[3,4] As biotechnological advances enable better detection and understanding of trauma-induced coagulopathies, a significant portion of patients have been identified that may benefit from early reversal of traumatic coagulopathies, leading to a possible reduction in associated mortality.[10-12]

Tranexamic acid (TXA) is a synthetic derivative that inhibits fibrinolysis and has been shown to be efficacious when administered in the hospital setting in the treatment of hemorrhagic shock. In 2010, the CRASH-2 (Clinical Randomization of an Antifibrinolytic in Significant Hemorrhage-2) study suggested that TXA was associated with a 1.5% reduction (14.5% vs. 16%) in all-cause mortality at 28 days when administered within eight hours of injury without an increase in thromboembolic events.[13] In 2011, a post-hoc analysis showed that early TXA treatment within three hours from the time of injury in the hospital setting resulted in a

1.6% decrease in death due to bleeding; the reduction in mortality increased to 2.4% if administered within one hour from injury.[14]

Despite evidence surrounding TXA use in the hospital setting, a gap in knowledge exists surrounding the prehospital use of TXA in the civilian setting. Multiple small studies have demonstrated the feasibility of TXA administration in the prehospital setting and ability of paramedics to identify signs of hemorrhagic shock.[15-18] Two recent investigations focusing on civilian injuries in Germany and Japan further suggest that prehospital TXA use may reduce mortality in severely injured trauma victims.[19,20] The retrospective nature of these studies and lack of standardized dosages and algorithms for TXA administration limits the generalizability of these findings. This paucity of data has limited the widespread implementation of TXA in the United States civilian prehospital setting.

The California Prehospital Anti-fibrinolytic Therapy (Cal-PAT) study was designed to evaluate the safety and efficacy of TXA use in the civilian prehospital setting in cases of traumatic hemorrhagic shock. A preliminary report during ongoing data collection from the Cal-PAT study was published in 2017.[21] The current study updated the original Cal-PAT findings following expanded data collection.

METHODS:

Cal-PAT Study Overview

The Cal-PAT study is a multi-centered, prospective, observational cohort study. The study was initiated in March 2015 in two Southern California counties – San Bernardino and Riverside. In early 2016, Alameda County joined the study. All eight receiving centers are designated Level I and Level II county trauma centers. A total of 30 EMS agencies were

involved across all counties. Current data collection for this study in all counties concluded in July 2017. Notably, Napa County joined the study in 2016; however, no administration of TXA was recorded during this study period. All prehospital protocols were approved by the California Emergency Medical Services Authority (EMSA) and carried out with close supervision and oversight at both the local and state level. Hospital TXA administration protocols were approved by the Institutional Review Boards of each participating receiving trauma center. At each institution, TXA was incorporated into the massive transfusion protocol as a standard of care for trauma patients.

Data collection, Protocols, Outcomes

All patients ≥18-years-old who sustained blunt or penetrating trauma with signs and symptoms of hemorrhagic shock were considered for TXA treatment upon meeting inclusion criteria (Table 1). Patients receiving TXA were enrolled into the TXA intervention group. Patient selection in the prehospital setting was determined by paramedics on ground ambulances and by registered nurses on helicopter transport units. Paramedics and registered nurses underwent a standardized training session that included guidelines for TXA candidate identification, protocol for TXA administration, and the medication side effect profile. They were also educated on the inclusion and exclusion criteria of this study and had access to real-time consultation with physicians at the participating trauma centers to address any concerns regarding patient selection or TXA administration.

TXA was delivered in two doses following the protocol utilized in the CRASH-2 trial.[13,22] The first dose was 1 gram of TXA in 100 ml of 0.9% normal saline infused over 10 minutes via intravenous or intraosseous access. This first dose was administered by ground paramedics or registered nurses as soon as feasible after patient assessment and screening.

Identification of study patients receiving TXA was achieved through a wristband labeled “TXA”, verbal communication at patient hand off by EMS, and/or by EMS run sheet. Following arrival to a participating trauma center, patients who received prehospital TXA were identified and re-assessed by trauma team members for signs of continued hemorrhagic shock. Patients that continued to meet the study criteria (Table 1) received a second dose of 1 gram of TXA in 100 ml of 0.9% normal saline infused over eight hours via intravenous infusion. A patient may have received only one dose of TXA if they arrived to the trauma center and no longer met study inclusion criteria (Table 1). Patients who were deceased upon arrival (declared dead on arrival with minimal resuscitation effort or failed to respond to resuscitation after 15 minutes in the ED), those who received TXA for non-trauma indications, and those who received TXA and were determined to be less than 18 years old upon arrival were excluded from the study.

The control group was formed of patients seen at each receiving center within five years prior to the conclusion of data collection for this report (June 2012 to July 2017). Patients included those who were not administered TXA because they were brought in by an EMS provider group not carrying TXA or because they were transported to the hospital by any means other than a designated EMS provider (e.g. friends, family, self). The control group patients met the same study criteria (Table 1) as those in the TXA intervention group. The control group patients were matched to TXA intervention group patients through utilization of propensity scoring based upon gender, age, injury severity score (ISS), and mechanism of injury.

The primary outcome of this study was mortality, measured at 24 hours, 48 hours, and 28 days. Secondary outcomes included total blood products transfused during resuscitation efforts and during the hospital stay, the hospital and intensive care unit (ICU) length of stay, and the incidence of known adverse events associated with TXA administration including

thromboembolic events (e.g. deep vein thrombosis, pulmonary embolism), myocardial infarction, and neurological events (e.g. stroke, seizure).

Statistical Analysis

All statistical analyses were conducted using the SAS software for Windows version 9.3 (Cary, North Carolina, USA). Descriptive statistics were presented as means and standard deviation for continuous variables, along with frequencies and proportions for categorical variables. Chi-square analyses were conducted to identify if there is a difference on the mortality at 24 hours, 48 hours, and 28 days between the control and intervention groups. Independent T-tests were conducted to identify whether there were differences of continuous variables (e.g., age) between the control and intervention groups. Wilcoxon rank sum tests were conducted to identify whether the median of some continuous variables (e.g., hospital length of stay) was different between the control and intervention groups. Three subgroup analyses were conducted to assess outcomes of patients, including (1) those who received one dose of TXA in comparison to two doses of TXA; (2) those who were severely injury (ISS ≥16), and (3) those who sustained significant blood loss (≥10 units of total blood products transfused). All statistical analyses were two-sided. P-value<0.05 was considered to be statistically significant.

Results:

A total of 362 patients were included in the final intervention group (Figure 1). To eliminate the confounding effect of age, ISS, and mechanism of injury, a propensity matching was conducted based on these three factors to select 362 patients as the control group. As a result, 724 patients were included in the final analysis. As expected per the propensity matching process, there was no statistically significant difference in age (37.96 vs 37.64 years for intervention and control, respectively, p=0.7904), ISS (16.08 vs 17.15 for intervention and

control, respectively, p=0.2009), and mechanism of injury (percentage of blunt trauma was 36.4% for both intervention and control, respectively, p=1).

Clinical outcomes were compared between the intervention and control group. The analysis results were presented in Table 2. Analysis demonstrated a trend toward a lower mortality rate in the intervention group at 24 hours (1.9% vs 3.6%, p=0.1737), 48 hours (2.8% vs 4.4%, p=0.2308), and 28 days (3.6% vs 8.3%, p<0.0075). The overall mortality at 28 days yielded a statistically significant difference between the intervention and control group. Additionally, the intervention group received fewer units of total blood products transfused (median of 1 vs 3 units, p<0.0001), had shorter hospital length of stay (median of 4 vs 8 days, p<0.0001), and shorter intensive care unit (ICU) length of stay (median of 4 vs 5 days, p=0.0047). No differences in the incidence of thromboembolic, myocardial infarction, or neurologic events were noted between the intervention and control group.

A subgroup analysis was conducted to identify the difference between patients who received one dose versus two doses of TXA. The analysis results were presented in Table 3. Compared with patients who received one dose of TXA, those who received two doses of TXA required more blood transfusions (median of 0 vs 3 units of blood product, p<0.0001). There is no statistically significant difference on mortality, hospital and ICU LOS between one dose versus two doses of TXA.

A second subgroup comparison of intervention versus control was conducted among patients who required massive transfusion (≥ 10 units of blood product). The analysis results were presented in Table 4. The intervention group showed a trend toward lower mortality at 24 hours (5.6% vs 8.7%, p=0.4819) and 48 hours (7% vs 13%, p=0.2367). The overall mortality at 28 days (8.5% vs 23.2%, p=0.0166) yielded a statistically significant difference between the

intervention and control group. There is no statistically difference on other clinical outcomes, including total blood products transfused, hospital and ICU LOS, between the intervention and control group (all p-values>0.05).

A third subgroup comparison of TXA versus control was conducted among patients with ISS score ≥ 16. The analysis results were presented in Table 5. The intervention group had lower mortality at 24 hours (4.2% vs 4.7%, p=0.8278), 48 hours (5.4% vs 6.4%, p=0.6842). The overall mortality at 28 days (6% vs 14.5%, p=0.0092) yielded a statistically significant difference between the intervention and control group. There is no statistically difference in other clinical outcomes, including total blood products transfused, hospital length of stay, and ICU length of stay between the control and TXA groups (all p-values>0.05).

Lastly, the median time for paramedics to administer TXA from the estimated time of injury was 33 minutes (interquartile range: 26 min, 46 min).

DISCUSSION

This prospective investigation examining the use of prehospital TXA in cases of traumatic hemorrhagic shock suggests that prehospital TXA use is associated with improved mortality outcomes. Reduced mortality was demonstrated at 28 days and a trend toward reduced mortality was noted at 24 and 48 hours. To our knowledge, this is the first large-scale civilian study to systematically examine prehospital TXA administration in trauma patients in the North America.

Reduced mortality noted in this study may be attributed to the antifibrinolytic properties of TXA. Though disputed in the literature, evidence suggests that up to 15% of trauma patients may be in a state of hyperfibrinolysis at the scene as noted on rotational thromboelastometry

(ROTEM) while more than half of trauma patients may be in a state of moderate to severe fibrinolysis upon arrival to the hospital.[5,7-9,12,23] These coagulopathies often begin within minutes of injury and worsen during transportation from the scene to the hospital.[7,9,12] This can threaten clot integrity and result in increased blood loss, morbidity, and mortality.[8,9] The antifibrinolytic properties of TXA may act to slow or stop progression of coagulopathies that contribute to excessive blood loss and disruption of hemodynamic stability. The current study showed a reduction in the total blood products transfused in those administered TXA. However, TXA appears to exert an effect beyond 24 hours, after the risk of bleeding has decreased.[3] This may be a result of the antiinflammatory effects of TXA that are mediated through a reduction in the magnitude of the plasmin level, thus reducing the pro-inflammatory effect of plasmin.[24,25] This may be responsible for the observed trend toward decreased mortality at 48 hours and greater. Though the exact mechanism is not clear, current evidence demonstrates that the therapeutic mechanism of TXA is likely multifactorial in nature.

In particular, severely injured trauma patients appear to benefit most from TXA. This may be attributed to an increased incidence of acute coagulopathies among patients who have sustained severe traumatic injury as detected on ROTEM.[7,9,26] Kunze-Szikszay et al. assessed for acute coagulopathies noted on ROTEM in severely injured trauma patients before and after prehospital TXA administration.[12] Despite no ROTEM changes following prehospital TXA, authors concluded that TXA might have reduced unnecessary fibrinogen consumption due to fibrinolysis after comparing the results to those of Theusinger et al.. This study showed significant deterioration of relevant ROTEM clot parameters between the scene and hospital when TXA was not administered.[7] However, the study by Kunze-Szikszay et al. was limited by a small sample size. Additionally, Moore et al. demonstrated that TXA use in severely injury

patients might result in adverse outcomes in select patients in a state of fibrinolysis shutdown or hyperfibrinolysis.[8] Nonetheless, multiple other investigations of TXA use in the civilian prehospital and hospital setting found that TXA was most beneficial amongst severely injured trauma patients.[19,20,27] Two additional retrospective studies of adults and children injured in the combat setting, the MATTERS (Military Application of Tranexamic Acid in Trauma Emergency Resucitation) study and PED-TRAX (Pediatric Trauma and Tranexamic Acid), respectively, echoed this observation as well.[28,29] Though TXA use in severely injured trauma patients may be beneficial, it appears both the exact candidate selection criteria and mechanism of action conferring benefit remain unclear.

