EMERGENCY MEDICAL SERVICES AUTHORITY
11120 INTERNATIONAL DR., 2ND FLOOR
RANCHO CORDOVA, CA 95670
(916) 322-4336 FAX (916) 324-2875

May 26, 2023

Lauri McFadden, EMS Administrator
Alameda County EMS Agency
1000 San Leandro Blvd., Ste. 200
Alameda, CA 94577

Dear Ms. McFadden,

This letter is in response to Alameda County Emergency Medical Services (EMS) Agency's 2020-2022 EMS, Trauma, St-Elevation Myocardial Infarction (STEMI), Stroke and Quality Improvement (QI) plan submissions to the EMS Authority on February 2, 2023.

The EMS Authority has reviewed the EMS plan based on compliance with statutes, regulations, and case law. It has been determined that the plan meets all EMS system components identified in Health and Safety Code (HSC) § 1797.103 and is approved for implementation pursuant to HSC § 1797.105(b). Based on the transportation documentation provided, please find enclosed the ground exclusive operating area status, compiled by the EMS Authority.

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

Per HSC § 1797.254, EMS Plans must be submitted to the EMS Authority annually. Your 2023 EMS plan will be due on or before May 26, 2024. Concurrently with the EMS plan, please submit an annual Trauma, STEMI, Stroke, and QI plan.

If you have any questions regarding the EMS Plan review, please contact Mr. Mark Olivas, Interim EMS Plans Coordinator, at (916) 204-7885 or mark.olivas@emsa.ca.gov.

Sincerely,

Tom McGinnis

Tom McGinnis
Chief, EMS Systems Division

Enclosure:
AW: rd

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11120 INTERNATIONAL DR., 2ND FLOOR
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(916) 322-4336 FAX (916) 324-2875

Alameda County 2020-2022 EMS Plan Ground Exclusive Operating Areas	Non-Exclusive	Exclusive	Method to Achieve Exclusivity	Emergency Ambulance	ALS	LALS	All Emergency Ambulance Services	9-1-1 Emergency Response	7-digit Emergency Response	ALS Ambulance	All CCT Ambulance Services	ALS IFT	Standby Service with Transport Authorization
ZONE	**EXCLUSIVITY**			**TYPE**			**LEVEL**						
Alameda County EOA		X	Competitive	X				X		X			X
City of Alameda		X	Non-Competitive	X				X					
City of Albany		X	Non-Competitive	X				X					
City of Berkeley		X	Non-Competitive	X				X					
City of Piedmont		X	Non-Competitive	X				X					
Lawrence Livermore Nat'l Lab			Exempt										

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY **Colleen Chawla,** HCSA Director

Emergency Medical Services Agency
1000 San Leandro Blvd, Suite 200
San Leandro, CA 94577

Lauri McFadden, EMS Director
Zita Konik, MD, Medical Director
Main: (510) 618-2050
Fax: (510) 618-2099

MEMORANDUM

DATE: May 23, 2023

TO: Angela Wise, EMSA
Roxanna Delao, EMSA

FROM: Lauri McFadden, EMS Director

SUBJECT: EMS System Plan – Supplemental Information

Please find below additional information to supplement the Alameda County EMS System Plan Submission.

Dispatch Services and Medical Control

Alameda County is in compliance with 1798.8 and SB 438 as all 911 EMS services, to include the private 911 ambulance transport provider, are dispatched through public safety agencies. Call prioritization, as set by the medical control of the Local EMS Agency, does not supplant or prohibit public safety responses, reduce responses to levels lower than private entities, or prevent public safety mutual aid pursuant to the California Emergency Services Act.

Aircraft Information and Equipment

Alameda County has provided information regarding medical and rescue aircraft in section 4.08, 4.09, and 4.10 of the EMS System Plan. As noted in these sections, the EMS Aircraft Transport policy starts on page 93 of the Alameda County EMS Protocol Book and clearly dictates in a notation at the top of the policy that all EMS Aircraft utilized in Alameda County for prehospital emergency care shall meet the qualifications specified in Title 22, Chapter 8. The request for medical aircraft is coordinated through Alameda County Regional Emergency Communications Center, a public safety-based dispatch center. The EMS Aircraft Transport policy is available through the hyperlinks in the above-referenced sections of the EMS System Plan and is also attached to this memorandum.

Clarification on Defib This and Bear EMT EMS Training Programs

Defib This provides an EMT training program referred to as “Bear EMT Training” which provides EMT training to students at UC Berkeley for on campus non-911 responses. During COVID, Defib This transitioned the program to being virtual for didactic and the skill portion being completed at their Santa Cruz campus. With the sunset of the COVID emergency declaration, the course has not transitioned back to being in person in Alameda County. Defib This is not currently an approved training program in Alameda County, having let it expire since they are no longer physically present in our county, however they are still an approved training program in Santa Cruz County where the physical training is being completed.

EMS AIRCRAFT TRANSPORT

NOTE: EMS Aircraft utilized in Alameda County for prehospital emergency care will meet the qualifications specified in Title 22, Chapter 8.

1. INITIATING EMS AIRCRAFT RESPONSE

1.1 The decision to request an EMS Aircraft is based on medical and scene management considerations

1.2 Prior to arrival at the scene - An EMS Aircraft may be activated by any responding agency if there may be a potential need for air transport based on the incident type or location of the victim(s)

1.3 All responding agencies shall be notified when an EMS Aircraft has been requested

1.4 When on-scene, the decision to activate an EMS Aircraft shall be made by the IC (Incident Commander or his/her designee). upon:

- ▶ the advice of on-scene medical personnel and/or
- ▶ the suitability of the scene for helicopter operations

2. CONSIDERATIONS FOR REQUESTING EMS AIRCRAFT: (one or more of the following conditions exists)

2.1 Long response times to scene (>20 minutes)

2.2 Inaccessibility to the scene by ground personnel or equipment

2.3 Extended extrication

2.4 Extended transport to an appropriate facility > 20 minutes (e.g. remote area, peak traffic, closest most appropriate facility closed)

2.5 Patients meeting Critical Trauma Patient Criteria (see **page 25**) with extended transport time to an approved Trauma Center

2.6 Patients requiring advanced skills not in the Alameda County Paramedic scope of practice. (e.g. RSI, Surgically places thoracostomy tubes)

2.7 Patient conditions where a decrease in transport time to an appropriate medical facility may be a significant factor

2.8 Patients in cardiac arrest from drowning or penetrating trauma with a short down time. In general, **all other patients with cardiac arrest should not be transported in an air ambulance or rescue aircraft**

2.9 A multi-casualty incident exists with a need for increased resources

3. EMS AIRCRAFT DISPATCH

3.1 All EMS Aircraft activations shall be made through ALCO-CMED. ALCO should be given the following information if available:

- ▶ Number of Patients and acuity of each
- ▶ Type and extent of injuries
- ▶ Location of Landing Site (use Thomas Brothers Map coordinates or Longitude and Latitude, if possible)
- ▶ Nearest landmarks (e.g., highways, railroad tracks, water towers)
- ▶ Weather conditions, especially high winds, fog or visibility problems.

4. COMMUNICATION

4.1 ALCO-CMED shall request activation of the EMS Aircraft that has the shortest total response time to the scene/rendezvous site

4.2 The responding EMS Aircraft may contact ALCO on VHF TAC 4 (154.070) while en route to the scene to confirm radio frequency and ground contact/incident identifier

- ▶ The preferred frequency for helicopter to ground unit communications is: CALCORD (156.075)
- ▶ Alternate frequencies are VHF TAC 4 (154.070) and VHF TAC 5 (154.235), but should be

coordinated through ALCO-CMED

- ► Fire White (154.280) is not authorized for cross patch to an ambulance or helicopter

4.3 The responding EMS Aircraft will advise ALCO of ETA in minutes and clock hours. ALCO shall advise the requesting agencies of the EMS Aircraft's ETA

4.4 ALCO shall keep responding/on scene ground personnel updated as to aircraft status (cancellation, delays, inability to respond, etc.)

4.5 If multiple aircraft are responding to the scene or in the area of the incident, ALCO shall attempt to notify each aircraft of multiple aircraft response

4.6 The EMS Aircraft shall contact the receiving hospital prior to arrival. A patient care report and an ETA should be given

5. **UTILIZATION OF RESCUE AIRCRAFT**

5.1 A number of public agencies, including East Bay Regional Park District, California Highway Patrol, Coast Guard and various military units, operate aircraft which are classified as ALS Rescue Aircraft, BLS Rescue Aircraft or Auxiliary Aircraft

5.2 The decision to transport in a rescue aircraft should be made by on-scene medical personnel and is based on patient condition and availability of other resources

5.3 Considerations for utilizing rescue aircraft:

- ► the patient is in an area that is inaccessible to ground transport vehicle,
- ► the ETA of a ground ambulance and/or Air Ambulance exceeds the loading and lift-off time by the rescue aircraft
- ► an air ambulance is unavailable
- ► the patient clearly does not require the level of service provided by an air ambulance
- ► a rescue requiring the use of a hoist device is indicated

5.4 When an EMT-P accompanies a patient in a BLS rescue aircraft, the EMT-P must:

- ► have available all appropriate medical equipment needed to care for the patient;
- ► receive orientation to the aircraft and to medical air transport procedures according to Title 22, Chapter 8, Section 100302

6. **SAFETY/LANDING** - Safety rules at the scene include:

6.1 Landing Zone considerations (L-Z):

- ► 75' x 75' during daylight, 100' x 100' during night hours,
- ► clear of cross wires, debris, or other obstacles, relatively flat
- ► Consult CHP/Law Enforcement when landing on roadways

6.2 Ground personnel should coordinate with public safety agency for road closures, if necessary

6.3 The fire department should determine the landing zone and assure scene safety during landing

6.4 Before clearing EMS aircraft to land the IC must ensure that the helicopter will not block the transport of patients out of the scene by ground. If ground transport will be blocked then the IC must make sure that ground units with critical patients have departed before clearing aircraft to land

6.5 The pilot in command shall have the final authority as to the safe operation of the air transport. If, in the pilot's judgment, patient transport by an EMS aircraft would be unsafe, regardless of the patient's condition, the patient should be transported by ground ambulance

6.6 Ground personnel shall not approach the aircraft unless directed to do so and accompanied by the aircraft crew

6.7 Regardless of how the request was initiated, only the IC shall authorize the landing of a helicopter at

the scene. Coordination between medical personnel and the IC is essential

7. CANCELING EMS AIRCRAFT RESPONSE

7.1 Ground transport should be utilized if:

- ▶ the overall prehospital time will not be decreased by the use of air transport and/or
- ▶ the patient does not meet criteria identified in Section 3 for Requesting EMS Aircraft.

7.2 Regardless of how an EMS Aircraft activation was initiated, only the IC shall cancel the response. The IC will cancel the EMS Aircraft response if so advised by on-scene medical personnel (see 9.1 below) . Coordination among all medical personnel and the IC is essential

7.3 The IC should only cancel an EMS Aircraft response if on scene and aware of the patient's condition

7.4 EMS Aircraft response can be canceled by:

- ▶ notifying ALCO, who will then notify all responding agencies
- ▶ the IC if in contact with the responding Aircraft

7.5 The IC shall be immediately advised of the decision to transport by ground

7.6 If the EMS Aircraft arrive on scene prior to the ground ambulance, the responding ground ambulance shall not be canceled until:

- ▶ the EMS Aircraft has left the scene with the patient aboard; and,
- ▶ it is determined by the IC or his/her designee that there are no additional patients to be transported

8. TRANSPORT

8.1 The transporting ALS provider shall have authority and responsibility to determine mode of patient transport (air vs. ground) and patient destination. The transporting ALS provider must consult with first responder personnel and EMS Aircraft crew, if applicable, prior to making this decision

8.2 Alameda County transport policies shall be followed for all patients requiring air transport. Patients shall be transported to the closest hospital most appropriate for the medical needs of the patient with an approved Helipad or EMS Landing Site

8.3 Trauma Centers with approved helipads or emergency landing sites are:

- ▶ Eden Hospital (Castro Valley)
- ▶ Children's Hospital (Oakland)
- ▶ John Muir Hospital (Walnut Creek)
- ▶ Highland General Hospital (Coast Guard Island)
- ▶ Regional Medical Center (San Jose)
- ▶ Valley Medical Center (San Jose)
- ▶ Stanford University Hospital (Palo Alto)

8.4 Alameda County Receiving Hospitals with approved helipads or emergency landing sites are:

- ▶ Eden Hospital
- ▶ Washington Hospital
- ▶ Valley Care Medical Center
- ▶ Children's Hospital

9. PATIENT CARE RESPONSIBILITIES

9.1 Transfer of care shall occur:

- ▶ upon arrival/landing of the responding personnel at the scene when patient contact is made
- ▶ after a verbal patient care report is given to the transporting agency in accordance with **page 145**, "Transfer of Care"

9.2 The EMS Aircraft crew may release the patient to an ALS ground transport unit if ground transport is

determined appropriate

9.3 The EMS Aircraft or ALS ground ambulance crew may release a patient to BLS rescue aircraft if the patient does not require ALS care but air transport is determined to be appropriate.

10. **DOCUMENTATION** - Appropriate documentation must be completed on all patients transported by the EMS Aircraft crew and faxed immediately to ALCO EMS at (510) 618 – 2099

11. **REQUEST FOR MILITARY AIRCRAFT**

11.1 Military assistance may be used when non-disaster inland search and rescue operations may exceed local and state capabilities. Examples: water rescue, rescue in inclement weather. hoist rescue

11.2 One hour response time minimum time should be expected. An ETA can only be given after the request is made and an assessment of available resources has been completed

11.3 If hoist rescue requested do not place the patient on a stretcher or stokes basket, although the patient may be placed on a backboard. The hoist equipment requires specialized equipment

11.4 The incident commander determines the need for military aircraft and contact ALCO with the following information:

- ▶ Incident location and longitude and latitude if known
- ▶ Incident description including the number of injured, types of injuries and topography
- ▶ If a hoist is requested, an estimate of the distance the patient will need to lifted from the ground to the aircraft
- ▶ Altitude of incident if known
- ▶ Air to ground contact frequencies

11.5 **Notification Procedure - ALCO:**

- ▶ **For maritime rescue:** call Coast Guard Dispatch directly at (415) 556-2105 or (415) 556-2103
- ▶ **For land (non-maritime) rescue or assistance call:**
  - ➔ State OES Law Division at (800) 852-7550 for approval
  - ➔ Coast Guard dispatch (415) 556-2103 to give the Coast Guard helicopter flight crew an advanced notification. Since the Coast Guard's primary responsibility is maritime search and rescue, they can notify ALCO of their availability

11.6 If additional information is needed, ALCO will direct the questions to the requesting IC's dispatch center for direct contact.

Alameda County

2021-2022 EMS System Plan

Addendum

2020 Data Tables

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
Colleen Chawla, HCSA Director

Emergency Medical Services Agency
1000 San Leandro Blvd, Suite 200
San Leandro, CA 94577

Lauri McFadden, EMS Director
Zita Konik, MD, Medical Director
Main: (510) 618-2050
Fax: (510) 618-2099

March 6, 2023

Elizabeth Basnett
Acting Director
California Emergency Medical Services Authority
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670

Alameda County EMS System Plan Addendum Transmittal Letter

Director Basnett,

Attached please find an addendum to our 2021-2022 Alameda County EMS System Plan containing the data tables for the year 2020. This addendum provides the additional data required for Alameda County to have an EMS System Plan submission that encompasses the last three (3) years from 2020 through 2022.

Thank you in advance for your review of this additional data supplementing our already submitted 2021-2022 Alameda County EMS System Plan. As always, please do not hesitate to contact me if you have any questions or require additional information.

Respectfully,

DocuSigned by:
Lauri McFadden
EE5CB9B522844B4...
Lauri McFadden
Director, Emergency Medical Services

Attachment

CC: Colleen Chawla, Alameda County Health Care Services Agency Director
Aneeka Chaudhry, Alameda County Health Care Services Agency Assistant Director
Dr. Zita Konik, Alameda County EMS Medical Director
William McClurg, Alameda County EMS Deputy Director

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Table 2: System Organization and Management - 2020

Reporting Year: 2020

NOTE: Number (1) below is to be completed for each county. The balance of Table 2 refers to each agency.

1. Percentage of population served by each level of care by county:
(Identify for the maximum level of service offered; the total of a, b, and c should equal 100%.)

County: Alameda County

A. Basic Life Support (BLS)		0%
B. Limited Advanced Life Support (LALS)		0%
C: Advanced Life Support (ALS)		**100%**
	TOTAL	100%

2. Type of agency:

A. Public Health Department
B. County Health Services Agency
C. Other (non-health) County Department
D. Joint Powers Agency
E. Private Non-Profit Entity
F. Other _____

3. The person responsible for day-to-day operations of the EMS agency reports to:

A. Public Health Officer
B. Health Services Agency Director/Administrator
C. Board of Directors
D. Other _____

4. Indicate the non-required functions which are performed by the agency:

Implementation of Exclusive Operating Areas (Ambulance Franchising)	Yes
Designation of Trauma Centers/Trauma Care System Planning	Yes
Designation/Approval of Pediatric Facilities	Yes
Designation of Other Critical Care Centers	Yes
Development of Transfer Agreements	No
Enforcement of Local Ambulance Ordinance	Yes
Enforcement of Ambulance Service Contracts	Yes
Operation of Ambulance Service	No
Continuing Education	Yes

Personnel Training	Yes
Operation or Oversight of EMS Dispatch Center	Yes
Non-medical Disaster Planning	Yes
Administration of Critical Incident Stress Debriefing Team (CISD)	No
Administration of Disaster Medical Assistance Team (DMAT)	No
Administration of EMS Fund [Senate Bill (SB) 12/612]	No
Other:	N/A
Other:	N/A
Other:	N/A

5. EXPENSES

Salaries and Benefits (All but Contracted Personnel)	$ 4,255,583
Contract Services (e.g. Medical Director)	$ -
Operations (e.g. copying, postage, facilities)	$ 1,704,739
Travel	$ 5,000
Fixed Assets	$ -
Indirect Expenses (Overhead)	$ 1,579,308
Subsidies (Ambulance & Fire Dept First Responder Pass Thru)	$ -
EMS Fund Payments to Physicians/Hospital	$ 9,241,343
Dispatch Center Operations (Non-Staff)	$ 3,624,606
Training Program Operations	$ -
Other:	$ -
Other:	$ -
Other:	$ -
TOTAL EXPENSES	$ 20,410,579

6. SOURCES OF REVENUE

Special Project Grant(s) [from EMSA]	$ -
Preventative Health and Health Services (PHHS) Block Grant	$ -
Office of Traffic Safety (OTS)	$ -
State General Fund	$ -
County General Fund	$ -
Other Local Tax Funds (e.g. EMS District)	$ 20,400,579
County Contracts (e.g. Multi-County Agencies)	$ -
Certification Fees	$ -
Training Program Approval Fees	$ -
Training Program Tuition/Average Daily Attendance Funds	$ -
Job Training Partnership Act (JTPA) Funds/Other Payments	$ -
Base Hospital Application Fees	$ -

Trauma Center Application Fees	$	-
Trauma Center Designation Fees	$	-
Pediatric Facility Approval Fees	$	-
Pediatric Facility Designation Fees	$	-
Other Critical Care Center Application Fees	$	-
Other Critical Care Center Designation Fees	$	-
Ambulance Service/Vehicle Fees	$	-
Contributions	$	-
Other: Ambulance Response Time Penalties	$	-
Other: County Health Tax Subsidy	$	-
Other: Refunds from Prior Overpayment	$	-
Other: Grants/Donations	$	-
Other: Use of Available Fund Balance		
Other: Interest	$	10,000
TOTAL REVENUE	$	20,410,579

TOTAL REVENUE SHOULD EQUAL TOTAL EXPENSES. IF THEY DON'T, PLEASE EXPLAIN.

7. Fee Structure

A: We Do Not Charge Any Fees

B: Our Fee Structure is:

First Responder Certification		N/A
EMS Dispatcher Certification		N/A
EMT-I Certification	$	140
EMT-I Recertification	$	102
EMT-Defibrillation Certification		N/A
EMT-Defibrillation Recertification		N/A
AEMT Certification		N/A
AEMT Recertification		N/A
EMT-P Accreditation	$	100
Mobile Intensive Care Nurse/Authorized RN Certification		N/A
MICN/ARN Recertification		N/A
EMT-I Training Program Approval	$	3,000
* By Agencies of Government, Hospitals, Colleges	$	1,500
AEMT Training Program Approval		N/A
EMT-P Training Program Approval	$	4,500
* By Agencies of Government, Hospitals, Colleges	$	2,250
MICN/ARN Training Program Approval		N/A
Base Hospital Application		N/A

Base Hospital Designation		N/A
Trauma Center Application		N/A
Trauma Center Designation		N/A
Pediatric Facility Approval		N/A
Pediatric Facility Designation		N/A
Other Critical Care Center Application		N/A
Other Critical Care Center Designation		N/A
Ambulance Service License (Biennial)	$	3,000
Ambulance Vehicle Permits	$	250
Public Safety First Aid	$	3,000
* By Agencies of Government	$	1,500
Other:		N/A

Table 2: System Organization and Management - Positions - 2020

CATEGORY	ACTUAL TITLE	FTE (EMS ONLY)	TOP SALARY (HRLY EQ)	BENEFITS (% Salary)	COMMENTS
EMS Admin./ Coord./Director	EMS Director	1	$83.50	N/A	
Asst. Admin./ Admin. Asst ./ Admin. Mgr.	EMS Deputy Director	1	$72.33		
Asst. Admin./ Admin. Asst ./ Admin. Mgr.	Retired Annuitant II	1	$133.52		
Operations & Regulatory Compliance	EMS Coordinator	5	$64.93		
Clinical Systems of Care	Physician IV	2	$133.52		Medical Director & Deputy Medical Director
Clinical Systems of Care	EMS Coordinator	2	$64.93		
Clinical Systems of Care	Epidemiologist II	1	$50.65		
Strategic & Specialized Response	Supervising Prehospital Care Coordinator	1	$68.80		MHOAC
Strategic & Specialized Response	EMS Coordinator	4	$64.93		RDMHS(2) EMSC(1)
Strategic & Specialized Response	Program Specialist	1	$49.52		Warehouse Operations
Strategic & Specialized Response	Supply Clerk II	1	$28.48		Vacant (1)
Administrative & Financial Support	Administrative Specialist II	1	$43.62		
Administrative & Financial Support	Secretary II	1	$37.71		
Administrative & Financial Support	Specialist Clerk I	4	$28.56		Vacant (1)
Administrative & Financial Support	Specialist Clerk II	1	$30.60		
Information Systems	Information Systems Manager	1	$65.57		
Information Systems	Information Systems Analyst	1	$58.59		
Information Systems	Information Systems Specialist	1	$43.62		

Injury Prevention	Supervising Program Specialist	1	$55.19		
Injury Prevention	Program Specialist	3	$49.52		Vacant (1)
Injury Prevention	Community Outreach Worker II	1	$32.53		
Health Emergency Preparedness & Response	Healthcare Program Administrator II	1	$59.03		Vacant (1)
Health Emergency Preparedness & Response	Supervising Program Specialist	1	$55.19		
Health Emergency Preparedness & Response	Administrative Assistant	1	$35.27		Vacant (1)
Health Emergency Preparedness & Response	Finance Services Specialist II	1	$43.62		
Health Emergency Preparedness & Response	Specialist Clerk II	1	$30.60		
Health Emergency Preparedness & Response	Program Specialist	3	$49.52		Vacant (1)