To date, CRASH-2 represents the only randomized controlled trial assessing TXA in civilian adult trauma.[13] Investigators enrolled 20,211 adult trauma patients with signs of hemorrhagic shock across 274 hospitals in 40 countries. The CRASH-2 findings suggested that TXA given in the hospital within three hours of injury led to a significant decrease in all-cause mortality at 28 days. Yet, the effectiveness and impact of the CRASH-2 conclusions are controversial.[23,30] Lack of standardized inclusion protocols between hospitals, many of which were part of underdeveloped trauma systems, along with unclear reporting of adverse events and other variables has contributed to the unclear nature of the CRASH-2 findings. Additionally, few retrospective and prospective studies with varying conclusions regarding the impact of prehospital TXA use have further contributed to the slow implementation of TXA in trauma systems within the United States and other developed countries.[19,20]

In regards to assessing the known side effect profile associated with TXA use, the majority of studies note a limited incidence of adverse events. Though controversial, the CRASH-2 trial reported no increase in thromboembolic events in patients given TXA in the

hospital setting.[13] Among other observational studies assessing prehospital TXA in the civilian setting, no increase in multiple organ failure, sepsis, or thromboembolic events were noted.[19,20] Notably, the MATTERs study noted a slight increase in thromboembolic events in patients administered TXA; however, authors postulated that a higher injury burden within the combat setting may be associated with an increased incidence of thromboembolic events.[12] The current study showed no increase in thromboembolic events, myocardial infarctions, or neurologic events among patients receiving TXA. In one case in this study, a young male patient who received TXA following a head-on, high-speed, motor vehicle accident with multiple long bone fractures experienced a hemisphere ischemic stroke forty hours after admission. Repeat computed tomography (CT) scan of his head revealed a new large ischemic infarct in the right middle cerebral artery distribution with moderate mass effect and midline shift. Suspecting traumatic vascular injury, a computed tomography angiography (CTA) study was ordered but not completed after a family decision to instate a do not resuscitate (DNR) order. Without this definitive imaging study, a thromboembolic complication secondary to TXA could not be ruled out; however, it was considered remote since its relationship with respect to presentation and timing make it unlikely. An additional case of ischemic stroke occurred in an elderly individual following a high-speed motor vehicle accident where the patient presented with altered mental status, scalp lacerations and a possible small subdural hematoma as well as multiple long bone fractures. On hospital day two, the patient was diagnosed with an ischemic stroke which neurosurgery attributed to fat emboli from long bone fractures. Similar to the previous case, a severe mechanism of injury leading to an ischemic stroke with likely etiology made an adverse event directly resulting from TXA administration less likely. Additionally, no increase in

hospital or ICU stay was noted in the current study, further supporting a relatively non-complicated course among patients administered TXA.

The exact dosing of TXA in the setting of traumatic injury remains unclear.[23] A fixed 1 gram dose administered in the field followed by a possible maintenance dose was deemed most practical in an emergency situation.[13] In the current study, 64.9% of patients were only administered the first dose of TXA. This may have occurred when a patient no longer satisfied the inclusion criteria for a second TXA dose upon arrival to a participating trauma center, or less often, due to lack of adherence to research protocol. No difference in mortality was observed between those receiving one dose versus two doses of TXA; however, this observation may be limited by a small sample size. Nonetheless, if sufficient antifibrinolytic and antiinflammatory effects occur with only a single dose of TXA, this challenges the apparent need for a maintenance dose. The exact half-life and duration of action is unclear in present literature; few past reports have indicated two to eight hours depending on the dosage.[31-33] Further studies are warranted to determine the optimal dosage following traumatic injury.

This study emphasizes the feasibility and effectiveness of prehospital TXA administration within a developed trauma system. In the majority of cases, first responders (e.g. paramedics and registered nurses) were able to accurately identify TXA candidates within the prehospital setting and effectively administer TXA. This adds to a growing body of literature supporting the feasibility of prehospital TXA administration within developed trauma systems.[15-20] TXA is also a highly cost effective drug. For this study, one dose of TXA cost between $16 to $50 depending if it was administered in the prehospital or hospital setting. In comparison, the raw cost for one unit of pRBCs is approximately $210.74 with the mean charge to the patient of $343.63.[34] With regards to mortality at 28 days in this study, the number needed to treat (NNT)

was 22 (NNT at 24 hours and 48 hours was 59 and 63, respectively). To place this in context, the number of patients requiring treatment with TXA to achieve a mortality benefit of 1 was 22 patients. Coupled with the potential reduced transfusion among patient administered TXA that was observed in this study, TXA appears to represents a cost effective means to reduce the health care system financial burden as well as improve trauma mortality outcomes overall.

Lastly, our study did not employ coagulation testing before prehospital TXA administration to determine if patients were indeed in a state of hyperfibrinolysis. This significantly limited our ability to administer TXA in a selective fashion. Given the study design and current limitations of point-of-care thromboelastography (TEG) or ROTEM testing, it would have been infeasible to employ such testing in the prehospital setting. Further, previous studies note the incidence of moderate to severe fibrinolysis at the scene and upon hospital arrival to be over 50%, with fibrinolysis steadily worsening from the scene to the hospital when measured on ROTEM.[7,9] Theusinger et al. concluded that monitoring coagulation via ROTEM at the scene of a trauma would not provide any clinically significant information in the majority of trauma patients.[7] However, upon arrival to the receiving center, growing, but weak, evidence exists suggesting that point-of-care TEG or ROTEM may guide in any additional TXA dosing and blood product administration in critically ill patients.[35] At present, we feel that administering TXA empirically to those with signs of hemorrhagic shock is an effective practice until further prehospital point-of-care diagnostic techniques are available.

LIMITATIONS:

Multiple limitations exist within our study. First, this study was limited by design. The prospective, non-randomized cohort design in comparison did not allow TXA to be administered

in a blinded fashion. Prehospital providers and physicians were aware that TXA had been administered, which may have introduced a slight bias related to the level of care provided. However, we anticipate this to have minimal effect on study outcomes as standard Advanced Life Support and Advanced Trauma Life Support guidelines were followed with all trauma patients.

Second, this study relied upon prehospital providers ability to accurately recognize signs of trauma-related hemorrhagic shock in the prehospital setting, even if active external bleeding was not present. Despite thorough didactic training, high injury acuity and/or inexperience may have resulted in some providers improperly including or excluding TXA candidates. Incidences of improper exclusion were noted during the initial months after implementation and future incidences were reduced through active troubleshooting, quality control, and education sessions. EMS teams were also backed by real-time physician consultation to provide added assistance; this teamwork approach was instituted to minimize the possibility of inappropriate TXA administration.

CONCLUSION:

The current study noted reduced mortality following the administration of prehospital TXA to patients with signs of traumatic hemorrhagic shock. We further noted a decrease in blood product transfused and shorter hospital and ICU LOS, without an increase in thromboembolic events. Finally, this study demonstrated that TXA can be effectively and feasibly administered by civilian prehospital providers and in accordance with North American emergency medicine protocols and standards. Our findings support the use of prehospital TXA in adult civilian trauma in the setting of traumatic injury with signs of hemorrhagic shock.

Author contribution: MMN and JP conceived the study. MMN, FD, JP, R Vaezazizi, DW, RB, EK, contributed to the designed of the study and development of study protocols. For each region involved, those individuals from that county further contributed to the design of study protocol and data collection within that region; these individuals include MMN, R Vara, R Vaezazizi, JP, SK, XLO, SB, KRO, DL, KS. MMN, FD, R.Vara, JT, R.Vaezazizi, AJ, NN, MR, were involved in data collection and database compilation. FD performed statistical analyses. MMN, FD, JT, MM, drafted the initial manuscript and all authors contributed significantly during the revision process. MMN managed all aspects of the study.

Acknowledgements: We acknowledge the efforts of Joy Peters, RN, Sonny Alforja, RN, Charles W. Hendra, RN, BSN, Sharon Brown, RN, MSN, and Tyler Jaques for their help with data collection and database compilation. We thank Daved Van Stralen, MD, for his work in designing the first responder TXA education module. We thank Carlos Peace, RN, BSN for his help with editing of the manuscript. We thank Sandra Kolodzik, EMT-P for compiling the report for the Emergency Medical Directors Association of California meeting. We further thank Kenji Inaba MD for his advisory role and editing of the manuscript. We are grateful to Emergency Medical Services Authority (EMSA) their guidance to prepare for this study. Additionally, we would like to send a special thank you to the men and women of all the air and ground emergency medical service agencies in the San Bernardino, Riverside, Alameda, and Napa County regions who are currently participating in the Cal-PAT study.

Table 1: Inclusion and exclusion criteria provided to first responders in the field and clinicians at receiving trauma centers.

Inclusion Criteria	Exclusion Criteria
The prehospital and hospital use of TXA should be considered for all trauma patients that meet **any** of the following criteria: • Blunt or penetrating trauma with signs and symptoms of hemorrhagic shock within three hours of injury. o Systolic blood pressure of less than 90 mmHg at scene of injury, during air and/or ground medical transport, or upon arrival to designated trauma centers. o Heart rate >120. o Estimated blood loss of 500 milliliters in the field o Bleeding not controlled by direct pressure or tourniquet. Major amputation of any extremity above the wrists and above the ankles.	• Any patient <18 years of age • Any patient more than three hours post-injury • Any patient with an active thromboembolic event (within the last 24 hours) – i.e. active stroke, myocardial infarction or pulmonary embolism • Any patient with a hypersensitivity or anaphylactic reaction to TXA • Traumatic arrest with more than five minutes of cardiopulmonary resuscitation without return of vital signs • Penetrating cranial injury • Traumatic brain injury with brain matter exposed • Isolated drowning or hanging victims • Documented cervical cord injury with motor deficits

*TXA = tranexamic acid

Table 2: Patient outcomes for the control and TXA intervention groups.

	Control Group (n=362)	Intervention Group (n=362)	P-value
Mortality at 24 hours			0.1737
Dead	13 (3.6%)	7 (1.9%)	
Mortality at 48 hours			0.2308
Dead	16 (4.4%)	10 (2.8%)	
Mortality at 28 days			0.0075
Dead	30 (8.3%)	13 (3.6%)	
Total blood products transfused (in units), Median (Q1, Q3)	3 (2, 8)	1 (0, 6)	<0.0001
Hospital LOS (in days), Median (Q1, Q3)	8 (5, 15)	4 (1, 12)	<0.0001
ICU LOS (in days), Median (Q1, Q3)	5 (3, 8)	4 (2, 8)	0.0047
Mechanism of Injury			1
Blunt trauma	134 (37%)	134 (37%)	
Penetrating trauma	228 (63%)	228 (63%)	
Gender			1
Female	69 (19.1%)	69 (19.1%)	
Male	293 (80.9%)	293 (80.9%)	
Age, years, mean ± SD	37.64 ± 16.33	37.96 ± 16.11	0.7904
Injury severity score, mean ± SD	17.15 ± 11.71	16.08 ± 10.69	0.2009

*TXA = tranexamic acid; LOS = length of stay; ICU = intensive care unit

Table 3: Subgroup analysis of the TXA intervention group.

	Pre-hospital 1 Dose of TXA (n=235)	1 Pre-hospital + 1 hospital dose of TXA (n=127)	P-value
Mortality at 24 hours			0.7155
Dead	5 (2.1%)	2 (1.6%)	
Mortality at 48 hours			0.3108
Dead	8 (3.4%)	2 (1.6%)	
Mortality at 28 days			0.74
Dead	9 (3.8%)	4 (3.2%)	
Total blood products transfused (in units), Median (Q1, Q3)	0 (0, 3)	3 (0, 13)	<0.0001
Hospital LOS (in days), Median (Q1, Q3)	4 (1, 10)	6 (2, 15)	0.0564
ICU LOS (in days), Median (Q1, Q3)	3 (2, 5)	4 (2, 12)	0.0759
Mechanism of Injury			0.4954
Blunt trauma	84 (35.7%)	50 (39.4%)	
Penetrating trauma	151 (64.3%)	77 (60.6%)	
Gender			0.473
Female	47 (20%)	22 (17.3%)	
Male	188 (80%)	105 (82.7%)	
Age, years, mean ± SD	37.53 ± 16.57	38.76 ± 15.25	0.4866
Injury severity score, mean ± SD	15.69 ± 10.77	16.81 ± 10.53	0.3412

*TXA = tranexamic acid; LOS = length of stay; ICU = intensive care unit

Table 4: Subgroup analysis of patients receiving ≥10 units of blood product.

	Massive Transfusion (n=140)		
	Control Group (n=69)	TXA Group (n=71)	P-value
Mortality at 24 hours			0.4819
Dead	6 (8.7%)	4 (5.6%)	
Mortality at 48 hours			0.2367
Dead	9 (13%)	5 (7%)	
Mortality at 28 days			0.0166
Dead	16 (23.2%)	6 (8.5%)	
Total blood products transfused (in units), Median (Q1, Q3)	20 (14, 31)	18 (14, 32)	0.8662
Hospital LOS (in days), Median (Q1, Q3)	10 (6, 14)	13 (5, 22)	0.3181
ICU LOS (in days), Median (Q1, Q3)	6 (4, 8)	5 (3, 14)	0.4544
Mechanism of Injury			0.0013
Blunt trauma	16 (23.2%)	35 (49.3%)	
Penetrating trauma	53 (76.8%)	36 (50.7%)	
Gender			0.0624
Female	6 (8.7%)	14 (19.7%)	
Male	63 (91.3%)	57 (80.3%)	
Age, years, mean ± SD	35 ± 14.68	37.87 ± 15.49	0.2622
Injury severity score, mean ± SD	23.46 ± 14.96	21.39 ± 10.51	0.344

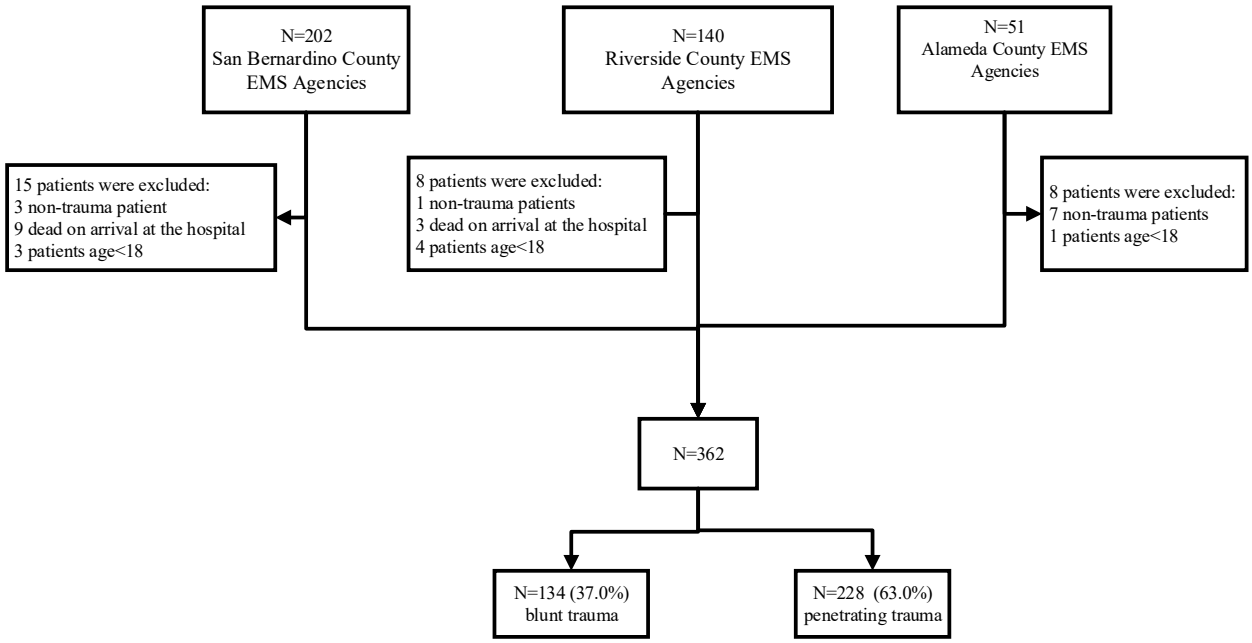
*TXA = tranexamic acid; LOS = length of stay; ICU = intensive care unit

Table 5: Subgroup analysis of patients with injury severity score ≥16.

	Patients with ISS≥16		
	Control Group (n=172)	TXA Group (n=168)	P-value
Mortality at 24 hours			0.8278
Dead	8 (4.7%)	7 (4.2%)	
Mortality at 48 hours			0.6842
Dead	11 (6.4%)	9 (5.4%)	
Mortality at 28 days			0.0092
Dead	25 (14.5%)	10 (6%)	
Total blood products transfused (in units), Median (Q1, Q3)	4 (2, 12)	4 (0, 15)	0.6053
Hospital LOS (in days), Median (Q1, Q3)	10 (6, 17)	8 (2, 16)	0.4368
ICU LOS (in days), Median (Q1, Q3)	5 (3, 8)	5 (2, 13)	0.9933
Mechanism of Injury			0.5253
Blunt trauma	76 (44.2%)	80 (47.6%)	
Penetrating trauma	96 (55.8%)	88 (52.4%)	
Gender			0.808
Female	31 (18%)	32 (19.1%)	
Male	141 (82%)	136 (81%)	
Age, years, mean ± SD	36.97 ± 15.07	36.72 ± 15.42	0.887
Injury severity score, mean ± SD	26.65 ± 11.73	26.28 ± 9.97	0.7661

*TXA = tranexamic acid; ISS = injury severity score; LOS = length of stay; ICU = intensive care unit

Figure 1: Patient sample size flow chart



*EMS = emergency medical services

References

1. WISQARS - Leading Causes of Death Reports, National and Regional, 1999 - 2014. Centers for Disease Control and Prevention; 2015. http://www.cdc.gov/injury/wisqars/. Accessed Feb 23, 2016.
2. Sauaia A, Moore F, Moore E, et al. Epidemiology of trauma deaths: a reassessment. *J Trauma Acute Care Surg.* 1995;38(2):185-193.
3. Kauvar D, Lefering R, Wade C. Impact of Hemorrhage on Trauma Outcome: An Overview of Epidemiology, Clinical Presentations, and Therapeutic Considerations. *J Trauma Acute Care Surg.* 2006;60(6 Suppl):S3-11.
4. Ausset S, Glassberg E, Nadler R, et al. Tranexamic acid as part of remote damage-control resuscitation in the prehospital setting: A critical appraisal of the medical literature and available alternatives. *J Trauma Acute Care Surg.* Jun 2015;78(6 Suppl 1):S70-75.
5. Brohi K, Singh J, Heron M, et al. Acute traumatic coagulopathy. *J Trauma Acute Care Surg.* Jun 2003;54(6):1127-1130.
6. Niles SE, McLaughlin DF, Perkins JG, et al. Increased mortality associated with the early coagulopathy of trauma in combat casualties. *J Trauma Acute Care Surg.* Jun 2008;64(6):1459-1463; 1463-1455.
7. Theusinger OM, Baulig W, Seifert B, et al. Changes in coagulation in standard laboratory tests and ROTEM in trauma patients between on-scene and arrival in the emergency department. *Anesth Analg.* Mar 2015;120(3):627-635.
8. Moore HB, Moore EE, Gonzalez E, et al. Hyperfibrinolysis, physiologic fibrinolysis, and fibrinolysis shutdown: the spectrum of postinjury fibrinolysis and relevance to antifibrinolytic therapy. *J Trauma Acute Care Surg.* 2014;77.

9. Raza I, Davenport R, Rourke C, et al. The incidence and magnitude of fibrinolytic activation in trauma patients. *J Thromb Haemost.* Feb 2013;11(2):307-314.

10. Moore HB, Moore EE, Gonzalez E, et al. Hyperfibrinolysis, physiologic fibrinolysis, and fibrinolysis shutdown: The spectrum of postinjury fibrinolysis and relevance to antifibrinolytic therapy. *J Trauma Acute Care Surg.* Dec 2014;77(6):811-817.

11. Kashuk JL, Moore EE, Sawyer M, et al. Primary fibrinolysis is integral in the pathogenesis of the acute coagulopathy of trauma. *Ann Surg.* Sep 2010;252(3):434-442; discussion 443-434.

12. Kunze-Szikszay N, Krack LA, Wildenauer P, et al. The pre-hospital administration of tranexamic acid to patients with multiple injuries and its effects on rotational thrombelastometry: a prospective observational study in pre-hospital emergency medicine. *Scand J Trauma Resusc Emerg Med.* Oct 10 2016;24(1):122.

13. Shakur H, Roberts I, Bautista R, et al. Effects of tranexamic acid on death, vascular occlusive events, and blood transfusion in trauma patients with significant haemorrhage (CRASH-2): a randomised, placebo-controlled trial. *Lancet.* 2010;376(9734):23-32.

14. Roberts I, Shakur H, Afolabi A, et al. The importance of early treatment with tranexamic acid in bleeding trauma patients: an exploratory analysis of the CRASH-2 randomised controlled trial. *Lancet.* 2011;377(9771):1101.e1101-1101.e1102.

15. Lipsky AM, Abracmovich A, Nadler R, et al. Transexamic acid in the prehospital setting: Israel Defense Forces' initial experience. *Injury.* 2014;45(1):66-70.

16. Vu EN, Schlamp RS, Wand RT, et al. Prehospital use of transexamic acid for hemorrhagic shock in primary and secondary air medical evacuation. *Air Med Journal.* 2013;32(5):289-292.

17. Paudyal P, Smith J, Robinson M, et al. Tranexamic acid in major trauma: implementation and evaluation across South West England. *Eur J Emerg Med.* Aug 26 2015.

18. Strosberg DS, Nguyen MC, Mostafavifar L, et al. Development of a Prehospital Tranexamic Acid Administration Protocol. *Prehospital Emergency Care.* 2016/07/03 2016;20(4):462-466.

19. Wafaisade A, Lefering R, Bouillon B, et al. Prehospital administration of tranexamic acid in trauma patients. *Crit Care.* May 12 2016;20(1):143.

20. Shiraishi A, Kushimoto S, Otomo Y, et al. Effectiveness of early administration of tranexamic acid in patients with severe trauma. *Br J Surg.* May 2017;104(6):710-717.

21. Neeki MM, Dong F, Toy J, et al. Efficacy and Safety of Tranexamic Acid in Prehospital Traumatic Hemorrhagic Shock: Outcomes of the Cal-PAT Study. *West J Emerg Med.* Jun 2017;18(4):673-683.

22. Roberts I, Shakur H, Afolabi A, et al. The importance of early treatment with tranexamic acid in bleeding trauma patients: an exploratory analysis of the CRASH-2 randomised controlled trial. *Lancet.* 2011;377.

23. Napolitano LM, Cohen MJ, Cotton BA, et al. Tranexamic acid in trauma: how should we use it? *J Trauma Acute Care Surg.* Jun 2013;74(6):1575-1586.

24. Syrovets T, Lunov O, Simmet T. Plasmin as a proinflammatory cell activator. *J Leukoc Biol.* Sep 2012;92(3):509-519.

25. Jimenez JJ, Iribarren JL, Lorente L, et al. Tranexamic acid attenuates inflammatory response in cardiopulmonary bypass surgery through blockade of fibrinolysis: a case control study followed by a randomized double-blind controlled trial. *Crit Care.* 2007;11(6):R117.

26. Schochl H, Frietsch T, Pavelka M, et al. Hyperfibrinolysis after major trauma: differential diagnosis of lysis patterns and prognostic value of thrombelastometry. *J Trauma Acute Care Surg.* Jul 2009;67(1):125-131.

27. Cole E, Davenport R, Willett K, et al. Tranexamic acid use in severely injured civilian patients and the effects on outcomes: a prospective cohort study. *Ann Surg.* 2015;261.

28. Morrison JJ, Dubose JJ, Rasmussen TE, et al. Military Application of Tranexamic Acid in Trauma Emergency Resuscitation (MATTERs) Study. *Arch Surg.* 2012;147.

29. Eckert MJ, Wertin TM, Tyner SD, et al. Tranexamic acid administration to pediatric trauma patients in a combat setting: the pediatric trauma and tranexamic acid study (PED-TRAX). *J Trauma Acute Care Surg.* Dec 2014;77(6):852-858; discussion 858.

30. Casati V, Romano A, Novelli E, et al. Tranexamic acid for trauma. *Lancet.*376(9746):1049-1050.

31. Pilbrant A, Schannong M, Vessman J. Pharmacokinetics and bioavailability of tranexamic acid. *Eur J Clin Pharmacol.* 1981;20(1):65-72.

32. O. Eriksson H, Kjellman Å, Pilbrant MS. Pharmacokinetics of tranexamic acid after intravenous administration to normal volunteers. *Eur J Clin Pharmacol.* 1974;7(375).

33. Benoni G, Björkman S, Fredin H. Application of Pharmacokinetic Data from Healthy Volunteers for the Prediction of Plasma Concentrations of Tranexamic Acid in Surgical Patients. *Clin. Drug Invest.* 1995;10(5):280–287.

34. Toner RW, Pizzi L, Leas B, et al. Costs to hospitals of acquiring and processing blood in the US: a survey of hospital-based blood banks and transfusion services. *Appl Health Econ Health Policy.* 2011;9(1):29-37.

35. Wikkelso A, Wetterslev J, Moller AM, et al. Thromboelastography (TEG) or thromboelastometry (ROTEM) to monitor haemostatic treatment versus usual care in adults or children with bleeding. *Cochrane Database Syst Rev.* Aug 22 2016(8):Cd007871.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Sean Trask, Chief
EMS Personnel Division

SUBJECT: Information on the Status of Other Current Trial Studies

RECOMMENDED ACTION:

Receive information on the status of the other current trial studies.

FISCAL IMPACT:

No fiscal impact.

DISCUSSION:

Tranexamic Acid (TXA) Napa County EMS Agency
On January 7, 2016, the EMS Authority received a trial study request from the Napa County EMS Agency to study the administration of tranexamic acid (TXA) in the prehospital setting to improve hemorrhagic shock outcomes. TXA will be administered to adult (18 years and older) patients who meet trauma triage criteria. This trial study was approved by the EMS Authority on March 21, 2017. This trial study began enrolling patients on February 1, 2017.