Table 3: System Organization and Management – Org Chart - 2020

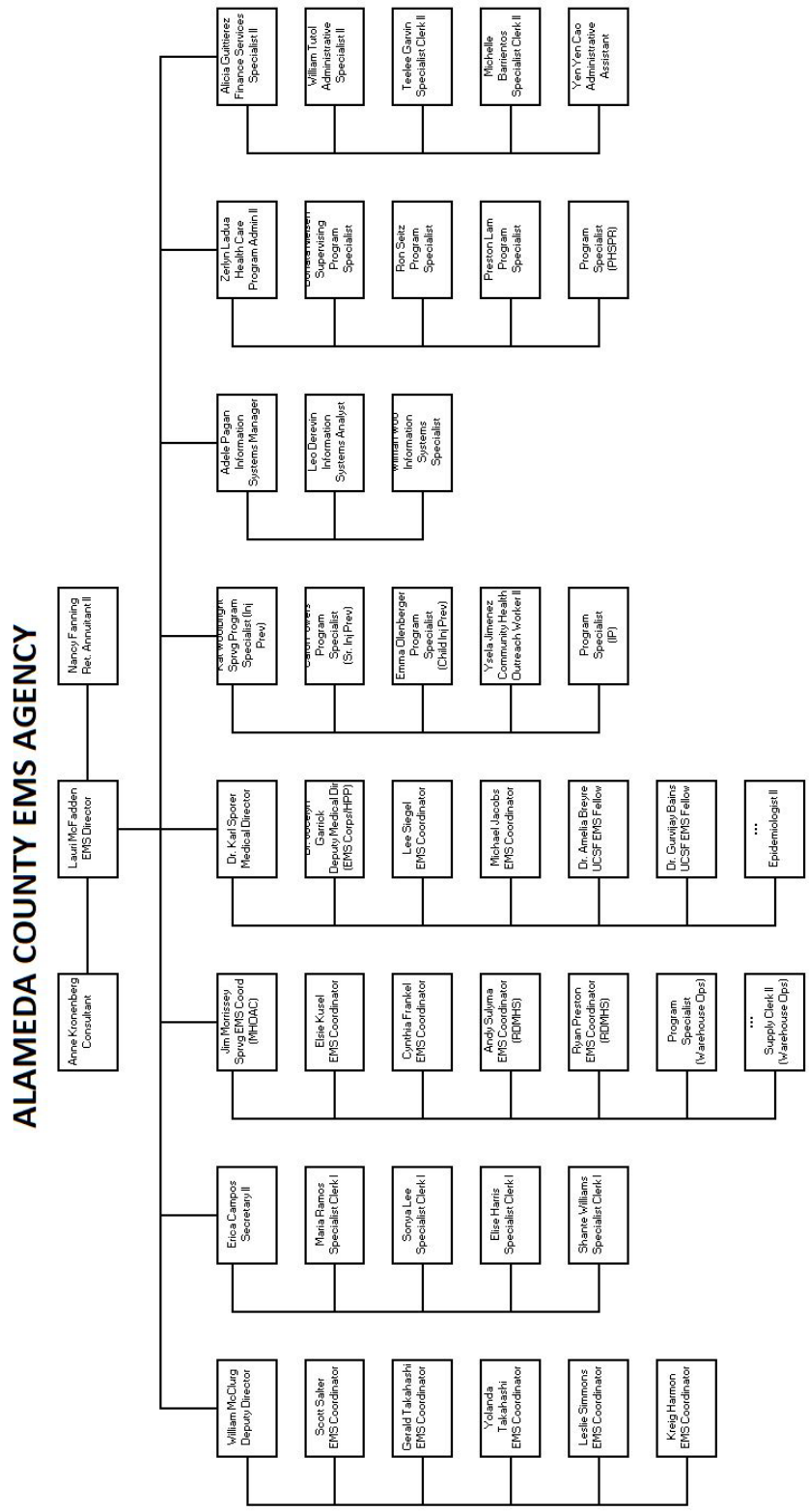

Table 3: Staffing/Training - 2020

Reporting Year: 2020

NOTE: Table 3 is to be reported by agency.

	EMT-Is	EMT-IIs	EMT-Ps	MICNs
Total Certified	879			
Number Newly Certified This Year	387			
Number Recertified This Year	492			
Total Number of Accredited Personnel (On July 1 of Reporting Year)	20		118	
Number of Certification Reviews Resulting In:				
A) Formal Investigations	21			
B) Probation	1			
C) Suspensions	3			
D) Revocations	2			
E) Denials	0			
F) Denials or Renewal	0			
G) No Action Taken	5			

1. Early Defibrillation:
   - A: Number of EMT-I (Defib) Authorized to Use AEDs _____
   - B: Number of Public Safety (Defib) Certified (Non-EMT-I) _____

2. Do you have an EMR Training Program? Yes, Los Positas College

Table 4: Communications - 2020

County: Alameda County
Reporting Year: 2020

1. Number of primary Public Service Answering Points (PSAP)	18
2. Number of secondary PSAPs	2
3. Number of dispatch centers directly dispatching ambulances	4
4. Number of EMS dispatch agencies utilizing EMD guidelines	2
5. Number of designated dispatch centers for EMS aircraft	1

6. Who is your primary dispatch center for day-to-day emergencies?

Alameda County Regional Emergency Communications Center (ACRECC)

7. Who is your primary dispatch agency for a disaster?

Alameda County Regional Emergency Communications Center (ACRECC)

8. Do you have an operational area disaster communication system (DCS)?	Yes
A: Radio Primary Frequency	700 MHz Trunked
B. Other Methods	800 MHz Trunked VHF
C: Call all medical response units communicate on the same DCS?	Yes
D: Do you participate in the Operational Area Satellite Information System (OASIS)?	Yes
E. Do you have a plan to utilize the Radio Amateur Civil Emergency Services (RACES) as a backup communication system?	Yes
1) Within the Operational Area (OA)?	Yes
2) Between OA and the region and/or state?	Yes

Table 5: Response/Transportation - 2020

Reporting Year: 2020

Note: Table 5 is to be reported by agency.

Early Defibrillation Providers

All Providers are required to have EMT-Is who have had an AHA (or equivalent) BCLS course that includes defibrillation with AED.

1. Number of EMT-Defibrillation providers: 11

- American Medical Response
- Arcadia Ambulance
- Bay Medic Transportation
- Eagle Ambulance
- Falck Northern California
- Falcon Critical Care Transport
- NorCal Ambulance
- Pro Transport-1
- Royal Ambulance
- United Ambulance
- WestMed Ambulance

SYSTEM STANDARD RESPONSE TIMES (90TH PERCENTILE)

Enter the response times in the appropriate boxes:

Falck Northern California			
MPDS Category	Metro	Suburban	Rural/Open Space
Priority 1	10:00 min.	14:00 min.	16:00 min.
Priority 2	12:00 min.	16:00 min.	20:00 min.
Priority 3	14:00 min	18:00 min.	20:00 min.
Priority 4	20:00 min.	30:00 min.	40:00 min.
Non-Medical 5150	40:00 min.	50:00 min.	60:00 min.

Fire Department Advanced Life Support						
	Metro		Suburban		Rural/Open Space	
MPDS CATEGORY:	First Responders	Transport	First Responders	Transport	First Responders	Transport
Priority 1	08:30 min.	10:00 min.	08:30 min.	14:00 min.	08:30 min.	16:00 min.
Priority 2	08:30 min.	12:00 min.	08:30 min.	16:00 min.	08:30 min.	20:00 min.
Priority 3	08:30 min.	14:00 min	08:30 min.	18:00 min.	08:30 min.	20:00 min.
Priority 4	N/A	20:00 min.	N/A	30:00 min.	N/A	40:00 min.
Non-Medical	N/A	40:00 min.	N/A	50:00 min.	N/A	60:00 min.

Table 6: Facilities/Critical Care - 2020

Reporting Year: 2020

NOTE: Table 6 is to be reported by agency

Trauma

Trauma Patients:

1. Number of patients meeting trauma triage criteria 6249

2. Number of major trauma victims transported directly to a trauma center by ambulance 4547

Total # Trauma Activations by Facility	
Facility Name	**#**
UCSF Benioff Children's Hospital Oakland	1007
Sutter Eden Medical Center	2413
Alameda Health System - Highland Hospital	2829
TOTAL	**6249**

3. Number of major trauma patients transferred to a trauma center 689

4. Number of patients meeting trauma criteria who were not treated at a trauma center N/A

Emergency Departments

Total number of emergency departments	13
1. Number of Referral Emergency Services	0
2. Number od Standby Emergency Services	0
3. Number of Basic Emergency Services	13
4. Number of Comprehensive Emergency Services	0

Receiving Hospitals

1. Number of Receiving Hospitals with Written Agreements 11

2. Number of Base Hospitals with Written Agreements 1

Table 7: Disaster Medical - 2020

Reporting Year: 2020

County: Alameda County

NOTE: Table 7 is to be answered for each county.

SYSTEM RESOURCES

1. Casualty Collection Points (CCP)

A: Where are your CCPs located?	Incident Specific as Needed
B: How are they staffed?	Agency and Provider Staff as Needed
C: Do you have a supply system for supporting them for 72 hours?	Yes

2. Critical Incident Stress Debreifing (CISD)

Do you have a CISD provider with 24 hour capability?	Yes

3. Medical Response Team

A: Do you have any team medical response capability?	Yes
B. For each team, are they incorporated into your local response plan?	Yes
C: Are they available for statewide response?	Yes
D: Are they part of a formal out-of-state response system?	No

4. Hazardous Materials

A: Do you have any HazMat trained medical response teams?	Yes

B. At what level are they trained?

Individuals who respond to and function within the Exclusion Zone (Hot Zone) or Contamination Reduction Zone (Warm Zone) must be members of specialty trained HazMat teams, trained in the use of self- contained

breathing apparatus, selection of appropriate chemical protective suits and how to function in them. Other rescuers should be trained in accordance with Federal OSHA standards in OSHA 29 CFR 190.120 and California OSHA as defined in the California Code of Regulations, Title 8, Section 5192." (Refer to Alameda county EMS 2015 Field Manual). Nearly all public safety providers have received haz-mat training in at least the "First Responder Awareness Level." Many firefighter personnel trained to the first responder level.

C: Do you have the ability to do decontamination in an emergency room? Yes

D: Do you have the ability to do decontamination in the field? Yes

OPERATIONS

1. Are you using a Standardized Emergency Management System (SEMS) that incorporates a form of Incident Command System (ICS) structure? Yes

2. What is the maximum number of jurisdiction EOCs you will need to interact with in a disaster? 13 (Cities)

3. Have you tested your MCI Plan this year in a :

A: Real Event? Yes

B: Exercise? Yes

4. List all counties with which you have a written medical mutual aid agreement:

All counties within California Mutual Aid Compact Region II

5. Do you have formal agreements with hospitals in your operational area to participate in disaster planning and response? Yes

6. Do you have formal agreements with community clinics in your operational areas to participate in disaster planning and response? Yes

7. Are you part of a multi-county EMS system for disaster response? Yes

8. Are you a separate department or agency? No

9. If not, to whom do you report? Alameda County Health Care Services Agency

10. If your agency is not in the Health Department, do you have a plan to coordinate public health and environmental health issues with the Health Department? Yes

Table 8: Response/Transportation Providers – Alameda County Fire Department - 2020

County: Alameda County Response Zone: Alameda County

Provider: **Alameda County Fire Department**

Address: 6363 Clark Ave., Dublin, CA 94568

Phone #: 510-632-3473 # of Ambulances in Fleet: 4

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City		Rotary		ALS Rescue	
Law		County	●	Fixed Wing		BLS Rescue	
Other:		Fire District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	19844	# of Emergency Transports	120
# of Non-Emergency Response	0	# of Non-Emergency Transports	383
Total Number of Responses	**19844**	**Total Number of Transports**	**503**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Alameda (City) Fire Department - 2020

County: Alameda County Response Zone: City of Alameda

Provider: **Alameda Fire Department**

Address: 1300 Park St., Alameda, CA 94501

Phone #: 510-337-2100 # of Ambulances in Fleet: 4

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 3

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	4375	# of Emergency Transports	413
# of Non-Emergency Response	0	# of Non-Emergency Transports	3279
Total Number of Responses	**4375**	**Total Number of Transports**	**3692**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Albany Fire Department - 2020

County: Alameda County Response Zone: City of Albany

Provider: **Albany Fire Department**

Address: 1000 San Pablo Ave., Albany, CA 94706

Phone #: 510-528-5770 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	940	# of Emergency Transports	38
# of Non-Emergency Response	0	# of Non-Emergency Transports	575
Total Number of Responses	**940**	**Total Number of Transports**	**613**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Berkeley Fire Department - 2020

County: Alameda County Response Zone: City of Berkeley

Provider: **Berkeley Fire Department**

Address: 2100 Martin Luther King Jr Way, Berkeley, CA 94704

Phone #: 510-981-3473 # of Ambulances in Fleet: 7

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 4

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	8879	# of Emergency Transports	320
# of Non-Emergency Response	0	# of Non-Emergency Transports	2719
Total Number of Responses	**8879**	**Total Number of Transports**	**3039**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – East Bay Regional Parks Fire Department - 2020

County: Alameda County Response Zone: N/A

Provider: **East Bay Regional Park District**

Address: 17930 Lake Chabot Road, Castro Valley, CA 94546

Phone #: 510-690-6607 # of Ambulances in Fleet: N/A

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: N/A

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS		9-1-1	●	Ground	●
No	●	BLS	●	7-Digit		Air	●
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City		Rotary		ALS Rescue	
Law	●	County		Fixed Wing		BLS Rescue	
Other:		District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	510	# of Emergency Transports	0
# of Non-Emergency Response	601	# of Non-Emergency Transports	0
Total Number of Responses	**1111**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Falck Ambulance - 2020