Tranexamic Acid (TXA) Yolo County EMS Agency
On May 12, 2017, the EMS Authority received a trial study request from the Yolo County EMS Agency to study the administration of tranexamic acid (TXA) in the prehospital setting to improve hemorrhagic shock outcomes. TXA will be administered to adult (18 years and older) patients who meet trauma triage criteria. This trial study was approved by the EMS Authority on July 17, 2017. This trial study began enrolling patients on January 1, 2018.

Ketamine Mountain Valley EMS Agency
On May 31, 2017, the EMS Authority received a trial study request from the Mountain Valley EMS Agency to study the administration of ketamine for analgesia in the prehospital setting. Eligibility criteria will be for patients 15 years of age or older, GCS of 15, who are complaining of acute traumatic or burn injury. Exclusion criteria includes: known or suspected alcohol or drug intoxication, known or suspected

pregnancy, allergy to ketamine, received narcotic analgesic of any form within previous six hours. This trial study was approved by the EMS Authority on November 28, 2017. This trial study began enrolling patients on February 1, 2018.

Ketamine Inland Counties EMS Agency
On November 1, 2017, the EMS Authority received a trial study request from the Inland Counties EMS Agency to study the administration of ketamine for analgesia in the prehospital setting. Eligibility criteria will be for patients 15 years of age or older, GCS of 15, who are complaining of acute traumatic or burn injury. Exclusion criteria includes: known or suspected alcohol or drug intoxication, known or suspected pregnancy, allergy to ketamine, received narcotic analgesic of any form within previous six hours. This trial study was approved by the EMS Authority on December 11, 2017. This trial study will begin enrolling patients on April 1, 2018.

Ketamine Riverside County EMS Agency
On November 7, 2017, the EMS Authority received a trial study request from the Yolo County EMS Agency to study the administration of tranexamic acid (TXA) in the prehospital setting to improve hemorrhagic shock outcomes. TXA will be administered to adult (18 years and older) patients who meet trauma triage criteria. This trial study was approved by the EMS Authority on December 11, 2017. This trial study will begin enrolling patients on April 1, 2018.

Attached is the current list of trial studies.

STATE OF CALIFORNIA

EMERGENCY MEDICAL SERVICES AUTHORITY

CURRENT TRIAL STUDIES
as of 2/15/2018

Local EMS Agency	Study Title	EMS Agency Medical Director and Primary Investigator	Date of Initiation of Trial Study	Commission Notified	18 Mo. Report Due	Commission Action	36 Mo. Report Due / Patients Enrolled	Disposition of Study
Ventura County EMS Agency	Air-Q Supra-glottic Airway	Angelo Salvucci, MD	12/12/14	3/18/15 3/16/16 12/14/16 3/15/17	6/12/16	12/14/16 Commission on EMS recommended continuation for one more 18-month period	12/12/17 As of 7/31/16 270 Patients enrolled.	Active. Began enrolling patients on 12/12/14.
Inland Counties EMS Agency	Tranexamic Acid	Reza Vaezazizi, MD	3/9/15	3/18/15 3/16/16 12/14/16	9/9/16	12/14/16 Commission on EMS recommended continuation for one more 18-month period	3/9/18 As of 9/9/16 128 patient enrolled in the interventional group, 125 enrolled in control group.	Active. Began enrolling patients on 3/9/15.
Santa Barbara County EMS Agency	Air-Q Supra-glottic Airway	Angelo Salvucci, MD	5/18/15	6/17/15 3/16/16 03/15/17	11/18/16	12/14/16 Commission on EMS recommended continuation for one more 18-month period	5/18/19	Active. Began enrolling patients on 5/18/15.
Riverside County EMS Agency	Tranexamic Acid	Reza Vaezazizi, MD	6/1/15	6/17/15 3/16/16 12/14/16	12/1/16	12/14/16 Commission on EMS recommended continuation for one more 18-month period	6/1/18 As of 9/9/16 128 patient enrolled in the interventional group, 125 enrolled in control group.	Active. Began enrolling patients on 6/1/15.
Alameda County EMS Agency	Tranexamic Acid	Karl Sporer, MD	1/1/16	6/17/15	6/1/2018			Active. Began enrolling patients on 1/1/16
Napa County EMS Agency	Tranexamic Acid	Peter Benson, MD	2/1/17		8/1/18			Approved 3/21/17
Yolo County EMS Agency	Tranexamic Acid	John Rose, MD	1/1/18		6/1/19			Approved 7/17/17
Mountain Valley EMS Agency	Ketamine	Katherine Shafer, MD	2/1/18		8/1/19			Approved 11/28/17
Riverside County EMS Agency	Ketamine	Reza Vaezazizi, MD	4/1/18		10/1/19			Approved 12/11/17

Local EMS Agency	Study Title	EMS Agency Medical Director and Primary Investigator	Date of Initiation of Trial Study	Commission Notified	18 Mo. Report Due	Commission Action	36 Mo. Report Due / Patients Enrolled	Disposition of Study
ICEMA EMS Agency	Ketamine	Reza Vaezazizi, MD	4/1/18		10/1/19			Approved 12/11/17

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Priscilla Rivera, Manager
Personnel Standards Unit

SUBJECT: Community Paramedicine Pilot Project Report

RECOMMENDED ACTION:

Receive information regarding the Community Paramedicine Pilot.

FISCAL IMPACT:

The Community Paramedicine Project Manager and the Independent Evaluator are funded by the California HealthCare Foundation. Local pilot site providers participate with in-kind contributions and any local grants or reimbursement.

DISCUSSION:

Strong progress continues with the Community Paramedicine Projects. The data, as well as the independent evaluator's public report continues to show these projects have improved patient care as well as having reduced hospital re-admissions and visits to emergency departments.

Independent Evaluation:

The Health Workforce Pilot Project (HWPP) regulations require organizations that sponsor pilot projects to retain an independent evaluator to assess trainee performance, patient acceptance, and cost effectiveness. A team of evaluators at the Philip R. Lee Institute for Health Policy Studies and the Center for the Health Professions at the University of California, San Francisco continue to serve as the independent evaluators for the HWPP #173.

In January 2017, UCSF's Healthforce Center released a report that presented findings from the evaluation for the first 16 months of the pilot project. In November 2017, the Healthforce Center released an update to that report that presents findings from the first

25 months of the pilot project. The latest update to the report, issued in February 2018, and contained in the link below presents findings from the first 28 months of the project and in summary states “The evaluation found that community paramedics are collaborating successfully with physicians, nurses, behavioral health professionals, and social workers to fill gaps in the health and social services safety net. The evaluation has yielded consistent findings for six of the seven community paramedicine concepts tested. All of the post-discharge, frequent 911 users, tuberculosis, hospice, and alternate destination – mental health projects have been in operation for 21 or more months and have improved patients’ well-being. In most cases, they have yielded savings for payers and other parts of the health care system. Preliminary findings regarding the sixth concept, alternate destination – sobering center, suggest that this project is also benefitting patients and the health care system.”

https://healthforce.ucsf.edu/publications/evaluation-california-s-community-paramedicine-pilot-program

Patient Safety:

There were no patient safety issues reported to the EMS Authority’s (EMSA’s) Pilot Project Manager or discovered by the independent evaluator during this reporting period.

Additional Pilot Sites:

In accordance with the California Code of Regulations (22 CCR §92604), EMSA submitted and OSHPD approved Applications from the following healthcare agencies and/or EMS providers in collaboration with a local EMS Agency (LEMSA) to become additional Pilot Sites within the HWPP#173 Pilot Project to run thru November 13, 2018.

The following additional Pilot Projects are in the process of completing the required, CORE and Site Specific Training as well as obtaining an approved IRB.

Local EMS Agency	Sponsor	Concepts	Partners
Santa Clara County	Santa Clara County EMS Agency	Alternate Destination Behavioral Health Alternate Destination Sobering Center	County-operated licensed emergency psychiatric facility and the County-operated medically-attended sobering station.

Sierra Sacramento Valley	Dignity Health	Post Discharge	Mercy Medical Center - Redding American Medical Response
City & County of San Francisco	San Francisco Fire Department	Frequent 911 User Alternate Destination – Behavioral Health Post Discharge	San Francisco Department of Health San Francisco Department of Homelessness and Supportive Housing King American Ambulance American Medical Response
Central California EMS Agency	Central California EMS Agency	Alternate Destination - Behavioral	Central California EMS Agency American Ambulance Fresno County Behavioral Health and Public Health Departments

The following additional Pilot Projects were approved but have been placed on hold at this time by their sponsoring organizations due to what they believe is the uncertainty as it relates to obtaining enabling language from the Legislature for Community Paramedicine Programs in 2018.

El Dorado County	Cal Tahoe JPA	Alt Destination Behavioral Health Post Discharge	Telecare El Dorado County Psychiatric Facility - Placerville Barton Memorial Hospital
Los Angeles County	Los Angeles City Fire Department	Alternate Destination - Behavioral Health	Los Angeles City Fire Exodus Recover Center
Los Angeles County	Los Angeles City Fire Department	Alternate Destination – Sobering Center	Los Angeles City Fire Dr. L Murphy Sobering Center
Marin County EMS Agency		Frequent 911 User	Marin Community Clinics Marin County Department of Health & Human Services Marin County Emergency Medical Services Agency Marin General Hospital Novato Fire Protection District San Rafael Fire Department

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Sean Trask, Chief
EMS Personnel Division

SUBJECT: Pediatric Endotracheal Intubation for Paramedics

RECOMMENDED ACTION:

Receive information on the status of pediatric endotracheal intubation by paramedics.

FISCAL IMPACT:

No fiscal impact.

DISCUSSION:

At the December 6, 2017 meeting, the Commission on EMS was notified of the recommendation by the medical directors and the decision by the EMS Authority to restrict pediatric endotracheal intubation to certain prehospital settings. The Commission was also informed that the local EMS agency (LEMSA) administrators and medical directors would form a committee to discuss and make recommendations for continuation of the pediatric intubation skill in those restricted settings. The Commission requested an update at the next meeting on limited continuation of the pediatric intubation skill.

Separately, the medical directors have discussed and support the use of supraglottic airway devices, such as the i-Gel, as a local optional scope item. This includes pediatric sized supraglottic airways to supplant pediatric endotracheal intubation. The medical directors recommended a standard local optional scope of practice application that includes training, specific data elements, and quality improvement measures. To date, one LEMSA has received local optional scope approval for the use of the i-Gel for adult and pediatric patients.

LEMSA Administrator and Medical Director Committee:

Since the last Commission on EMS meeting, the LEMSA administrators and medical directors have formed a committee to make recommendations on a standardized flight and critical care paramedic scope of practice.
As of February 16, 2018 this committee has held two conference calls, and discussions have centered on the following:

1. Agreement on the concept of pediatric endotracheal intubation by flight medics and critical care paramedics.
2. Agreement on the concept of rapid sequence intubation by flight medics.
3. The concept of standardized, focused training for pediatric intubation and RSI. Training topics and hours will be determined at a later date.
4. Strong medical oversight and quality assurance measures will be required for flight paramedic and critical care transport programs.
5. Paramedics authorized to perform pediatric intubation will need to have monthly practice on performing the skill and would be required to demonstrate competency every quarter.
6. The transport provider will be required to obtain accreditation by the Commission on Accreditation of Medical Transport Systems (CAMTS).
7. Flight paramedics and critical care paramedics would be required to obtain, by regulation, certification by the International Board of Specialty Certification.
8. Scope of practice items would be tied to flight crew configurations, e.g. registered nurse-paramedic.

Next Steps:

1. Continue holding conference calls to make a final recommendation for these skills.
2. Determine which LEMSAs have flight programs in their jurisdictions, crew configurations, and skills maintenance requirements.
3. Develop training requirements for pediatric intubation and RSI to include minimum hours of training and competency testing.
4. Develop a skills checklist for ongoing skills maintenance.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Adam Davis
Quality Improvement Coordinator, EMS Systems Division

SUBJECT: Approval of 2018 Core Measures Guidelines

RECOMMENDED ACTION:

Approval of the Core Quality Measures Instruction Manual, Data Year 2017, EMSA #166, Appendix E.

FISCAL IMPACT:

None

DISCUSSION OF REPORTING:

EMSA has revised the Core Measures program to accommodate the transition to the NEMSIS Version 3.4 standards. EMSA initiated an ad-hoc work group comprised of EMS stakeholders to enhance the existing Core Measure set. This group, which met on November 2nd, 2017, reviewed each of the California Core Measures as well as those developed through the EMS Compass Initiative. The recommendations from the ad-hoc group were discussed and reviewed by the Core Measures Task Force on November 28, 2017.