County: Alameda County Response Zone: Alameda County

Provider: **Falck Alameda County**

Address: 2833 Industrial Blvd., Hayward, CA 94545

Phone #: 510-876-8747 # of Ambulances in Fleet: 70

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 45

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	
No		No		No		Private	●

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS	●	7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire		City		Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	77379	# of Emergency Transports	6761
# of Non-Emergency Response	56710	# of Non-Emergency Transports	79835
Total Number of Responses	**134089**	**Total Number of Transports**	**86596**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Fremont Fire Department - 2020

County: Alameda County Response Zone: City of Fremont

Provider: **Fremont Fire Department**

Address: 3300 Capital Ave., Fremont, CA 94538

Phone #: 510-494-4200 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	10392	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**10392**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Hayward Fire Department - 2020

County: Alameda County Response Zone: City of Hayward

Provider: **Hayward Fire Department**

Address: 777 B St., Hayward, CA 94541

Phone #: 510-583-4900 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	13222	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**13222**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Livermore/Pleasanton Fire Department - 2020

County: Alameda County Response Zone: Livermore/Pleasanton

Provider: **Livermore-Pleasanton Fire Department**

Address: 3560 Nevada St., Pleasanton, CA 94566

Phone #: 925-454-2361 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	8985	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**8985**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Oakland Fire Department - 2020

County: Alameda County Response Zone: City of Oakland

Provider: **Oakland Fire Department**

Address: 150 Frank H Ogawa Plaza, Oakland, CA 94612

Phone #: 510-238-3856 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	31215	# of Emergency Transports	0
# of Non-Emergency Response	184	# of Non-Emergency Transports	0
Total Number of Responses	**31399**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Piedmont Fire Department - 2020

County: Alameda County Response Zone: City of Piedmont

Provider: **Piedmont Fire Department**

Address: 120 Vista Ave., Piedmont, CA 94611

Phone #: 510-420-3030 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2020			
# of Emergency Responses	394	# of Emergency Transports	18
# of Non-Emergency Response	0	# of Non-Emergency Transports	218
Total Number of Responses	**394**	**Total Number of Transports**	**236**
AIR AMBULANCE SERVICES - 2020			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 9: Facilities - 2020

No Change in Facility Information or Designations Submitted with 2021/2022 Tables

Table 10: Approved Training Programs & CE Providers - 2020

No Change in Program or Provider Information Submitted with 2021/2022 Tables

Table 11: Dispatch Agency - ACRECC - 2020

County: Alameda County Reporting Year: 2020

NOTE: Make copies to add pages as needed. Complete information for each provider by county.

Name: Alameda County Regional Emergency Communications Center (ACRECC)

Address: 7000 East Ave., L-338, Livermore, CA 94551

Phone #: 925-423-1803

Primary Contact: Rosa Ramos, Dispatch Manager

Written Contract		Medical Director		Availability		Ownership	
Yes	●	Yes	●	Day-to-Day	●	Public	●
No		No		Disaster	●	Private	

If Public:				Number of Personnel Providing Services	
Fire	●	City		EMD Training	34
Law	●	County	●	EMT-D	0
Other:	●	District		ALS	0
Ambulance		State		BLS	0
		Federal		LALS	0
				Other:	N/A

Table 11: Dispatch Agency – Oakland Fire Department - 2020

County: Alameda County Reporting Year: 2020

NOTE: Make copies to add pages as needed. Complete information for each provider by county.

Name: Oakland Fire Department Dispatch

Address: 1603 Martin Luther King Jr. Way, Oakland, CA 94612

Phone #: 510-238-6725

Primary Contact: Vena Sword-Ratliff, EMS Program Manager

Written Contract		Medical Director		Availability		Ownership	
Yes	●	Yes	●	Day-to-Day	●	Public	●
No		No		Disaster	●	Private	

If Public:				Number of Personnel Providing Services	
Fire	●	City	●	EMD Training	25
Law		County		EMT-D	0
Other:		District		ALS	0
		State		BLS	0
		Federal		LALS	0
				Other:	N/A

Table 12: Ambulance Zone Summary - 2020

No Change in Ambulance Zones/EOAs Submitted with 2021/2022 Tables

ALAMEDA COUNTY EMS SYSTEM PLAN

2021 - 2022

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY **Colleen Chawla**, HCSA Director

Emergency Medical Services Agency
1000 San Leandro Blvd, Suite 200
San Leandro, CA 94577

Lauri McFadden, EMS Director
Zita Konik, MD, Medical Director
Main: (510) 618-2050
Fax: (510) 618-2099

February 3, 2023

Elizabeth Basnett
Acting Director
California Emergency Medical Services Authority
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670

Alameda County EMS System Plan Transmittal Letter

Director Basnett,

Attached please find the 2022 Alameda County EMS System Plan. This plan depicts the current state of our EMS system as well as updates from our last submission in 2018. The California Emergency Medical Services Authority (EMSA) approved that last submission of the Alameda County EMS System Plan in 2018.

Alameda County EMS Agency's principal objective continues to be ensuring the financially sustainable provision of high-quality emergency medical services (EMS) that are efficient and effective both clinically and operationally. To this end, the County is preparing to release a Request for Proposal in the coming months that is the culmination of a comprehensive and collaborative engagement of system stakeholders to redesign and shape the future of EMS in Alameda County with the intentions of a new contract for services to be implemented on July 1, 2024.

Thank you in advance for your review of the plan. As always, please do not hesitate to contact me if you have any questions or require additional information.

Respectfully,

DocuSigned by:
Lauri McFadden
EE5CB9B522844B1...

Lauri McFadden
Director, Emergency Medical Services

Attachment

CC: Colleen Chawla, Alameda County Health Care Services Agency Director
Aneeka Chaudhry, Alameda County Health Care Services Agency Assistant Director
Dr. Zita Konik, Alameda County EMS Medical Director
William McClurg, Alameda County EMS Deputy Director

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Alameda County EMS Quality Improvement (QI) Plan
Alameda County EMS Trauma Plan
Alameda County EMS STEMI Plan
Alameda County EMS Stroke Plan
Alameda County EMS Communication Plan

Alameda County EMS Agency
2022 EMS System Plan
Executive Summary

Overview

Alameda County, California, was established in 1853. The County was created from the territory of two counties created in 1850: Contra Costa and Santa Clara. It was given the local name for the region, Alameda, which translates loosely as "a grove of poplars." The County covers 738 square miles and enjoys a varied geography ranging from urban marinas to rolling open spaces to hillside lakes and streams. Alameda is the seventh most populous county in California and has 14 incorporated cities and several unincorporated communities with an estimated total population of 1,685,048 (2021).

In 1984, the Alameda County Board of Supervisors designated the EMS Agency as the Local Emergency Medical Services Agency (LEMSA) for the County of Alameda, as authorized by California Health & Safety Code section 1797.200. In this role, the EMS Agency has the exclusive authority over and sole responsibility for planning, implementing, and evaluating the County's EMS System. This authority includes the power to designate a 911 Ambulance service provider selected through a competitive procurement process.

Pursuant to Section 1797.224 of the California Health and Safety Code, Alameda County EMS has established five exclusive operating areas (EOAs) for 9-1-1 ambulance transport services. Four of the EOAs are granted through an exclusive non-competitive process due to grandfathering city fire departments that provided ambulance services prior to The Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act of 1980. The four grandfathered EOAs are the cities of Alameda, Albany, Berkeley, and Piedmont. The city of Berkeley EOA includes the state property of UC Berkeley and the federal property at Lawrence Berkeley Lab. The fifth EOA encompasses the remainder of Alameda County and is granted through an exclusive competitive process. This EOA was last competitively bid in 2018 with the winning contractor, Falck, implementing service in July of 2019. Falck has been awarded the EOA for a five-year term ending in June of 2024. Lawrence Livermore National Lab (LLNL) is federal property and is exempted from the EOAs. Ambulance transport services for LNLL is provided through a federal contract with Alameda County Fire District. Alameda County EMS has signed, executed transport agreements with all of the 9-1-1 ambulance providers with the exception of Alameda County Fire District which operates under the aforementioned federal contract. All of the agreements are effective through June 30, 2024, and the fire transport providers are eligible for a five-year extension.

First Response Advanced Life Support (FRALS) services are provided throughout all EOAs by fire departments or districts within each jurisdiction. All FRALS providers have signed, executed agreements in place with Alameda County EMS through June 30, 2024, and are eligible for a five-year extension. The need for the provision of Advanced Life Support (ALS) transport services is determined through a tiered response informed by the Medical Priority Dispatch System (MPDS) and further local call prioritization as determined by historical clinical and operational data under the discretion of the Alameda County EMS Agency Medical Director's medical control. ALS transport services are provided through either an ALS ambulance staffed with at least one paramedic or through the combination of a basic life support (BLS) ambulance and a paramedic staffed quick response vehicle (QRV) or fire department paramedic.
EMS resources for 9-1-1 calls are dispatched through six dispatch centers, two of which, Oakland Fire Department Dispatch and Alameda County Regional Emergency Communications Center (ACRECC),

perform Medical Priority Dispatch System (MPDS) Emergency Medical Dispatch (EMD) services and are Accredited Centers of Excellence (ACE). Each year, EMS providers respond to approx. 160,000 9-1-1 calls a year, which result in 100,000 transports.

In addition to 9-1-1 providers, Alameda County EMS, through our Ambulance Ordinance, permit fourteen interfacility ambulance providers to operate within the County. These providers operate basic life support (BLS), critical care transport paramedic (CCT-P), and critical care transport registered nurse (CCT-RN) level resources.

Effects of COVID-19

In March of 2020, Alameda County, as well as the State of California, the United States, and the world declared a state of emergency due to the COVID-19 pandemic. Alameda County EMS, in response to the emergency, staffed the Alameda County Medical Health Branch of the County Emergency Operations Center in order to coordinate all medical health efforts. As the coordinating entity for Region II, Alameda County EMS, through our Regional Disaster Medical Health Specialists, coordinated regional resource requests for personal protective equipment (PPE), hospital beds, testing supplies, vaccine, and various therapeutics, as well as served as a vital bilateral conduit for information between the sixteen counties in Region II, the State EMSA, and CDPH.

Locally, Alameda County EMS applied for and was approved for several Local Optional Scope of Practices (LOSOP) to include the ability for prehospital clinicians to perform COVID-19 testing, administer COVID-19 vaccinations, and perform in a static setting such as skilled-nursing facilities, hospitals, or long-term care facilities with an expanded scope. In fact, the innovative LOSOP allowing for prehospital clinicians to perform in a static setting, submitted by Alameda County EMS, was subsequently leveraged by EMSA as a statewide template to help mitigate COVID surges and staffing shortages throughout the State. With the approval of the LOSOPs for COVID testing and vaccination, Alameda County fire departments were some of the first entities within the County to establish COVID testing sites and were integral in staffing both static and mobile vaccination efforts.

Operationally, Emerging Infectious Disease (EID) protocol was enacted in our EMD centers, and clinical protocol and policy were updated to include enhanced PPE requirements, COVID screening, testing, and vaccination, paramedic-initiated refusals for low acuity patients leveraging our assess and refer policy, guidance for aerosol-generating procedures, and use of alternate destinations.

Alameda County EMS was integral in many aspects of the County mitigating the pandemic. Staff members from the EMS Agency, managed the Alameda County Public Health Department Operations Center (DOC), oversaw medical health resource requests and procurement, and resource request fulfillment, managed the vetting and deployment of Disaster Health Volunteers (DHV), managed county-wide COVID testing, as well as developed and initiated systems for vaccine procurement, tracking, deployment, and vaccination site implementation.

Due to Alameda County EMS staff providing leadership during the implementation of the vaccination efforts, Alameda County EMS first responders were included in one of the first groups prioritized to receive the vaccine, along with hospital personnel, in order to protect and safeguard the provision of emergency medical services to our communities and to allow personnel to provide supplemental staffing for testing, vaccination, and static sites. The majority of Alameda County EMS first responders from our fire departments and ambulance providers were vaccinated within the first few months of the vaccination efforts through a clinic operated out of St. Rose Hospital in Hayward.

COVID-19 has facilitated many long-term changes to our system and EMS in general. During the pandemic, all of Alameda County EMS's normally convened committees and meetings transitioned to virtual venues to maintain engagement with system partners. During variant surges, EMS agency staff transitioned to working from home to reduce exposure risk. Many EMS training programs were paused due to state-mandated mitigation efforts, which has contributed to both hospitals and prehospital providers having recruitment challenges amid a period of increased retirements and decreased retention. Initially, there was a significant decrease in call volume between public anxiety and efforts to divert low acuity patients away from hospitals to maintain surge capacity, however ambulance responses were steadily increasing in late 2021 into 2022 due to variant surges and over the last several months response volume has returned to pre-pandemic levels with the transport rate slightly lagging behind. As response have rebounded a larger proportion of high acuity patients has been noted; most likely due to care be postponed during the initial stages of the pandemic.

In the winter of 2022, co-occurring surges of COVID, influenza, and respiratory syncytial virus (RSV) created significant increases in EMS system and hospital volumes, especially impacting pediatric populations. UCSF Benioff Children's Hospital Oakland was vital as a regional resource for caring for the highest acuity pediatric patients. Alameda County EMS provided a foundation of preparedness for pediatric surge through our involvement in the Western Regional Alliance for Pediatric Emergency Management (WRAP-EM) and the ongoing collaboration with UCSF Benioff Children's Hospital Oakland and Mission Bay to conduct Alameda County Pediatric Readiness, Surge and Simulation Evaluation/Training based upon National Pediatric Readiness Project Assessment results.

Organizational Changes

In the course of the last two and a half years, Alameda County EMS has undergone several organizational changes as well as added several staff positions. The EMS Agency has acquired a division of personnel from Public Health, created a COVID resource warehouse with full time staff which will transition to an all-hazard resource as the pandemic recedes, and hired an epidemiologist to enhance our data collecting and reporting capabilities.

After several iterations of wildfires in Northern California, Public Safety Power Shut Off events, and shortly after the pandemic started, the Public Health Systems Preparedness & Response (PHSPR) division, which was a division of the Alameda Public Health Department and responsible for public health emergency and disaster planning and readiness, was transitioned under the Alameda County EMS Agency. Leadership for the Alameda County Health Care Services Agency, the parent agency over both Public Health and EMS, recognized the disconnect that existed between planning and response. To address that disconnect, PHSPR was transitioned to EMS, and rebranded as Health Emergency Preparedness and Response (HEPR), in order to synergistically align planning and response in one agency to develop plans that are succinct, actionable, and more easily utilized by front line responders, disaster service workers, and the general public.

As EMS assumed responsibility for resource procurement, management, requests, and deployment through the Medical Health Branch of the EOC early in the pandemic, it was quickly recognized that there was an inadequate foundation for the increasing scale of need. After transitioning between multiple makeshift warehouse locations, in June 2020, the Alameda County EMS Agency procured a 10,000 square foot warehouse location in Dublin, CA. Starting with an empty building, a full functioning warehouse with a comprehensive inventory management system and a web-based ordering system was developed. Two full-time employee positions were created to sustain warehouse operations. Over the course of approximately 2 years, the EMS warehouse distributed over 29 million items. As the pandemic

eases, the intention is to evolve the warehouse to encompass an all-hazards approach to enhance Alameda County readiness. In the efforts to transition to all-hazards and consolidating equipment, supplies and resources, it was quickly recognized that a larger warehouse facility would be necessary. In September 2022, the Alameda County EMS Agency signed a 10-year lease for a 20,000 square warehouse located in San Leandro, CA proximal to Kaiser San Leandro's campus. In 2023, once all supportive infrastructure is in place, active warehouse operations will shift from the smaller Dublin, CA location to the larger San Leandro, CA location.

In January 2022, the Alameda County EMS Agency was able to hire an epidemiologist into the Clinical Systems of Care division of our agency. This hiring was the culmination of over two years of preparations, to include increasing classification salary, in order to attract a stellar candidate. The addition of an epidemiologist will allow us to refine our data and enhance reporting in order to better tell the story of what the EMS system does on a daily basis.

Effective June 25, 2022, Dr. Karl Sporer retired from his position as a Physician IV from Alameda County and immediately assumed the position of Retired Annuitant II in order to provide continuous coverage as the EMS Medical Director. Alameda County EMS completed a recruitment and selected Dr. Zita Konik as the new EMS Medical Director. Dr. Konik has previous experience as an Emergency Physician with Kaiser San Rafael, an EMS Provider Medical Director for Novato Fire Department, and a LEMSA Medical Director for Napa County EMS Agency. Dr. Sporer relinquished his position as EMS Medical Director on November 28, 2022, once Dr. Konik officially started her employment with Alameda County. Dr. Sporer will remain employed as a Retired Annuitant II to support Dr. Konik as she transitions into the role, gains familiarity with our EMS system, and selects a Deputy EMS Medical Director.

Effective December 10, 2022, Dr. Jocelyn Freeman-Garrick vacated her role as Deputy EMS Medical Director. The position is currently vacant and will be filled in 2023 as Dr. Konik revises the roles and responsibilities of the position to align with her clinical vision for the Agency. It is anticipated that the Deputy EMS Medical Director will take on a broader role within the Agency moving forward.

Receiving Facilities/Hospitals

Alameda County has fifteen 9-1-1 ambulance receiving facilities comprised of thirteen hospitals with emergency departments and two psychiatric receiving facilities, one for adults, John George Psychiatric Hospital, and one for adolescents, Willow Rock.

Twelve of the thirteen hospital emergency rooms in Alameda County have achieved and are designated with at least one specialty care designation by Alameda County EMS. Alameda County EMS provides specialty care designation for Trauma, Stroke, and S-T Elevation Myocardial Infarction (STEMI).

In 2020, Stanford Health Care Tri-Valley and Washington Hospital, notified Alameda County EMS of their desire to pursue adult trauma center designation. To objectively examine our existing system and determine the potential need for additional adult trauma centers, Alameda County EMS contracted with Bishop + Associates to conduct an analysis of our trauma system. Bishop + Associates conducted a comprehensive operational, clinical, and financial analysis of the existing system and all of the existing and potential trauma centers. The analysis determined that the existing system was functioning well but there was a potential for capacity issues within the next five years. The consultant recommendations were for no current modifications at this time, the addition of an adult trauma center in five years to address capacity concerns, and the need for a second additional adult trauma center would not arise for at least ten years based on current projections.

In 2021, Alameda County EMS, in partnership with ESO, began implementation of our Health Data Exchange (HDE) project. The HDE project links prehospital electronic health records to the hospital patient care records in the hospital. Once linked, prehospital data will automatically be securely imported into the hospital data collection systems and hospital data such as updated demographics, billing, and outcome information will be securely exported out to the prehospital data system. This exchange of data will facilitate improved and efficient access to prehospital records for the hospitals and provide valuable follow up information on patients to prehospital providers. Currently five receiving hospitals are connected to HDE: Highland Medical Center, Alameda Hospital, San Leandro Hospital, John George Psychiatric Hospital, and St. Rose Hospital. The remaining in-county hospitals are working towards connecting their systems to the HDE, with the hope to have all receiving centers connected by end of fiscal year 2023-2024.

Although ambulance patient offload times (APOT) have historically been a challenge in Alameda County, COVID-19 has created an environment where offload times have significantly increased and peaked as high as a ninetieth-percentile time of 69 minutes systemwide. To address this systemic concern, Alameda County EMS has engaged all of its transport providers and executive level management at all of the receiving facilities to participate in regularly scheduled APOT meetings in order to actively work to lower APOT and share best practices across all stakeholders. Significant progress was made by the group prior to the Omicron surge that happened in December 2021 and January 2022, and times improved again as the surge has subsided. An additional regression occurred during the co-occurring surges of COVID, influenza, and respiratory syncytial virus (RSV) in the winter of 2022, the effects of which are still being mitigated. The mission of the group is to strive to get APOT down to 20 mins or less ninety percent of the time systemwide. The Alameda County EMS Agency is exploring the potential of contracting with a consultant to identify and share hospital throughput best practices as well as efficiencies across our EMS receiving facilities and transport providers in order to further address and lower systemic APOT times.

System Changes

Over the course of the last two and a half years, there have been several innovative initiatives integrated into the EMS system in Alameda County. In order to enhance service delivery to our communities, providers have developed behavioral and community health response teams, augmented response models, and collaboratively worked to create supplemental transport resources leveraging FRALS agency providers.

In July of 2020, the Community Assessment and Transport Team (CATT) officially launched in Alameda County. CATT is the synergy of behavioral health and EMS, pairing a licensed clinical social worker with an EMT, in order to respond to behavioral health related incidents in the 9-1-1 system. CATT is staffed by a community-based behavioral health organization, Bonita House, and Falck. These units have the ability to complete advanced mental health assessments, link individuals with resources, and transport to a wide variety of services and facilities that are not available to a 9-1-1 ambulance.

September 2021 marked the beginning of a new pilot project called the Hayward Evaluation and Response Teams (HEART) Program. The Hayward Police and Fire Departments are working to establish an integrated continuum of options allowing for the most appropriate responses to calls received at the Hayward 911 dispatch center. The goal of the HEART Program is to improve access to medical, mental health and other support services as well as reduce the need for police officers to intervene in calls for service involving people experiencing mental illness, substance-use disorders, and homelessness. The current program approach entails deploying two different mobile response teams: a Mobile Integrated

Health Unit (MIHU), which pairs a Hayward firefighter-paramedic with a mental health clinician from a community-based organization, and a Mobile Evaluation Team (MET), which pairs a specifically trained Hayward Police Officer with a behavioral health clinician from Alameda County Behavioral Health Care Services. Hayward is working to expand the scope and bandwidth of the program to enhance the services they can make available to their community.

In December of 2021, Alameda Fire Department implemented a mobile crisis unit pilot, the Community Assessment Response and Engagement (CARE) team. This innovative response to handling mental health challenges within the community, leveraging firefighter paramedics and EMTs responding in a transport capable SUV with access to on-call mental health clinicians from Alameda Family Services, is being monitored and supported by the Alameda County Emergency Medical Services Agency and Alameda County Behavioral Health Care Services. Additionally, Alameda County Behavioral Health Services provided LPS (Lanterman Petris Short) authorization, as required by the Welfare and Institutions Codes, for both Alameda Family Services and the Alameda Fire Department personnel who are trained to staff the CARE Team. This team provides additional options to appropriately respond to these calls within the city of Alameda and provide the community with broader resources.

The city of Oakland implemented the Mobile Assistance Community Responders of Oakland (MACRO) Program in April of 2022, which is a community response program for non-violent, non-emergency 911 calls. MACRO is comprised of an EMT-Crisis Support Specialist team, trained to respond, de-escalate, and support individuals in need, matched with a Community Resource Specialist. The purpose of MACRO is to meet the needs of the community with a compassionate care first response model grounded in empathy, service, and community. MACRO's goal is to reduce responses by police, resulting in fewer arrests and negative interactions, and increased access to community-based services and resources for impacted individuals and families, and most especially for Black, Indigenous, and People of Color (BIPOC).

In October of 2022, Hayward Fire Department in collaboration with Alameda County EMS and Tele911 instituted a pilot utilizing telemedicine to address low acuity concerns alleviating the need for transport to an emergency department. Between implementation and the end of January 2023, more than 50 patients have been served through telemedicine without use of transport resources. In 2023, the is intent to expand the pilot through the contracted EOA 911 transport provider as well as exploring integration of telemedicine into dispatch algorithms.

The goal of all the above programs is to meet individuals where they are in the community and to end the one solution for all approach that has fallen short for so many: instead, tailoring resources and services for the individual.

Due to staffing challenges broadly felt through the health care field secondary to the pandemic, in December of 2021 and into 2022, Falck developed augmented response models, and collaboratively worked to create supplemental transport resources leveraging FRALS agency providers. In December 2021, paramedic staffed quick response vehicles (QRVs) were introduced into the system in the city of Oakland as a pilot program. The QRVs respond in tandem with BLS staffed ambulances supplementing the transport resource with an ALS provider. The paramedic on the QRV can assist FRALS agencies when the need for additional ALS resources is identified, perform advanced assessments, complete complex patient refusals or assess and refers, and/or ride in on calls requiring ALS when a BLS ambulance responded. During a time when hiring EMTs and staffing BLS ambulances can occur in a more expedient manner, the QRV pilot program expands the ability to leverage a single paramedic without them being

occupied on incidents where ALS resources are not clinically necessary.