EMSA took the recommendations of these work groups and retired some measures while also incorporating some nationally recommended measures from the National Association of State EMS Officials EMS Compass Project. This effort yielded a set of 16 indicators for system-wide measurement utilizing the NEMSIS 3.4 data dictionary. A summary of the previous and updated sets of measures can be found on the following page. Reporting of 2017 Calendar Year data is expected to take place by May 31, 2018.

The following chart identifies the former EMS Core Measures and the transition to the new measures.

2009 - 2016 NEMSIS 2 California Core Measure Set			2017 NEMSIS 3 California Core Measure Set		
ID	Description	Status	ID	Description	CCR Title 22, Division 9, Chapter 12
TRA-1	Scene time for trauma patients	Measure Updated	TRA-1	Scene time for trauma patients	D: Clinical Care and Patient Outcome
TRA-2	Direct transport to trauma center for trauma patients	Measures Updated to reflect Compass Measure	***TRA-2	Patients meeting CDC Step 1 or 2 or 3 criteria originating from a 911 request who were transported to a trauma center	
			***TRA-3	Measurement of patients with a pain scale value present	
			***TRA-4	Measurement of patients with two or more pain scale values present	
			***TRA-5	Measurement of patients with a decrease in their pain scale compared to initial pain scale	
ACS-1	Aspirin administration for chest pain/discomfort	Measure Updated	ACS-1	Aspirin administration for chest pain/discomfort	
ACS-2	12 lead EKG performance	Measure Updated			
ACS-3	Scene time for suspected heart attack patients	Measure Updated	ACS-3	Scene time for suspected heart attack patients	
			ACS-4	Advance hospital notification for suspected STEMI patients	
ACS-5	Direct transport to PCI center for suspected ACS patients meeting criteria	**Retired**			
			ACS-6	Time to EKG	
CAR-2	Out-of-hospital cardiac arrests return of spontaneous circulation	**Retired - Transition to CARES**			
CAR-3	Out-of-hospital cardiac arrests survival to emergency department discharge	**Retired - Transition to CARES**			
CAR-4	Out-of-hospital cardiac arrests survival to hospital discharge	**Retired - Transition to CARES**			
			***HYP-1	Treatment administered for hypoglycemia	
			***STR-1	Suspected Stroke Patient Receiving Prehospital Screening	
STR-2	Glucose testing for suspected stroke patients	Measure Updated	STR-2	Glucose testing for suspected stroke patients	
STR-3	Scene time for suspected stroke patients	**Retired**			
			STR-4	Advance hospital notification for suspected stroke patients	
STR-5	Direct transport to stroke center for suspected stroke patients meeting criteria	**Retired**			
RES-2	Beta2 agonist administration	**Retired**			
PED-1	Pediatric asthma patients receiving bronchodilators	**Retired**			
			***PED-3	Pediatric Respiratory Assessment	
PAI-1	Pain intervention	**Retired**			
SKL-1	Endotracheal intubation success rate	**Retired**			
SKL-2	End-tidal CO2 performed on any endotracheal intubation	**Retired**			
RST-1	Ambulance response time by ambulance zone (Emergency)	**Retired**			
RST-2	Ambulance response time by ambulance zone (Non-Emergency)	**Retired**			
RST-3	Transport of patients to hospital	**Retired**			
			***RST-4	Rate of emergency lights and sirens responses to include each vehicle responding to an incident	F: Tranportation and Facilities
			***RST-5	Rate of emergency lights and sirens transports to include each vehicle transporting from incidents with one or more patients	

*** = EMS Compass Measure

California EMS System Core Quality Measures Data Year 2017

Emergency Medical Services Authority
California Health and Human Services Agency

EMSA #166 - Appendix E (6th Edition)
EMS System Quality Improvement Program Guidelines

HOWARD BACKER, MD, MPH, FACEP
DIRECTOR

DANIEL R. SMILEY
CHIEF DEPUTY DIRECTOR

TOM M^{C}GINNIS
CHIEF, EMS SYSTEMS DIVISION

EMSA #166 – Appendix E
Released – January 2013 (1st Edition)
Updated – January 2014 (2nd Edition)
Updated – January 2015 (3rd Edition)
Updated – January 2016 (4th Edition)
Updated – January 2017 (5th Edition)
Updated – February 2018 (6th Edition)

Table of Contents

EMS System Core Quality Measures Project

Core Measures Specification Sheets

STATUTORY AUTHORITY

The California EMS Authority (EMSA or authority) is charged with creating a “statewide system for emergency medical services” and the responsibility for the “coordination and integration of all state activities concerning emergency medical services (HS 1797.1)”. Moreover, the authority is required to assess each EMS area or the system’s service area, utilizing regional and local information, for “the purpose of determining the need for additional emergency medical services, coordination of emergency medical services and the effectiveness of emergency medical services” (HS1797.102). Local EMS agencies are required to plan, implement, and evaluate an EMS system (HS 1797.204).

Health and Safety Code 1797.103 identifies one of the required elements of an EMS system as data collection and evaluation. Additionally, the development of quality improvement guidelines must be established (HS 1797.174). As a result of this statutory mandate, EMSA has developed regulations requiring the system data collection and evaluation of prehospital care reports (CCR, Title 22, Division 9, Chapter 4, Section 100147, 100169, 100170).

Additionally, EMS system quality improvement regulations have been established (CCR, Title 22, Division 9, Chapter 12) that define the requirements for local EMS agencies, EMS service providers, and base hospitals in their role as part of the EMS system. These requirements include, but are not limited to, the implementation of an EMS Quality Improvement program (EMS QI) and the use of defined indicators to assess the local EMS system as found in EMSA #166, Appendix E. EMSA’s aim with the Core Measures Project is to develop appropriate indicators to reflect on-going LEMSA efforts at quality improvement aimed at clinical and transport activities that are reflective of Quality Improvement activities at the local level.

To evaluate system impact on patients, the continuum of care from dispatch to pre-hospital to hospital disposition must be connected. In addition, we need to report on performance measures such as those included in Core Measures. By using the data we can begin to understand how care provided by EMS personnel translates to improved outcomes and system effectiveness.

PROJECT HISTORY

The purpose of the EMS system core measures is to increase the accessibility and accuracy of pre-hospital data for public, policy, academic and research purposes to facilitate EMS system evaluation and improvement. This program was originally developed in 2012 through a grant from the California Health Care Foundation (CHCF). Ultimately, the project highlights opportunities to improve the quality of patient care delivered within an EMS system.

During the 1 year period, from July 31, 2013 to June 30, 2014, The California EMS Authority (EMSA) performed the following activities to deliver a set of publicly available data reports:

1. Created a formal data system profile and written analysis to identify areas for data quality improvement and inform an action plan to address the issues.

2. Worked to reveal opportunities for both short-term and long-term data improvement plans.

3. Focused on achieving reliable measures that are high value and feasible within a short-term time frame.

4. Refined and published core measure sets that describe the coordination and effectiveness of EMS utilizing regional and local information for California. This project focuses on the following core measure sets:

- Trauma
- Acute Coronary Syndrome/Heart Attack
- Cardiac Arrest
- Stroke
- Respiratory
- Pain Intervention
- Pediatric
- Skill Performance by EMS Providers
- EMS Response and Transport
- Public Education Bystander CPR

5. Conducted data workshops for local EMS agencies across the state to implement improved data collection and reporting practices with those Local EMS Agencies who participate in California Emergency Medical Services Information System.

EMSA has continued to utilize the EMS system core measures project to collect information on an annual basis (calendar year 2012, 2013, 2014, 2015, 2016, 2017) while maintaining similar direction and goals to the objectives stated above.

WHAT ARE CORE MEASURES?

Core measures are a set of standardized performance measures that are intended to examine an EMS system or treatment of an identified patient condition.

CORE MEASURES DEFINITION

The California Core Measures are about processes and interventions that have some evidence of patient benefit for a condition or illness. These measures help emergency medical services systems improve the quality of patient care. Measure benchmarks include the following: the performance of EMS systems, performance of recommended treatments determined to get the best results for patients with certain medical conditions and transport of patients to the most appropriate hospital. The data most closely focused on system performance is contained in the following data pieces:

- Arrival at the scene in a timely manner;
- Timely, focused patient assessment;
- Delivery of time-sensitive pre-hospital therapy; and
- Transport to a hospital capable of providing necessary care

Information about these treatments is taken from the pre-hospital care reports.

DEMONSTRATING PERFORMANCE

The preliminary California EMS Core Measures were derived largely from a set of quality indicators developed through a project by the National Quality Forum and the National Association of State EMS Officials (NASEMSO) EMS Compass Project. Emergency medical services systems across the state are measured on their performance in these Core Measures and can compare their results to other similar LEMSAs. There is a delay between when data are reported from EMS systems and when they are available for review because EMSA allows time for data to be compiled before it posts quality data for a given period. EMS providers can utilize these core measures to assist in quality assurance and continuous quality improvement activities.

CORE MEASURES PURPOSE

The primary purpose of the Core Measures Project is to develop a mechanism to reflect as accurately as possible the local EMS activity so that EMSA can better fulfill its obligation to assess the effectiveness of emergency medical services and provide quality improvement information. The collection of the 16 clinical measures and those selected by the Core Measures Task Force provide the best mechanism for EMSA to do this. The data will become even more useful when all LEMSAs in California participate fully in the project. EMSA looks forward to more robust project participation.

EMSA has made data quality and analysis a priority over the past 4 years and has recently formed a data advisory group consisting of representatives from local EMS

agency administrators and medical directors to help determine a cooperative strategy for improving EMS data and enhancing data quality efforts.

ESSENTIAL ELEMENTS

The table below lists all 27 essential elements found in this instruction manual. Each element plays a vital role in the ability to collect and report the California Core Measures. EMS providers and LEMSAs should ensure that these elements are appropriately captured and populated in every patient care record.

Element Description	Element Name
Incident/Patient Disposition	eDisposition.12
Additional Transport Mode Descriptors	eDisposition.18
Hospital Capability	eDisposition.23
Destination Team Pre-Arrival Alert or Activation	eDisposition.24
Date/Time of Destination Prearrival Alert or Activation	eDisposition.25
Mechanism of Injury	eInjury.02
Trauma Center Criteria	eInjury.03
Vehicular, Pedestrian, or Other Injury Risk Factor	eInjury.04
Medication Given	eMedications.03
Patient Age	ePatient.15
Date/Time Procedure Performed	eProcedure.01
Procedure	eProcedure.03
Patient Care Report Number	eRecord.01
Type of Service Requested	eResponse.05
Additional Response Mode Descriptors	eResponse.24
Possible Injury	eSituation.02
Provider Primary Impression	eSituation.11
Provider Secondary Impression	eSituation.12
Arrived at Patient Date/Time	eTimes.07
Unit Left Scene Date/Time	eTimes.09
Cardiac Rhythm / Electrocardiography (ECG)	eVitals.03
Pulse Oximetry	eVitals.12
Respiratory Rate	eVitals.14
Blood Glucose Level	eVitals.18
Pain Scale Score	eVitals.27
Stroke Scale Score	eVitals.29
Stroke Scale Type	eVitals.30

UPDATES TO CORE MEASURES

EMS system core measures have been modified to reflect NEMSIS 3 dataset, which will became mandatory for the collection of EMS data as of January 1, 2017. EMSA, along with the Core Measures Task Force reviewed each of the measures and enhanced the set using the updated NEMSIS 3 dataset. Additionally, EMSA retired some measures while replacing others with those developed by the National Association of State EMS Officials' EMS Compass Project. In total, the new measure set included in this instruction manual is comprised of 16 indicators. Updates to the California Core Measure set can be found on page 5.