Another pilot collaboratively implemented by Falck and FRALS agency within Alameda County to enhance ALS availability during this period of paramedic recruitment and staffing challenges is to leverage FRALS agency firefighter paramedics to staff Falck ambulances, supplementing ALS ambulance availability in the community. An executed agreement for the provision of ambulance(s) for firefighter paramedic staffing has already been established with Alameda County Fire District and Hayward Fire Department, and Falck remains open to working with other fire agencies within the county to establish additional collaborative resource availability within their jurisdictions and communities.

EMS System Redesign

After the implementation of Falck as the new 9-1-1 ambulance transport provider in July 2019, we immediately began to focus on what was next for our EMS system. At the direction of our Board of Supervisors, the executed agreement for Falck was approved for a five-year term, with limited extensions, driving a new procurement process to be completed for implementation July of 2024.

In August 2019 we conducted a post-implementation debrief followed in September by a redesign kick off meeting. Over the course of the next several months five workgroups were formed comprised of a diverse set of stakeholders to include leadership from fire and ambulance agencies, line level providers, labor leadership from fire and ambulance providers, hospital representatives, and elected officials ranging from city to county level government. The topics tackled by the workgroups were EMS System Financial Stability and Service Reimbursement, EMS Workforce, Evolving Patient and Community Needs, System Performance Benchmarks, and Technology.

Unfortunately, as the COVID-19 response became more urgent the focus on the redesign waned while the collective focus shifted to managing and mitigating the pandemic. As COVID management became less obtrusive post vaccination, workgroups were re-engaged to elicit information and feedback. Additionally, several community forums and presentations were conducted to get feedback from system consumers and the general public. A consultant, Page, Wolfberg and Wirth, LLC, was procured to consolidate all the feedback and workgroup information collected during the redesign process, analyze the current system and the system provider, and draft the new system request for proposal (RFP). The drafting process is currently underway with the intent to release the RFP early in 2023.

The goal of the EMS System Redesign is to develop an innovative and Alameda County specific system that better serves our communities; connecting individuals with the appropriate resources in a nuanced manner to include care beyond just the emergency response.

Moving Forward

Moving forward, the EMS System in Alameda County is working to understand the new definition of normal that has evolved through the pandemic and address the new challenges that exist as we emerge from COVID-19. Traditional manners of operating are being examined against novel practices developed through the pandemic to determine enhanced approaches that integrate or leverage the best of both. Alameda County EMS is actively working to pave the path forward through the EMS Redesign process and forthcoming RFP, while our providers are developing innovative ways to serve their communities. We are embracing this opportunity to transform and evolve EMS; redefining how we serve our communities and building a more appropriate, effective, efficient, and sustainable version of EMS for the future.

Table 1A: System Organization and Management:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Agency Administration					
1.01 LEMSA Structure		✓		✓	
1.02 LEMSA Mission		✓		✓	✓
1.03 Public Input		✓		✓	✓
1.04 Medical Director		✓	✓		
Planning Activities					
1.05 System Plan		✓			
1.06 Annual Plan Update		✓		✓	
1.07 Trauma Planning*		✓	✓	✓	✓
1.08 ALS Planning*		✓		✓	✓
1.09 Inventory of Resources		✓		✓	✓
1.10 Special Populations		✓	✓	✓	✓
1.11 System Participants		✓	✓	✓	✓
Regulatory Activities					
1.12 Review and Monitoring		✓		✓	✓
1.13 Coordination		✓			✓
1.14 Policy & Procedures Manual		✓		✓	✓
1.15 Compliance with Policies		✓			
System Finances					
1.16 Funding Mechanism		✓			✓
Medical Direction					
1.17 Medical Direction*		✓		✓	✓
1.18 QA/QI		✓	✓	✓	✓
1.19 Policies, Procedures, Protocols		✓	✓	✓	✓
1.20 DNR Policy		✓			
1.21 Determination of Death		✓			
1.22 Reporting of Abuse		✓			
1.23 Interfacility Transfer		✓		✓	
Enhanced Level: Advanced Life Support					
1.24 ALS Systems		✓	✓	✓	✓
1.25 On-Line Medical Direction		✓	✓	✓	✓
Enhanced Level: Trauma Care System					
1.26 Trauma System Plan		✓		✓	✓
Enhanced Level: Pediatric Emergency Medical and Critical Care System					
1.27 Pediatric System Plan		✓		✓	✓
Enhanced Level: Exclusive Operating Areas					
1.28 EOA Plan		✓			✓

1.01 LEMSA STRUCTURE

MINIMUM STANDARDS:

Each local EMS agency shall have a formal organization structure which includes both agency staff and non-agency resources and which includes appropriate technical and clinical expertise.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County EMS Agency (ALCO EMS) is a division of Alameda County Health Care Services Agency (ALCO HCSA) under the Office of the Agency Director (OAD). ALCO EMS is led by the EMS Director who reports to the HCSA Assistant Agency Director of Systems and Policy.

ALCO EMS has multiple division devoted to different functional areas to include Operations & Regulatory Compliance, Clinical Systems of Care, Strategic & Specialized Response, Injury Prevention, Health Emergency Preparedness & Response, Administrative & Finance Support, and Information Systems.

Clinical expertise in drawn from our EMS Director, Deputy Director, Medical Director, Deputy Medical Director, UCSF EMS Fellows, Supervising EMS Coordinator, and EMS Coordinators all of which have medical certification or licensure to include EMT, Paramedic, Registered Nurse, or Physician. Additionally, the Health Emergency Preparedness & Response division has a strong relationship with the Alameda County Medical Reserve Core (MRC) which is comprised of a diverse mix of clinical expertise and one of our EMS Coordinators serves as the administrator for the Alameda County Disaster Health Volunteers (DHV).

Technical expertise is drawn from the diverse backgrounds and experience of our staff. Within our Clinical Systems of Care division, we hired an Epidemiologist in order to better manage, understand, and communicate our data. Within our Strategic & Specialized Response and Health Emergency Preparedness & Response divisions we have fostered a strong working relationship with law enforcement to enhance their medical training and facilitate joint exercises and training. Additionally, a warehouse was established during the COVID-19 pandemic for personal protective equipment and cleaning supplies, which will be transitioning to an all-hazards focus, with a comprehensive inventory management system and a user-friendly store front interface for resource ordering and fulfillment.

NEED(S):

ALCO EMS has recognized the need for more comprehensive expertise in dispatch operations. Emergency Medical Dispatch (EMD) and the Medical Priority Dispatch System (MPDS). With Text-to-911, 988 implementations, integration of clinicians and telemedicine options, and various other dispatch initiatives on the horizon it is vital to have enhanced understanding and expertise in this area. Due to this gap in knowledge, in addition to other disparities, it has been identified that the minimum qualifications for the EMS Coordinator position were archaic and too narrow in scope. In order to provide a larger swath of qualified candidates the minimum qualifications need to be expanded to be inclusive of emergency medical technicians (EMTs) as well as experienced emergency medical dispatch (EMD) certified dispatch supervisors.

Additionally, the need to develop a more comprehensive and structured clinical oversight program has been identified, especially as we move towards implementation of a more clinically focused EMS System that has been constructed during the revisioning process. To ensure better management and oversight of clinical programs, the addition of another EMS Coordinator position would be ideal.
Also, with the recent hiring of our new EMS Medical Director and departure of our Deputy EMS Medical Director, the Agency needs to start recruitment efforts to hire a new Deputy EMS Medical Director who

will serve a greater role both operationally and clinically in our system as we move forward. The new Deputy EMS Medical Director will assist in rectifying span of control in order to ensure better management and oversight of programs.

The need for a dedicated provider compliance specialist has also been identified. As we have increased the reporting and transparency of private ambulance provider compliance and we are actively working to expand compliance reporting to include first response and public ambulance providers within the 9-1-1 system, it has become cumbersome to have responsibility spread over several personnel. Having a dedicated specialist responsible for provider compliance will ensure consistency and enhanced external communications as we expand the program.

Lastly, the EMS Agency, with the transition to an all-hazard approach for our warehouse, has outgrown the original location in Dublin, CA which was approximately 10,000 square feet in size. As such, the EMS Agency needed to transition to a larger facility that would better serve our needs. The EMS Agency executed a 10-year lease on an approximately 20,000 square foot warehouse in San Leandro, CA which now needs to be operationalized. An additional staff member will need to be hired to help run the new warehouse and ensure compliance with a rigorous preventative maintenance program for all of our equipment and supplies.

OBJECTIVE:

ALCO EMS will work to make appropriate changes to the EMS Coordinator qualifications in order to facilitate and allow the hiring of broader subject matter expertise (SME).

Recruit and hire a new Deputy EMS Medical Director.

Additionally, we will work to appropriate funding, budget, and create other identified positions.

We will work to operationalize the new warehouse space in order to transition services from smaller facility that we are currently utilizing.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

1.02 LEMSA MISSION

MINIMUM STANDARDS:
Each local EMS agency shall plan, implement, and evaluate the EMS system. The agency shall use its quality assurance/quality improvement (QA/QI) and evaluation processes to identify system changes.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS.

Agency Vision and Mission:

In 2019, EMS Agency staff came together to formulate a new Agency Vision and Mission, which resulting in the following:

- **Vision**: Helping people live healthy and fulfilling lives through training, preparedness, prevention, and medical and response.

- **Mission:** Alameda County EMS ensures the provision of quality emergency medical response services and prevention
  programs to improve health and safety in Alameda County.

To align our current system with the new Agency Vision and Mission, in 2019 we also began conducting EMS system redesign meetings with all stakeholders and the public. These meetings informed developing the direction to guide future iterations of the EMS system. During this collaborative process, COVID-19 and the subsequent trio of severe respiratory illness significantly effecting pediatric populations exposed and perpetuated many industry-wide challenges such as healthcare staffing insufficiencies in both the hospital and pre-hospital setting, as well as struggles in mitigating surges in healthcare access and utilization. The input, feedback, and highlighted challenges are being utilized to inform the upcoming 911 Ambulance Transport request for proposal (RFP) for the competitively bid exclusive operating area which will be released in 2023 and subsequently implement in July of 2024 once awarded through a competitive County procurement process.

Refer to the 2021 QI Plan

NEED(S):

- Continuous engagement of stakeholders to ensure attainment of the shared vision for the system and to adapt as implementation progresses and as community needs evolve.
- Finalize 911 Ambulance Transport RFP and once approved by EMSA, release through a competitive bid procurement process.
- Complete procurement process and award contract for 911 Ambulance Transport with an implementation date of July 1, 2024.

OBJECTIVE:

- Develop and issue the RFP for the 911 Transport EOA Contract that commences in 2024.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.03 PUBLIC INPUT

MINIMUM STANDARDS:

Each local EMS agency shall have a mechanism (including EMCCs and other sources) to seek and obtain appropriate consumer and health care provider input regarding the development of plans, policies and procedures, as described in the State EMS Authority's EMS Systems Standards and Guidelines.

RECOMMENDED GUIDELINES: NONE.

CURRENT STATUS: *MEETS MINIMUM STANDARD.*

Alameda County EMS conducts a variety of regularly scheduled meetings as listed below to solicit internal and external stakeholder input:

- EMS Quality Council
- Receiving Hospital Committee
- STEMI Committee
- Stroke Committee
- Trauma Audit Committee
- Regional Trauma Audit Committee
- Data Steering Committee
- ePCR Change Committee
- EMS Coordinators Meetings
- Disaster Preparedness Healthcare Coalition (DPHC) Meetings
- Additional ad-hoc committees (i.e., EMS Transition Meetings; ReddiNet)

Additionally, Alameda County EMS Agency staff participate in the following externally conducted meetings where input and feedback are regularly solicited:

- Alameda County Fire Chiefs & Chiefs' EMS Section Committees
- EMSAAC & EMDAAC
- Regional EMS Coordinators Meetings
- State and Regional EMSC, QI, & Pediatric Surge Advisory Committee Meetings
- Western Regional Alliance for Pediatric Emergency Management (WRAP-EM)

Alameda County EMS also facilitates periods of public comment and public forums for community input regarding proposed annual protocol and policy updates.

In 2019, 2021, and 2022, in addition to normally conducted meetings, Alameda County EMS conducted EMS system redesign meetings to leverage and engage all stakeholders during several in person and virtual sessions. The partner recommendations and feedback assisted Alameda County EMS in developing a vision to guide the system direction. These meetings concluded in 2022 prior to the EMS Agency initiating the writing of the 911 emergency ambulance transport request for proposal.

NEED(S):

- Continued expansion of engagement with all stakeholders.

OBJECTIVE:

- Continue obtaining input from consumer and healthcare partners.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

1.04 PUBLIC INPUT

MINIMUM STANDARDS:
Each local EMS agency shall appoint a Medical Director who is a licensed physician who has substantial experience in the practice of emergency medicine.

RECOMMENDED GUIDELINES:
The local EMS Agency Medical Director should have administrative experience in emergency medical services systems. Each local EMS agency medical director should establish clinical specialty advisory groups composed of physicians with appropriate specialties and non-physician providers (including nurses and pre-hospital providers), and/or should appoint medical consultants with expertise in trauma care, pediatrics, and other areas, as needed.

CURRENT STATUS: MEETS MINIMUM STANDARD

Effective June 25, 2022, Dr. Karl Sporer retired from his position as a Physician IV from Alameda County and immediately assumed the position of Retired Annuitant II in order to provide continuous coverage as the EMS Medical Director. Alameda County EMS completed a recruitment and selected Dr. Zita Konik as the new EMS Medical Director. Dr. Konik has previous experience as an Emergency Physician with Kaiser San Rafael, an EMS Provider Medical Director for Novato Fire Department, and a LEMSA Medical Director for Napa County EMS Agency. Dr. Sporer relinquished his position as EMS Medical Director on November 28, 2022, once Dr. Konik officially started her employment with Alameda County. Dr. Sporer will remain employed as a Retired Annuitant II to support Dr. Konik as she transitions into the role, gains familiarity with our EMS system, and selects a Deputy EMS Medical Director.

Effective December 10, 2022, Dr. Jocelyn Freeman-Garrick vacated her role as Deputy EMS Medical Director. The position is currently vacant and will be filled in 2023 as Dr. Konik revises the roles and responsibilities of the position to align with her clinical vision for the Agency. It is anticipated that the Deputy EMS Medical Director will take on a broader role within the Agency moving forward.

Alameda County EMS has a contract with University of California, San Francisco, Department of Emergency Medicine to provide the opportunity for their physicians' exposure to EMS, providing them insight and knowledge of prehospital medical care and the functions/coordination of an EMS system. Reports to the Medical Director. The fellows are listed below:

- Amelia Breyre MD - Graduated June 2021
- VJ Bains, MD - Graduated June 2021
- Courtney Shay, MD - Graduated June 2022
- Tim Hong, MD - Graduated June 2022
- Samantha Williams, MD – Current Fellow
- Kristen Bascombe, MD – Current Fellow

Medical Directors and Fellows Research
Karl Sporer, MD, UCSF fellows, and staff continue to publish both peer review and non-peer reviewed publications in highly respected professional journals and periodicals.

- Hodroge SS, Glenn M, Breyre A, Lee B, Aldridge NR, **Sporer KA**, Koenig KL, Gausche-Hill M, Salvucci AA, Rudnick EM, Brown JF, Gilbert GH**.** Adult Patients with Respiratory Distress: Current Evidence-based Recommendations for Prehospital Care. West J Emerg Med 2020 Jun 25;21(4):849-857.

- Hart L, Sanford JK, **Sporer KA**, Kohn MA, Guterman EL. Identification of generalized convulsive status epilepticus from emergency medical service records: a validation study of diagnostic coding. Prehosp Emerg Care. 2020 Oct 9:1-8.

- Guterman EL, Sanford JK, Betjemann JP, Zhang L, Burke JF, Lowenstein DH, Josephson SA, **Sporer KA**. Prehospital midazolam use and outcomes among patients with out-of-hospital status epilepticus. Neurology. 2020 Dec 15;95(24):e3203-e3212.

- Hern HG, Goldstein D, Tzvieli O, Mercer M, **Sporer K**, Herring AA: Overdose Receiving Centers – An Idea Whose Time Has Come? Prehospital Emergency Care 2021, DOI: 10.1080/10903127.2020.1864073

- Breyre A, Taigman M, Salvucci A, **Sporer K.** . Effect of a Mobile Integrated Hospice Healthcare Program on Emergency Medical Services Transport to the Emergency Department. Prehosp Emerg Care. 2021 Mar 9:1-7. doi: 10.1080/10903127.2021.1900474.

- Lacocque J, Siegel L, **Sporer KA.** Prehospital, post-ROSC blood pressure and associated neurologic outcome. Am J Emerg Med. 2021 Jun: 49:195-199.

- Breyre AM, Bains G, Moore J, Siegel L, **Sporer KA**. Hospice and Comfort Care Patient Utilization of Emergency Medical Services. J Palliat Med. 2021 Aug 31. doi: 10.1089/jpm.2021.0143

- Breyre A, Benesch T, Glomb NW, **Sporer KA**, Anderson WG. EMS experience caring and communicating with patients and families with a life-limiting-illness. Prehosp Emerg Care. 2021 Oct 20:1-12. doi: 10.1080/10903127.2021.1994674.

- Guterman EL, Burke JF, **Sporer KA.** Prehospital treatment of status epilepticus in the United States. JAMA. 2021 Nov 16;326(19):1970-1971. doi: 10.1001/jama.2021.15964.PMID: 34783848

- Guterman EL, Lowenstein DH, **Sporer KA**. Seizing and opportunity for improvement. Neurology 2022 Feb 15;98(7):287-288. doi: 10.1212/WNL.0000000000013248.

NEED(S):

- Continue with the current staffing for EMS Medical Director
- Recruitment plan for Deputy EMS Medical Direction.
- Continuation of the contract with UCSF for EMS Physician Fellowship Program.

OBJECTIVE:

- Successful recruitment and hiring of Deputy EMS Medical Direction.
- Continuation of the contract with UCSF for EMS Physician Fellowship Program.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)

☐Long-Range Plan (more than one year)

1.05 SYSTEM PLAN

MINIMUM STANDARDS:
Each local EMS agency shall develop an EMS System Plan, based on community need and utilization of appropriate resources, and shall submit it to the EMS Authority.
The plan shall:

- Assess how the current system meets these guidelines,
- Identify system needs for patients within each of the targeted clinical categories (as identified in section ii), and
- Provide a methodology and timeline for meeting these needs.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

CA EMSA APPROVAL - SYSTEM PLANS AND REGULATORY COMPLIANCE

EMS SYSTEM PLAN

- Alameda County 2021 EMS System Plan (with 2021-22 Executive Summary)
- Alameda County 2017 EMS System Plan update (with 2017-2018 Executive Summary) completed and approved by the California EMS Authority.
- 2018 update submitted to EMSA September 2019

EMS TRAUMA PLAN

- Alameda County 2021 EMS Trauma Plan
- Alameda County 2017 EMS Trauma Plan Update and approved by CA EMSA in 2018
- Update submitted to EMSA September 2019 and approved in 2019.

EMS QUALITY IMPROVEMENT (QI) PLAN

- Alameda County 2021 EMS Quality Improvement Plan
- 2018 update submitted to EMSA September 2018
- 2019 update submitted to EMSA September 2019

EMS FOR CHILDREN (EMSC) PLAN

- Plan to submit EMSC Plan to EMSA in future consistent with CA EMSC regulations.
- Ensuring all Receiving Hospitals implement PedRC requirements.

EMS SYSTEM EVALUATION AND REQUEST FOR PROPOSALS (RFP)

- ALCO EMS is planning for the next RFP process, to select and implement a contract for services to the Exclusive Operating Area (EOA) starting July 1, 2024
- FALCK is the selected and current ALCO EMS 911 Provider as of JULY 1, 2019.
- Emergency Ground Ambulance Service will be provided through June 30, 2024

- EMS executes the FALCK Contract, ensuring contract compliance and oversight

CONTRACT EXTENSIONS & NEW CONTRACTS–FRALS AND FIRE TRANSPORT

- Alameda County Regional Emergency Communications Center (ACRECC) Emergency Medical Dispatch – executed new contract effective until June 30, 2024
- FIRST RESPONDER ADVANCED LIFE SUPPORT (FRALS) AND FIRE TRANSPORT – negotiated and executed new contracts effective until June 30, 2024

NEED(S):

OBJECTIVE

Objective: EMS System Planning – **Refer to the 2021-22 QI Plan**

OVERARCHING GOALS

- Sustain and improve quality of clinical care the patient receives
- Stabilize or reduce the cost of EMS services.
- Improve patient satisfaction.

SIX FUNDAMENTAL TENANTS

1. Preserving a high level of emergency medical response throughout the County
2. Producing a system that is cost-effective while preserving a high level of response and care
3. Designing a system that is County-wide (i.e. Current Exclusive Operating Area (EOA) allowing for consistency of service throughout all areas and jurisdictions of the county
4. Maintaining and supporting the current workforce
5. Producing a system that is sustainable for the long term.
6. Maintaining the appropriate regulatory and oversight functions between the local EMS agency (LEMSA) and the chosen provider(s)

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

1.06 ANNUAL PLAN UPDATE

MINIMUM STANDARDS:
Each local EMS agency shall develop an annual update to its EMS System Plan and shall submit it to the EMS Authority. The update shall identify progress made in plan implementation and changes to the planned system design.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

On August 18, 2020, the Emergency Medical Services Authority (EMSA) issued a memo providing an extension for submission of local EMS System Plans. On December 14, 2020, a revised memo which superseded the August memo was released updating the deadline for submission of EMS System Plan to 180-days post cessation of the State's declared emergency on the coronavirus pandemic.

Subsequently, on July 13, 2022, EMSA rescinded the December 2020 memo and required submission of updated local EMS System Plans on or before January 31, 2023, even though the declared coronavirus pandemic declared emergency is continued through the end of February 2023.

In December 2022, Alameda County EMS requested approval to extend the submission deadline for our updated plan until April 30, 2023, due to the triple-demic of COVID, influenza, and RSV as well as the efforts to release of ambulance transport request for proposal.

For the last submitted and approved EMS System Plan Update please refer to the Alameda County 2018-19 EMS System Plan.

- Alameda County 2021 EMS System Plan (with 2021-22 Executive Summary
- Alameda County 2018 EMS System Plan update (with 2018-2019 Executive Summary) completed, submitted, and approved by the California EMS Authority September 2019

NEED(S):

OBJECTIVE:
- Update the EMS System Plan yearly or as prescribed and submit to EMSA (short range)

TIME FRAME FOR MEETING OBJECTIVE:
- ☒ Short-Range Plan (one year or less)
- ☐ Long-Range Plan (more than one year)

1.07 TRAUMA PLANNING

MINIMUM STANDARDS:
The local EMS agency shall plan for trauma care and shall determine the optimal system design for trauma care in its jurisdiction.

RECOMMENDED GUIDELINES:
The local EMS agency should designate appropriate facilities and execute agreements with trauma facilities in other jurisdictions.

California Code of Regulations
- TITLE 22. SOCIAL SECURITY
- DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
- CHAPTER 7. TRAUMA CARE SYSTEMS

CURRENT STATUS: MEETS MINIMUM STANDARDS

The purpose of the trauma plan is to monitor the delivery of services, improve patient care through the adoption of current best practices in reducing death and disability from trauma, and identify areas where improvement can be made.

FIELD CLINICIANS:

All ALS agencies/departments, both first response and transport, have executed ALS provider agreements with Alameda County EMS. All providers, inclusive of our ALS providers and permitted interfacility providers use ALCO EMS trauma triage (CDC criteria) and transport protocols. All 9-1-1 ALS provider clinicians, and EMTs for the competitively bid EOA 9-1-1 transport provider, must maintain ITLS, PHTLS or equivalent certification.

TRAUMA CENTERS:

Alameda County currently has three EMS designated American College of Surgeons (ACS) Verified (required) **Trauma Receiving Centers**:

- Alameda Health System-Highland Hospital-Oakland (Adult level 1)
- Sutter Eden Medical Center-Castro Valley (Adult level 2)
- UCSF Benioff Children's Hospital-Oakland (Pediatric level 1)

In 2021-2022, a comprehensive data driven evaluation of the entire Alameda County EMS Trauma System was completed by Bishop and Associates, a reputable independent consultant with substantial subject matter expertise. Upon conclusion of their evaluation and analysis, Alameda County EMS made the determination to work collaboratively with Washington Hospital with the intent of their facility becoming an Adult Level 2 Trauma Center within the next 5 years in order to address projected community need.

Additionally, in February of 2022, a bi-directional Healthcare Data Exchange utilizing ESO, our system-wide prehospital electronic health record provider, was established with Alameda Health System which includes one of our trauma receiving centers, Highland Hospital. Highland Hospital is the first of the trauma receiving centers to share clinical and outcome data directly with field providers automatically on a per incident basis enabling field level clinicians to follow up on their patients and learn from the information provided.