5 ● California EMS System Core Quality Measures

2009 - 2016 NEMSIS 2 California Core Measure Set			2017 NEMSIS 3 California Core Measure Set		
ID	Description	Status	ID	Description	CCR Title 22, Division 9, Chapter 12
TRA-1	Scene time for trauma patients	Measure Updated	TRA-1	Scene time for trauma patients	D: Clinical Care and Patient Outcome
TRA-2	Direct transport to trauma center for trauma patients	Measures Updated to reflect Compass Measure	***TRA-2	Patients meeting CDC Step 1 or 2 or 3 criteria originating from a 911 request who were transported to a trauma center	
			***TRA-3	Measurement of patients with a pain scale value present	
			***TRA-4	Measurement of patients with two or more pain scale values present	
			***TRA-5	Measurement of patients with a decrease in their pain scale compared to initial pain scale	
ACS-1	Aspirin administration for chest pain/discomfort	Measure Updated	ACS-1	Aspirin administration for chest pain/discomfort	
ACS-2	12 lead EKG performance	Measure Updated			
ACS-3	Scene time for suspected heart attack patients	Measure Updated	ACS-3	Scene time for suspected heart attack patients	
			ACS-4	Advance hospital notification for suspected STEMI patients	
ACS-5	Direct transport to PCI center for suspected ACS patients meeting criteria	**Retired**			
			ACS-6	Time to EKG	
CAR-2	Out-of-hospital cardiac arrests return of spontaneous circulation	**Retired - Transition to CARES**			
CAR-3	Out-of-hospital cardiac arrests survival to emergency department discharge	**Retired - Transition to CARES**			
CAR-4	Out-of-hospital cardiac arrests survival to hospital discharge	**Retired - Transition to CARES**			
			***HYP-1	Treatment administered for hypoglycemia	
			***STR-1	Suspected Stroke Patient Receiving Prehospital Screening	
STR-2	Glucose testing for suspected stroke patients	Measure Updated	STR-2	Glucose testing for suspected stroke patients	
STR-3	Scene time for suspected stroke patients	**Retired**			
			STR-4	Advance hospital notification for suspected stroke patients	
STR-5	Direct transport to stroke center for suspected stroke patients meeting criteria	**Retired**			
RES-2	Beta2 agonist administration	**Retired**			
PED-1	Pediatric asthma patients receiving bronchodilators	**Retired**			
			***PED-3	Pediatric Respiratory Assessment	
PAI-1	Pain intervention	**Retired**			
SKL-1	Endotracheal intubation success rate	**Retired**			
SKL-2	End-tidal CO2 performed on any endotracheal intubation	**Retired**			
RST-1	Ambulance response time by ambulance zone (Emergency)	**Retired**			
RST-2	Ambulance response time by ambulance zone (Non-Emergency)	**Retired**			
RST-3	Transport of patients to hospital	**Retired**			
			***RST-4	Rate of emergency lights and sirens responses to include each vehicle responding to an incident	F: Tranportation and Facilities
			***RST-5	Rate of emergency lights and sirens transports to include each vehicle transporting from incidents with one or more patients	

*** = EMS Compass Measure

QUALIFYING DATA FOR 2017 CALENDAR YEAR REPORTING

The data for all measures will come from the calendar year 2017 for which period the NEMSIS 3 standard was utilized as measurement specifications are designed for NEMSIS 3. For consistency, only data from this version of NEMSIS should be reported to EMSA.

CORE MEASURES TASK FORCE

A task force makes recommendations and reviews the core measures. The task force consists of key data and quality leaders from local EMS agencies, medical directors, hospitals, and pre-hospital EMS providers that continue to provide clarity and insight into the data elements.

REFERENCE INFORMATION

The California EMS System Core Quality Measures contains various references and coding from other documents. All data elements and values referenced in the Core Measures are coded using NEMSIS. Please refer to the following documents regarding the codes found in each measure:

NEMSIS 3.4.0 Data Dictionary – Updated 7/13/2016
(https://nemsis.org/media/nemsis_v3/release-3.4.0/DataDictionary/PDFHTML/DEMEMS/NEMSISDataDictionary.pdf)

National Association of State EMS Officials – EMS Compass Project
https://www.nasemso.org/Projects/EMSCompass/index.asp

NHTSA: Emergency Medical Services Performance Measures – Updated 12/2009
(www.ems.gov/pdf/811211.pdf)

INSTRUCTIONS FOR RUNNING MEASURE REPORTS

Run each core measure exactly as specified on each core measure specification sheet.

If the core measure cannot be run as specified, run the measure based on the intent of the core measure according to the question provided in the description box on the specification sheet.

If a core measure is run based on intent (as described above), the LEMSA must indicate in the “Measure Run Exactly As Written” column on the reporting spreadsheet and provide the data elements that were used, including all relevant values, as well as inclusion and exclusion criteria, to achieve a value for the core measure. This information must be provided when submitting the report to EMSA.

RECENT LEGISLATION

Recent state legislation is driving changes in EMS data systems related to data quality and data accuracy. Specifically, four bills were enacted in 2015 and became effective January 2016.

- AB 1129 requires each EMS provider to utilize electronic health record systems that are compliant with the "current version of NEMSIS" to collect EMS data;
- AB 503 authorizes a health facility to share patient-identifiable information with EMSA or other appropriate EMS entities for the purposes of addressing quality improvement;
- AB 1223 requires EMSA to adopt standards related to data collection for ambulance patient off-load time; and
- SB 19 requires EMSA to establish a pilot project to be known as the California POLST eRegistry for the purpose of collecting information received from a physician or their designee.

Each of these new laws have some impact on Core Measures reporting, particularly AB 1129 and AB 1223.

Core Measures Specification Sheets

SCENE TIME FOR TRAUMA PATIENTS TRANSPORTED TO A TRAUMA CENTER

MEASURE SET	Trauma	
SET MEASURE ID #	TRA - 1	
PERFORMANCE MEASURE NAME	Scene Time for trauma patients transported to a Trauma Center	
Description	What is the 90th percentile scene time, beginning at the time of patient contact until the patient arrived at a trauma center, for trauma patients, originating from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	Time (Minutes and Seconds)	
Continuous Variable Statement (Population)	Time (in minutes) from time EMS personnel arrival at the patient side until the patient arrives at a trauma center, originating from a 911 Response	
Inclusion Criteria	**Criteria**	**Data Elements**
	• (eInjury.02 = Logical and Present OR • eInjury.03 = 2903001, 2903003, 2903005, 2903007, 2903009, 2903011, 2903013, 2903015, 2903017, 2903019, 2903021 OR • eInjury.04 = 2904001, 2904003, 2904005, 2904007, 2904009, 2904011, 2904013, 2904015) • eResponse.05 = 2205001 “911 Response (Scene)” WHERE eTimes.09 – eTimes.07	• Type of Service Requested (eResponse.05) • Mechanism of Injury (eInjury.02) • Trauma Center Criteria (eInjury.03) • Vehicular, Pedestrian, or Other Injury Risk Factor (eInjury.04) • Arrived at Patient Date/Time (eTimes.07) • Unit Left Scene Date/Time (eTimes.09)
Exclusion Criteria	**Criteria**	**Data Elements**
	eInjury.02 = Not Null, 7701001, 7701003, 7701005	
Indicator Formula Numeric Expression	The formula is the 90th Percentile of the given numbers or distribution in their ascending order.	

Example of Final Reporting Value (number and units)	19 minutes, 34 seconds (19:34)
Sampling	Yes
Aggregation	Yes
Blinded	Yes
Minimum Data Values	30
Data Collection Approach	☐ Retrospective data sources for required data elements include administrative data and pre-hospital care records. ☐ Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
Suggested Display Format & Frequency	Process control or run chart by month
Suggested Statistical Measures	90th Percentile Measurement. Aggregate measure of central tendency and quantile (fractile) measurement to determine the span of frequency distributions.
Trending Analysis	Yes
Benchmark Analysis	(TBD)

TRANSPORT OF SUSPECTED TRAUMA PATIENTS TO A TRAUMA CENTER

MEASURE SET	Trauma	
SET MEASURE ID #	TRA - 2	
PERFORMANCE MEASURE NAME	Measurement of suspected trauma patients transported to a trauma center	
Description	What percent of suspected trauma patients meeting CDC Step 1 or 2 or 3 criteria were transported to a trauma center?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of suspected trauma patients meeting CDC Step 1 or 2 or 3 criteria from a 911 response	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	• eInjury.02 = Logical and Present • (eInjury.03 = 2903001, 2903003, 2903005, 2903007, 2903009, 2903011, 2903013, 2903015, 2903017, 2903019, 2903021 **Or** • eInjury.04 = 2904001, 2904003, 2904005, 2904007, 2904009, 2904011, 2904013, 2904015) • eResponse.05 = 2205001 “911 Response (Scene)”	• Type of Service Requested (eResponse.05) • Mechanism of Injury (eInjury.02) • Trauma Center Criteria (eInjury.03) • Vehicular, Pedestrian, or Other Injury Risk Factor (eInjury.04)
Exclusion Criteria	**Criteria**	**Data Elements**
	• eInjury.02 = Not Null, 7701001, 7701003, 7701005	• Mechanism of Injury (eInjury.02)

Numerator Statement (sub-population)	Number of suspected trauma patients meeting CDC Step 1 or 2 or 3 criteria who were transported to a trauma center from a 911 response	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	• eDisposition.23 **=** 9908021, 9908023, 9908025, 9908027, 99808025 • eInjury.02 = Logical and Present **OR** • (eInjury.03 = 2903001, 2903003, 2903005, 2903007, 2903009, 2903011, 2903013, 2903015, 2903017, 2903019, 2903021) **OR** • eInjury.04 = 2904001, 2904003, 2904005, 2904007, 2904009, 2904011, 2904013, 2904015) • eResponse.05 = 2205001 “911 Response (Scene)”	• Hospital Capability (eDisposition.23) • Type of Service Requested (eResponse.05) • Mechanism of Injury (eInjury.02) • Trauma Center Criteria (eInjury.03) • Vehicular, Pedestrian, or Other Injury Risk Factor (eInjury.04)
Exclusion Criteria	**Criteria**	**Data Elements**
	eInjury.02 = Not Null, 7701001, 7701003, 7701005	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	

Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

PAIN ASSESSMENT FOR INJURED PATIENTS

MEASURE SET	Trauma	
SET MEASURE ID #	TRA - 3	
PERFORMANCE MEASURE NAME	Pain Assessment for Injured Patients	
Description	What percent of patients received a pain assessment from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of 911 responses	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)"	• Type of Service Requested (eResponse.05)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of patients who received a pain scale originating from a 911 Request	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" **AND** • eVitals.27 = Not Null	• Type of Service Requested (eResponse.05) • Pain Scale Score (eVitals.27)
Exclusion Criteria	**Criteria**	**Data Elements**
	eVitals.27 = 8801019, 8801023	• Pain Scale Score (eVitals.27)

Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

MULTIPLE PAIN ASSESSMENTS FOR INJURED PATIENTS

MEASURE SET	Trauma	
SET MEASURE ID #	TRA - 4	
PERFORMANCE MEASURE NAME	Multiple Pain Assessments for Injured Patients	
Description	What percent of patients received 2 or more pain scale assessment from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients who received a pain scale from a 911 response	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • eVitals.27 has a value > 0	• Type of Service Requested (eResponse.05) • Pain Scale Score (eVitals.27) • Patient Care Report Number (eRecord.01) • Possible Injury (eSituation.02)
Exclusion Criteria	**Criteria**	**Data Elements**
Numerator Statement (sub-population)	Number of patients who received more than one pain scale originating from a 911 response	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	Pseudocode as follows: eRecord.01 IN (SELECT * FROM eVitals WHERE	• Type of Service Requested (eResponse.05) • Pain Scale Score (eVitals.27) • Patient Care Report Number (eRecord.01) • Possible Injury (eSituation.02)

	e.Vitals.27 = NOT NULL *GROUP BY* eRecord.01 *HAVING* Count(*) >1) *WHERE* [eSituation.02] = 9922005 AND [eVitals.27] > 0 *WHERE* eResponse.05 = 2205001 “911 Response (Scene)”	
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

PAIN RELIEF FOR INJURED PATIENTS

MEASURE SET	Trauma	
SET MEASURE ID #	TRA - 5	
PERFORMANCE MEASURE NAME	Measurement of patients with a decrease in their pain scale compared to initial pain scale	
Description	What percent of patients who received 2 or more pain scale assessments, had a decrease in their pain scale compared to their initial pain scale originating from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients who received two pain scales from a 911 response	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	Pseudocode as follows: eRecord.01 IN (SELECT * FROM eVitals WHERE e.Vitals.27 = NOT NULL GROUP BY eRecord.01 HAVING Count(*) >1) WHERE [eSituation.02] = 9922005 AND [eVitals.27] > 0 WHERE eResponse.05 = 2205001 “911 Response (Scene)”	• Type of Service Requested (eResponse.05) • Pain Scale Score (eVitals.27) • Patient Care Report Number (eRecord.01) • Possible Injury (eSituation.02)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	

19 ● California EMS System Core Quality Measures

Numerator Statement (sub-population)	Patients with a decrease in their pain scale compared to initial pain scale	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	Pseudocode as follows: *MAX*([eVitals.27]) – *LAST*([eVitals.27)] > 0 *WHERE* [eSituation.02] = 9922005 AND [eVitals.27] > 0 and eRecord.01 *IN* (*SELECT* * *FROM* eVitals *WHERE* e.Vitals.27 = NOT NULL *GROUP BY* eRecord.01 *HAVING* count(*) >1) *WHERE* eResponse.05 = 2205001 “911 Response (Scene)”	• Type of Service Requested (eResponse.05) • Pain Scale Score (eVitals.27) • Patient Care Report Number (eRecord.01) • Possible Injury (eSituation.02)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	

Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

ASPIRIN ADMINISTRATION FOR CHEST PAIN/DISCOMFORT

MEASURE SET	Acute Coronary Syndrome	
SET MEASURE ID #	ACS - 1	
PERFORMANCE MEASURE NAME	Aspirin Administration for Chest Pain/Discomfort	
Description	What percent of patients with chest pain/discomfort were administered aspirin from EMS personnel originating from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients who had a primary or secondary impression of chest pain/discomfort originating from a 911 response.	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • (eSituation.11 = I20.9 "Chest Pain - Suspected Cardiac" OR • eSituation.12 = I20.9 "Chest Pain - Suspected Cardiac")	• Type of Service Requested (eResponse.05) • Provider Primary Impression (eSituation.11) • Provider Secondary Impression (eSituation.12)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of patients who had a primary or secondary impression of chest pain/discomfort originating from a 911 response who also received aspirin from EMS personnel	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • (eSituation.11 = I20.9 "Chest Pain - Suspected Cardiac" OR	• Type of Service Requested (eResponse.05) • Provider Primary Impression (eSituation.11)

	• eSituation.12 = I20.9 “Chest Pain - Suspected Cardiac”) AND • eMedications.03 = 1191 “Aspirin”	• Provider Secondary Impression (eSituation.12) • Medication Given (eMedications.03)
Exclusion Criteria	**Criteria**	**Data Elements**
	eMedications.03 = 8801001, 8801003, 8801007, 8801009, 8801019, 8801023 “Pertinent Negatives”	• Medication Given (eMedications.03)
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

SCENE TIME FOR STEMI PATIENTS

MEASURE SET	Acute Coronary Syndrome	
SET MEASURE ID #	ACS - 3	
PERFORMANCE MEASURE NAME	Scene Time for STEMI Patients	
Description	For STEMI patients, what is the 90th Percentile scene time originating from a 911 Response?	
Type of Measure	Process	
Reporting Value and Units	Time (Minutes)	
Continuous Variable Statement (Population)	Time (in minutes) from time EMS personnel arrival at the patient side until the patient arrives at a trauma center, originating from a 911 response	
Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.05 = 2205001 "911 Response (Scene)" • eProcedure.01 = Not Null • eProcedure.03 = 268400002 "12 Lead ECG Obtained" • eVitals.03 = 9901051, 9901053, 9901055, 9901057 "STEMI Anterior Ischemia, STEMI Inferior Ischemia, STEMI Lateral Ischemia, STEMI Posterior Ischemia" • eTimes.07 = Logical and Present • eTimes.09 = Logical and Present • eResponse.05 = 2205001 "911 Response (Scene)") WHERE eTimes.09 – eTimes.07	• Type of Service Requested (eResponse.05) • Date/Time Procedure Performed (eProcedure.01) • Procedure (eProcedure.03) • Cardiac Rhythm / Electrocardiography (ECG) (eVitals.03) • Arrived at Patient Date/Time (eTimes.07) • Unit Left Scene Date/Time (eTimes.09)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Indicator Formula Numeric Expression	The formula is the 90th Percentile of the given numbers or distribution in their ascending order.	

Example of Final Reporting Value (number and units)	19 minutes, 34 seconds (19:34)
Sampling	Yes
Aggregation	Yes
Blinded	Yes
Minimum Data Values	30
Data Collection Approach	☐ Retrospective data sources for required data elements include administrative data and pre-hospital care records. ☐ Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
Suggested Display Format & Frequency	Process control or run chart by month
Suggested Statistical Measures	90th Percentile Measurement. Aggregate measure of central tendency and quantile (fractile) measurement to determine the span of frequency distributions.
Trending Analysis	Yes
Benchmark Analysis	(TBD)

ADVANCED HOSPITAL NOTIFICATION FOR STEMI PATIENTS

MEASURE SET	Acute Coronary Syndrome	
SET MEASURE ID #	ACS - 4	
PERFORMANCE MEASURE NAME	Advance Hospital Notification for STEMI Patients	
Description	What percent of STEMI patients transported by ground ambulance included an advance hospital notification or pre-arrival alert?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients who received a 12 Lead ECG and yielded a positive STEMI measurement.	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 “911 Response (Scene)” • eProcedure.01 = Not Null • eProcedure.03 = 268400002 “12 Lead ECG Obtained” • eVitals.03 = 9901051, 9901053, 9901055, 9901057 “STEMI Anterior Ischemia, STEMI Inferior Ischemia, STEMI Lateral Ischemia, STEMI Posterior Ischemia”	• Type of Service Requested (eResponse.05) • Date/Time Procedure Performed (eProcedure.01) • Procedure (eProcedure.03) • Cardiac Rhythm / Electrocardiography (ECG) (eVitals.03)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of patients who received a 12 Lead ECG and yielded a positive STEMI measurement which resulted in a documented advance hospital notification or pre-arrival alert	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**

	All events where: • eResponse.05 = 2205001 “911 Response (Scene)” • **(**eSituation.11 = I20.9 “Chest Pain - Suspected Cardiac” **OR** • eSituation.12 = I20.9 “Chest Pain - Suspected Cardiac”**)** **AND** • (eDisposition.24 = 4224013 “Yes-STEMI” **OR** • eDisposition.25 = NOT NULL)	• Type of Service Requested (eResponse.05) • Date/Time Procedure Performed (eProcedure.01) • Procedure (eProcedure.03) • Cardiac Rhythm / Electrocardiography (ECG) (eVitals.03) • Destination Team Pre-Arrival Alert or Activation (eDisposition.24) • Date/Time of Destination Prearrival Alert or Activation (eDisposition.25)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	

TIME TO EKG

MEASURE SET	Acute Coronary Syndrome	
SET MEASURE ID #	ACS - 6	
PERFORMANCE MEASURE NAME	Time to EKG	
Description	For STEMI patients, what amount of time, reported at the 90th percentile, transpired from EMS personnel arrival on scene until an EKG measurement with a positive STEMI was recorded?	
Type of Measure	Process	
Reporting Value and Units	Time (Minutes and Seconds)	
Continuous Variable Statement (Population)	Time (in minutes and seconds) from time EMS personnel arrived at the patient side until an EKG was applied, originating from a 911 Response	
Inclusion Criteria	**Criteria**	**Data Elements**
	• (eSituation.11 = I20.9 "Chest Pain - Suspected Cardiac" OR • eSituation.12 = I20.9 "Chest Pain - Suspected Cardiac") • eMedications.03 = 1191 "Aspirin" • (eProcedure.03 = 268400002 "12 Lead ECG Obtained" AND • eVitals.03 = 9901051, 9901053, 9901055, 9901057 "STEMI Anterior Ischemia, STEMI Inferior Ischemia, STEMI Lateral Ischemia, STEMI Posterior Ischemia") • eResponse.05 = 2205001 "911 Response (Scene)" WHERE eProcedure.01 - eTimes.07	• Type of Service Requested (eResponse.05) • Provider Primary Impression (eSituation.11) • Provider Secondary Impression (eSituation.12) • Medication Given (eMedication.03) • Procedure (eProcedure.03) • Date/Time Procedure Performed (eProcedure.01) • Arrived at Patient Date/Time (eTimes.07)
Exclusion Criteria	**Criteria**	**Data Elements**
	eMedications.03 = 8801001, 8801003, 8801007, 8801009,	

	8801019, 8801023 “Pertinent Negatives”	
Indicator Formula Numeric Expression	The formula is the 90th Percentile of the given numbers or distribution in their ascending order.	
Example of Final Reporting Value (number and units)	19 minutes, 34 seconds (19:34)	
Sampling	Yes	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	☐ Retrospective data sources for required data elements include administrative data and pre-hospital care records. ☐ Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	
Suggested Display Format & Frequency	Process control or run chart by month	
Suggested Statistical Measures	90th Percentile Measurement. Aggregate measure of central tendency and quantile (fractile) measurement to determine the span of frequency distributions.	
Trending Analysis	Yes	
Benchmark Analysis	(TBD)	

TREATMENT ADMINISTERED FOR HYPOGLYCEMIA

MEASURE SET	Hypoglycemia	
SET MEASURE ID #	HYP - 1	
PERFORMANCE MEASURE NAME	Treatment administered for hypoglycemia	
Description	What percent of patients received treatment to correct their hypoglycemia originating from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients with a blood glucose level indicating hypoglycemia	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • eVitals.18 = score/value < 60	• Type of Service Requested (eResponse.05) • Blood Glucose Level (eVitals.18)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of patients who received treatment to correct their hypoglycemia originating from a 911 response	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • eVitals.18 = score/value < 60 AND • eProcedure.03 = 710925007 "Provision of food", 25285007 "Giving Oral Fluid"	• Type of Service Requested (eResponse.05) • Blood Glucose Level (eVitals.18) • Medication Given (eMedications.03)

	OR • eMedications.03 = 1795480, 1795477, 260258, 309778, 237653, 4832, 377980	
Exclusion Criteria	**Criteria**	**Data Elements**
	• eMedications.03 = 8801001, 8801003, 8801007, 8801009, 8801019, 8801023 "Pertinent Negatives"	• Medication Given (eMedications.03)
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

PREHOSPITAL SCREENING FOR SUSPECTED STROKE PATIENTS

MEASURE SET	Stroke	
SET MEASURE ID #	STR - 1	
PERFORMANCE MEASURE NAME	Prehospital Screening for Suspected Stroke Patients	
Description	What percent of suspected stroke patients received a prehospital stroke screening originating from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients with a provider primary or secondary impression of stroke	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • (eSituation.11 = I63%, G45%) OR • eSituation.12 = I63%, G45%)	• Type of Service Requested (eResponse.05) • Provider Primary Impression (eSituation.11) • Provider Secondary Impression (eSituation.12)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of patients with a provider primary or secondary impression of stroke and yielding a documented stroke assessment	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • (eSituation.11 = I63%, G45% OR • eSituation.12 = I63%, G45%)	• Type of Service Requested (eResponse.05) • Provider Primary Impression (eSituation.11)

	AND • (eVitals.29 =3329001 “Negative”, 3329003 “Non-Conclusive”, 3329005 “Positive” OR • eVitals.30 = 3330001 “Cincinnati”, 3330003 “Los Angeles”, 3330005 “Massachusetts, 3330007 “Miami Emergency Neurologic Deficit”, 3330009 “NIH”, 3330013 “F.A.S.T. Exam”)	• Provider Secondary Impression (eSituation.12) • Stroke Scale Score (eVitals.29) • Stroke Scale Type (eVitals.30)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

GLUCOSE TESTING FOR SUSPECTED STROKE PATIENTS

MEASURE SET	Stroke	
SET MEASURE ID #	STR-2	
PERFORMANCE MEASURE NAME	Glucose Testing for Suspected Stroke patients	
Description	Patients with suspected stroke have assessment of blood glucose level originating from a 911 response	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	All Suspected Stroke patients	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.05 = 2205001 “911 Response (Scene)” • (eSituation.11 = I63.9 “Stroke / CVA / TIA” OR • eSituation.12 = I63.9 “Stroke / CVA / TIA”)	• Type of Service Requested (eResponse.05) • Provider Primary Impression (eSituation.11) • Provider Secondary Impression (eSituation.12)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Glucose level checked on all suspected stroke patients	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.05 = 2205001 “911 Response (Scene)” • ((eSituation.11 = I63.9 “Stroke / CVA / TIA” OR • eSituation.12 = I63.9 “Stroke / CVA / TIA”) And • eVitals.18 = Logical and Present	• Provider Primary Impression (eSituation.11) • Provider Secondary Impression (eSituation.12) • Procedure (eProcedure.03)
Exclusion Criteria	**Criteria**	**Data Elements**
	eVitals.18 = 7701001, 7701003 “Not Values” eVtials.18 = 8801019, 8801023 “Pertinent Negatives”	• Blood Glucose Level (eVitals.18)

Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%
Example of Final Reporting Value (number and units)	90%
Sampling	Yes
Aggregation	Yes
Blinded	Yes
Minimum Data Values	30
Data Collection Approach	☐ Retrospective data sources for required data elements include administrative data and pre-hospital care records. ☐ Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
Suggested Display Format & Frequency	Process control or run chart by month
Suggested Statistical Measures	Mean (x); Mode (m)
Trending Analysis	Yes
Benchmark Analysis	(TBD)
Rationale for Data	☐ ☐

ADVANCE HOSPITAL NOTIFICATION FOR STROKE PATIENTS

MEASURE SET	Stroke	
SET MEASURE ID #	STR - 4	
PERFORMANCE MEASURE NAME	Advance Hospital Notification for Stroke Patients	
Description	What percent of stroke patients transported by ground ambulance included an advance hospital notification or pre-arrival alert?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of patients who received a stroke scale and yielded a positive stroke measurement.	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • eVitals.29 = 3329005 "Positive"	• Type of Service Requested (eResponse.05) • Stroke Scale Score (eVitals.29)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of patients who received a stroke scale and yielded a positive stroke measurement which resulted in a documented advance hospital notification or pre-arrival alert	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • eVitals.29 = 3329005 "Positive" AND	• Type of Service Requested (eResponse.05) • Stroke Scale Score (eVitals.29) • Destination Team Pre-Arrival Alert or Activation (eDisposition.24) • Date/Time of Destination Pre-Arrival Alert or Activation (eDisposition.25)

	• (eDisposition.24 = 4224015 "Yes-Stroke" OR • eDisposition.25 = NOT NULL)	
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

RESPIRATORY ASSESSMENT FOR PEDIATRIC PATIENTS

MEASURE SET	Pediatric	
SET MEASURE ID #	PED - 3	
PERFORMANCE MEASURE NAME	Respiratory Assessment for Pediatric Patients	
Description	What percent of pediatric patients with a provider primary or secondary impression of patients received a documented respiratory assessment originating from a 911 response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of pediatric patients with a provider primary or secondary impression of respiratory distress	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • ePatient.15 = <15 "Patient Age" • (eSituation.11 = J98.01 OR • eSituation.12 = J98.01)	• Type of Service Requested (eResponse.05) • Patient Age (ePatient.15) • Provider Primary Impression (eSituation.11) • Provider Secondary Impression (eSituation.12)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of pediatric patients with a provider primary or secondary impression of respiratory distress and yielding a documented respiratory assessment	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	All events where: • eResponse.05 = 2205001 "911 Response (Scene)" • ePatient.15 = <=15 "Patient Age" • (eSituation.11 = J98.01 OR • eSituation.12 = J98.01)	• Type of Service Requested (eResponse.05) • Patient Age (ePatient.15) • Provider Primary Impression (eSituation.11)

	AND • (eVtials.12 = Logical and Present OR • eVitals.14 = Logical and Present)	• Provider Secondary Impression (eSituation.12) • Pulse Oximetry (eVitals.12) • Respiratory Rate (eVitals.14)
Exclusion Criteria	**Criteria**	**Data Elements**
	eVitals.12 = 7701001, 7701003, 8801005, 8801019, 8801023 eVitals.14= 7701001, 7701003, 8801005, 8801019, 8801023	• Pulse Oximetry (eVitals.12) • Respiratory Rate (eVitals.14)
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

911 REQUESTS FOR SERVICES THAT INCLUDE A LIGHT AND/OR SIREN RESPONSE

MEASURE SET	Response and Transport	
SET MEASURE ID #	RST - 4	
PERFORMANCE MEASURE NAME	911 requests for services that include a lights and/or siren response	
Description	What percent of 911 requests for services that include a lights and/or siren response?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of 911 requests for services	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.05 = 2205001 "911 Response (Scene)"	• Type of Service Requested (eResponse.05)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of 911 requests for services that include a lights and/or siren response	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.24 = 2224015, 2224017, 2224021, 2224023 • eResponse.05 = 2205001 "911 Response (Scene)"	• Additional Response Mode Descriptors (eResponse.24) • Type of Service Requested (eResponse.05)

Exclusion Criteria	Criteria	Data Elements
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

LIGHT AND/OR SIREN TRANSPORT RATE

MEASURE SET	Response and Transport	
SET MEASURE ID #	RST - 5	
PERFORMANCE MEASURE NAME	Lights and/or Siren Transport Rate	
Description	What percent of 911 requests for services that include a lights and/or siren transport?	
Type of Measure	Process	
Reporting Value and Units	(%) Percentage	
Denominator Statement (population)	Number of 911 requests for services which included a patient transport	
Denominator Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.05 = 2205001 "911 Response (Scene)" • eDisposition.12 = 4212033 "Patient Treated, Transported by this EMS Unit"	• Type of Service Requested (eResponse.05) • Incident/Patient Disposition (eDisposition.12)
Exclusion Criteria	**Criteria**	**Data Elements**
	None	
Numerator Statement (sub-population)	Number of 911 Requests for services that include a lights and/or siren patient transport	
Numerator Inclusion Criteria	**Criteria**	**Data Elements**
	• eResponse.05 = 2205001 "911 Response (Scene)" • eDisposition.12 = 4212033 "Patient Treated, Transported by this EMS Unit" • eDisposition.18 = 4218011, 4218013, 4218017, 4218019	• Type of Service Requested (eResponse.05) • Incident/Patient Disposition (eDisposition.12) • Additional Transport Mode Descriptors (eDisposition.18)

Exclusion Criteria	Criteria	Data Elements
	None	
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore the indicator expressed numerically is N/D =%	
Example of Final Reporting Value (number and units)	15%	
Sampling	No	
Aggregation	Yes	
Blinded	Yes	
Minimum Data Values	30	
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and pre-hospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.	

California EMS System Core Quality Measures

Edmund G. Brown Jr.
Governor
State of California

Diana S. Dooley
Secretary
Health and Human Services Agency

Howard Backer, MD, MPH, FACEP
Director
Emergency Medical Services Authority

EMSA Publication #166 – Appendix E
Released January 2013
Updated February 2018
www.emsa.ca.gov

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Adam Davis
Quality Improvement Coordinator, EMS Systems Division

SUBJECT: Ambulance Patient Offload Time Reporting

RECOMMENDED ACTION:

Receive information regarding ambulance patient offload time reporting.

FISCAL IMPACT:

None

DISCUSSION:

Ambulance patient offload times (APOT) continue to be submitted quarterly to EMSA. To date, 15 of the 33 LEMSAs have provided at least one Quarter's worth of APOT information, represented 238 (non-unique) hospitals for 2017 Data. Of those reporting LEMSAs, only 8 LEMSAs provided the full years' worth of 2017 data. Currently, EMSA is working to develop a repository for this information to enhance the ability for review and analysis. Doing so will help to streamline future submissions of APOT information. Additionally, EMSA revised the APOT reporting spreadsheet to include clearer instructions, formatting enhancements, additional aggregate information, and cost per unit hour.

EMSA continues the review of APOT submissions and is working to determine the best ways to visualize the information in a meaningful way. LEMSAs are encouraged to complete and submit APOT information to EMSA each quarter and continue to monitor and analyze APOT data to help identify and implement quality improvement strategies where needed.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Laura Little, EMT
Transportation Coordinator

SUBJECT: EMS Plan Appeal Update

RECOMMENDED ACTION:

Receive information on the status of the EMS Plan Appeals.

FISCAL IMPACT:

Unknown specific costs to the EMS Authority and local EMS agencies who request the ability to exercise their right to appeal an EMS plan determination made by the EMS Authority.

DISCUSSION:

There are currently three (3) local EMS agencies (LEMSAs) with EMS Plan Appeals on record. They are the Kern County EMS Agency, El Dorado County EMS Agency, and Santa Clara County EMS Agency.

The Kern County appeal hearing, will take place March 13-15, 2018, in Bakersfield.

El Dorado County's appeal hearing is still pending, as available hearing dates have not been provided by El Dorado County EMS agency.

In a May 16, 2017 letter to the EMS Authority, the Santa Clara County EMS agency filed an appeal of their 2015 EMS Plan determination. Since May of 2017, the EMS Authority has been working with Santa Clara County EMS on the issues central to their plan denial. On February 28, 2018, the 2015 Santa Clara EMS Plan received EMS Authority approval. It is anticipated that with the issues related to their 2015 EMS Plan resolved, the appeal they submitted will be withdrawn.

Review of Commission' Roll in the EMS Plan Appeal Process:

The applicable statues sections are listed below:

- Health & Safety Code, Section 1797.105(b) gives the EMS Authority the authority to approve or not approve a local EMS plan.
- *Section 1797.105(c) A local EMS agency may appeal a determination of the authority pursuant to subdivision (b) to the commission.*
- *Section 1797.105(d) In an appeal pursuant to subdivision (c), the commission may sustain the determination of the authority or overrule and permit local implementation of a plan, and the decision of the commission is final.*

At the September 17, 2014 Commission meeting, two methods of the EMS Plan Appeal process were discussed. Ultimately, the Commission adopted the Administrative Procedures Act (APA) process. The APA method would require a hearing held before an Administrative Law Judge (ALJ). The ALJ would be able to allow for the calling of witnesses, the submission of motions and briefs, there would be time set for oral arguments, there would be additional rebuttal time provided. This closely follows the same process a civil hearing would.

Once a LEMSA files an appeal of their EMS plan, an appeal hearing will be scheduled with the Office of Administrative Hearings (OAH), the hearing will be held and will be open to the public. Once both parties have argued their case, before the ALJ, the ALJ will have 30-days to render a written determination. The determination is not binding on the Commission, but is an advisory.

Once the ALJ determination has been made it will come before the Commission, at the next regularly scheduled meeting, and the Commission would vote, either to adopt that determination as its own, reject the determination and not adopt the ALJ's proposed determination, or send it back to the OAH to again hear the matter.

The Commission will be updated on the status of appeal hearings at future Commission meetings.

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Craig Johnson
Chief, Disaster Medical Services Division

SUBJECT: Ambulance Strike Team Program Utilization

RECOMMENDED ACTION:

Receive information regarding the utilization and progress of the EMS Authority's Ambulance Strike Team (AST) Program.

FISCAL IMPACT:

None

DISCUSSION:

The AST Program is an essential component of the mobile medical assets utilized by EMSA to respond to mass casualty and other significant disaster events in California. The Ambulance Strike Team/Medical Task Force Guidelines (EMSA #215) were approved by the EMS Commission in June 2003. The program is modeled after the FIRESCOPE Strike Team concept, comprised of 5 like ambulances, Advanced Life Support (ALS) or Basic Life Support (BLS), plus an Ambulance Strike Team Leader in a separate vehicle. A Disaster Medical Support Unit (DMSU) is designed to serve as the leader vehicle and provides extended logistical support to the team.

The AST Program concept dates back to 2001 and was intended to provide immediate EMS operational response to disaster situations, with a focus upon field triage, treatment, and transportation. The program was created in part due to the floods of 1997 in Sutter and Yuba counties where there was a haphazard and chaotic ambulance response to the evacuation needs. Further urgency for the program came as a result of hurricane Katrina.

Presently, California has both Affiliated and Unaffiliated Strike Teams. Affiliated Teams are those hosted by ambulance providers who have an MOU with EMSA for the maintenance and use of a DMSU. There are 41 such teams spread around the State. Strike Teams are not limited to these providers however, and numerous other teams have

been formed by providers who simply desire to participate. These are Unaffiliated Teams, which are becoming more commonplace as providers embrace the AST concept.

The first Ambulance Strike Team Leader (ASTL) training was held in January 2002. Since that time EMSA has been conducting AST Leader classes throughout the State. To date over 400 individuals have completed the training and have been issued “Red” Qualification cards which may be renewed every 5 years. Requests for AST Leader classes have risen noticeably over the past several months and demand is expected to continue throughout 2018.

The AST Program has seen extensive use over the past 12 months, supporting the major incidents that occurred in California in that time. In February 2017, 9 ALS Strike Teams, 4 from Region III and 5 from Region IV, logged nearly 1400 hours as they provided System Support, Medical Patient Evacuations, managed Special Needs Populations and performed other tasks as part of the response to the Oroville Dam situation.

Later in the year, fires that ravaged Northern California in Santa Rosa and Napa required the evacuation of hundreds of patients relocation as the fires advanced and later, repatriation (returning patients to their “home” facilities). This need was met by 14 ASTs from Mutual Aid regions II, III, IV and V, logging nearly 2000 deployment hours and almost 10,000 AST Unit hours, involving nearly 300 personnel.

In early December, fueled by historic Santa Ana winds, fire storms erupted in Ventura, Los Angeles and San Diego Counties. ASTs from Region I were utilized in this response, again primarily for patient evacuation missions. A total of 6 ASTs were utilized to support the response.

Lastly, in January of this year, an AST was organized and dispatched from San Louis Obispo County to assist Santa Barbara County during the major rains and mudslides event.

Since the program inception the use of ASTs have steadily increased and is now common place for response to emergencies and disasters. However, work still needs to be done regarding reimbursement for AST deployments. The State has a published rate (based on current FEMA rates) it pays when the State requests an AST, but there is no required or recommended rate for reimbursement for use by local governments.

<u>Future EMSA Plans:</u>

- Work with local and regional partners to develop reimbursement guidelines for AST deployments
- Increase the number of participating providers in the AST statewide program
- Provide increased AST Leader training opportunities and develop a Train-The-Trainer program
- Explore public sector participation in the AST program

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

DATE: March 21, 2018

TO: Commission on EMS

FROM: Howard Backer, MD, MPH, FACEP
Director

PREPARED BY: Sean Trask, Chief
EMS Personnel Division

SUBJECT: Election of Commission Officers for 2018

RECOMMENDED ACTION:

1. Close the nominations for Chair, Vice Chair, and Administrative Committee.
2. Hold the election.

FISCAL IMPACT:

There is no fiscal impact.

DISCUSSION:

Per the Commission on EMS By-Laws, all Commission Officers are eligible for re-election except the immediate past chair who is automatically a member of the Administrative Committee.

The following individuals were nominated for Commission Officers at the December 6, 2017 Commission meeting:

Chair:	Steve Drewniany
Vice Chair:	Mark Hartwig
Administrative Committee:	Jaison Chand
	Lewis Stone
	Dan Burch (Immediate Past Chair)