COORDINATION WITH OTHER EMS AGENCIES:

- Coordination/collaboration with Contra Costa County EMS and John Muir Medical Center, (adjacent ACS verified adult level-2 trauma center), through quarterly participation in bi-county Trauma Audit Committee (TAC) meetings.
- Coordination/collaboration with Bay Area Regional LEMSAs (Solano, Contra Costa, San Francisco, San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey, Marin) through participation in bi-monthly (every two months) Regional Trauma Coordinating Committee (RTCC) meetings.

NEED(S):

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- Improve the functionality of our Trauma Audit Committeeby sharing existing individual TC and EMS trauma data.
- TCs maintain ACS Verification as a required by contractual agreement for EMS designation.
- Establish Bi-directional Healthcare Data Exchange (HDE) with the two TCs not yet connected: Children's and Eden
- Establish a third Adult Level 2 trauma receiving center within the next 5 years.

OBJECTIVE:

- Continuous monitoring and evaluation of trauma care system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.
- Collaboration with Washington Hospital to ensure efficient and effective implementation of trauma services.
- Continued work with receiving facilities and ESO to broaden bidirectional HDE availability to all facilities to include remaining trauma receiving centers

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.08 ALS PLANNING

MINIMUM STANDARDS:
Each local EMS agency shall plan for eventual provision of advanced life support services throughout its jurisdiction.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Advanced Life Support has been available county-wide since 1986. Advanced Life Support has been available on first response vehicles county-wide since 2011.

Alameda County (ALCO) EMS currently has contractual agreements in place through 2024 with all but one first response agency within our jurisdiction to render care at the ALS level. ALCO EMS also has contracts with transport provider's to render ALS level care both within municipalities that have retained their CCR 1797.224 EOA rights (Cities of: Albany, Alameda, Berkeley, and Piedmont) and for the balance of the County 911 Transport EOA.

Additionally, to deliver the appropriate level of care to each response, Medical Priority Dispatch (MPDS) has been implemented in over 90% of the system. Via contractual agreement, Oakland Fire Department (OFD) and Alameda County Regional Emergency Communications Center (ACRECC) provide this service.

Under MPDS, from July 1, 2019 moving forward, call determinants have been categorized into priorities. The new priority system has 5 response priorities:

- Priority 1 – High Acuity Calls - Code 3 response by FRALS, ALS transport and EMS Supervisor
- Priority 2 – Moderate Acuity Calls - Code 3 response by FRALS and ALS transport
- Priority 3 – Emergent Interfacility – Code 3 ALS transport (Code 3 FRALS as needed)
- Priority 4 – Low Acuity Calls – Code 2 ALS or BLS transport. (FRALS at discretion of each agency)
- Priority 5 – Non-medical 5150 – Code 2 ALS or BLS transport OR Approved alternative

Alameda County EMS continues to work with closely the above noted dispatch centers and other stakeholders to identify, in evidence-based manner, to ensure that EMS responses are prioritized appropriately and have the proper resources sent to them.

NEED(S):

Ensure compliance with and maintenance of all contractual agreements related to the provision of ALS care.

Work to ensure the appropriate prioritization of all responses and the appropriate response configurations.

OBJECTIVE: (Short and Long Term)

Appropriately triage all EMS responses and ensure that each response receives the appropriate resource in a timely manner.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

1.09 INVENTORY OF RESOURCES

MINIMUM STANDARDS:

Each local EMS agency shall develop a detailed inventory of EMS resources (e.g., personnel, vehicles, and facilities) within its area and, at least annually, shall update this inventory.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Personnel:

A spreadsheet of all Alameda County (ALCO) EMS Personnel actively working with the County is housed within the Agency and is maintained continuously with the assistance of all provider agencies that operate within our jurisdiction. The EMS Agency is in the process of developing an online application portal in partnership with ImageTrend. The application portal will be completed and implemented in 2023.

Apparatus:

Each ALCO EMS provider agency has a wide variety of apparatus that is utilized for the provision of EMS services within the County. First responder services are most often delivered utilizing fire engines and trucks. Transport providers have several different types of ambulances based on their agency's needs. They also utilize numerous specialty vehicles such as, SUVs for supervisors and Quick Response Vehicles, all-terrain vehicles for special events or inaccessible areas, and others. The cities of Alameda and Hayward, as well as the contracted EOA 9-1-1 ambulance transport provider Falck, have behavioral health response vehicles that offer an alternative to a traditional ambulance response.

The ALCO EMS Agency has sufficient apparatus to support our operations. Additionally, we are in the process of outfitting a retired transit bus with the necessary equipment so that it will enable field providers to treat and/or transport multiple patients simultaneously in the event of a multi-casualty incident.

The EMS Agency specifies in Policy the minimum standards that all apparatus within the system must meet and also the supplies and equipment that the above apparatus shall have in order to be considered in-service.

Facilities:

Each provider Agency has adequate facilities located throughout their jurisdictions for the provision of EMS service throughout the County.

First Responder agencies almost exclusively operate out of Fire Stations located in all communities with administrative facilities in various cities that support needs of those first responders.

Falck Northern California, the currently contracted 911 transport provider for the EOA has headquarters that are centrally located within the County in the City of Hayward. This facility provides deployment of ambulances, supervisors, etc., as well as administrative and logistical support for their operations. Falck also has satellite deployment facilities located in the Cities of Oakland and Livermore.

The ALCO EMS Agency main office is centrally located in the City of San Leandro, which we have recently expanded to make room for additional staff. Additionally, in 2020, the EMS Agency, gained a new sub-unit, Healthcare Emergency Preparedness and Response (HEPR) whose mission is to prepare for and respond to healthcare crises within our jurisdiction and support other jurisdictions that are faced with crises. The addition of HEPR to the ALCO EMS Agency required that we acquire a warehouse to house all of the logistic supplies and equipment needed to assist the healthcare community to respond to events ranging from pandemics, earthquakes, or any other imaginable situation whereby healthcare facilities would need support. The EMS Warehouse is located in Dublin, has 10,000 sq. ft. of space and is staffed to help maintain the supplies and equipment within. In 2023, the EMS Warehouse will relocate to a 20,000 sq. ft. facility located in San Leandro.

NEED(S):

- A streamlined online platform to help with the management of provider agency lists.
- Working with the contracted 911 transport provider for the EOA to meet the requirements of their contract with the establishment of comfort stations.

OBJECTIVE: (Short and Long Term)

- Ensure efficient tracking of personnel within the County.
- Ensure contract compliance and contracted provider employee well-being.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.10 SPECIAL POPULATIONS

MINIMUM STANDARDS:
Each local EMS agency shall identify population groups served by the EMS system which require specialized services (e.g., elderly, handicapped, children, non-English speakers).

RECOMMENDED GUIDELINES:
Each local EMS agency should develop services, as appropriate, for special population groups served by the EMS system which require specialized services (e.g., elderly, handicapped, children, non-English speakers).

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 14. Emergency Medical Services for Children (EMSC)

California Code of Regulations
TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

CURRENT STATUS:

Meets minimum standards:

Refer to previous sections and local policies/plans (compliant with current CA State EMSC, Trauma, Stroke, STEMI Regulations):

- 1.27 (Pediatric System Plan)
- 5.04 (Specialty Care Facilities)
- Trauma Care System Plan
- Child Injury Prevention
- Child Abuse/Neglect Reporting Policy
- Senior Injury Prevention
- Older Adult Abuse/Neglect Reporting Policy
- Youth Alive Violence Injury Prevention
- Sexual Assault Policy
- Domestic Violence Reporting Policy
- Stroke Care System Plan

- STEMI Care System Plan
- Policies related to medical devices (i.e., ventricular assist devices, stomas, tracheostomies)
- Psychiatric and Behavioral Emergencies Policy

Additionally, metrics are being integrated into the upcoming 9-1-1 ambulance transport request for proposal (RFP) to evaluate, monitor, and improve system equity and inclusion across the diverse population groups that are served.

NEED(S):

- Release RFP and complete competitive procurement for 9-1-1 ambulance transport which includes new population specific metrics.
- Develop comprehensive data monitoring systems to ensure accurate tracking of system performance

OBJECTIVE:

- Continuous monitoring and evaluation of specialty care systems and general 9-1-1 system performance regarding special populations for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.11 SYSTEM PARTICIPANTS

MINIMUM STANDARDS:
Each local EMS agency shall identify the optimal roles and responsibilities of system participants.

RECOMMENDED GUIDELINES:
Each local EMS agency should ensure that system participants conform with their assigned EMS system roles and responsibilities, through mechanisms such as written agreements, facility designations, and exclusive operating areas.

CURRENT STATUS: MEETS MINIMUM STANDARD

Dispatch Providers:
Alameda County (ALCO) has 18 distinct PSAPs throughout the County. These include two ACE Accredited EMD Centers (Alameda County Regional Emergency Communications Center (ACRECC) and Oakland Fire Dept. Dispatch) that utilize MPDS to code and prioritize calls and provide pre-arrival instructions. Oakland Fire Dept. Dispatch provides EMD services for the City of Oakland. ALCO EMS has a contractual agreement in place with ACRECC for the provision of EMD Services for the balance of the County.

First Response Agencies:
Alameda County EMS has numerous First Responder Agencies within Alameda County All First Responder ALS Agencies have written contracts with our EMS Agency that are executed through June 30, 2024 with provisions for extension of those agreements.

ALS First Responder Agencies:

- Alameda County Fire Department (Serving the cities of, Emeryville, San Leandro, San Lorenzo, Union City, Newark, Dublin, Sunol and other unincorporated portions of Alameda County.
- City of Alameda Fire Department
- City of Albany Fire Department
- City of Berkeley Fire Department
- City of Fremont Fire Department
- City of Hayward Fire Department
- City of Oakland Fire Department
- City of Piedmont Fire Department
- Livermore-Pleasanton Fire Department

911 Transport Agencies:
Alameda County EMS has several 911 transporting Agencies that provide BLS and ALS services throughout the County. Contractual Agreements are in place with these provider agencies. The municipal agencies listed below have the exclusive rights to transport within their jurisdiction based on CCR 1797.224. The balance of the County has an EOA for 911 transport services that is bid out and awarded based on a competitive bidding process in line with State Statutes and Regulations.

- City of Alameda Fire Department
- City of Albany Fire Department

- City of Berkeley Fire Department
- City of Piedmont Fire Department
- Falck Northern California (Contracted 911 Transport EOA Provider)

BLS Ordinance Agencies:

The following agencies qualify to perform EMS transport within our jurisdiction, outside of the 911 system, via the Alameda County Emergency Medical Services Ambulance Ordinance.

- American Medical Response
- Arcadia Ambulance
- Bay Medic Transportation
- Eagle Ambulance
- Falck Northern California
- Falcon Critical Care Transport
- Norcal Ambulance
- Pro Transport-1
- Royal Ambulance
- United Ambulance
- Westmed Ambulance

Receiving Facilities:

The listing below are all the receiving facilities for EMS transport located within our jurisdiction and their current designations

- Alameda Hospital | Basic Emergency Services, Primary Stroke Center
- Alta Bates Summit Medical Center- Ashby Campus | Basic Emergency Services, Labor and Delivery
- Alta Bates Summit Medical Center- Summit Campus | Basic Emergency Services, Primary Stroke Center, STEMI Center
- Eden Medical Center | Basic Emergency Services, Level II Adult Trauma Center, Primary Stroke Center, Labor and Delivery
- Highland Hospital | Basic Emergency Services, Level I Adult Trauma Center, STEMI Center, Labor and Delivery
- Kaiser Oakland | Basic Emergency Services, Primary Stroke Center, STEMI Center, Labor and Delivery
- Kaiser Fremont | Basic Emergency Services, Primary Stroke Center, STEMI Center
- Kaiser San Leandro | Basic Emergency Services, Primary Stroke Center, Labor and Delivery
- St. Rose Hospital | Basic Emergency Services, STEMI Center, Labor and Delivery
- San Leandro Hospital | Basic Emergency Services

- Stanford ValleyCare Hospital | Basic Emergency Services, STEMI Center, Primary Stroke Center, Labor and Delivery
- John George Psychiatric Hospital | Psychiatric Emergency Services for Adults
- UCSF Benioff Children's Hospital- Oakland | Basic Emergency Services, Level I Trauma Center, and Psychiatric Emergency Services for Children
- Washington Hospital | Basic Emergency Services, Primary Stroke Center, STEMI Center, Labor and Delivery
- Willow Rock Center | Psychiatric Emergency Services for Adolescents and Teens

NEED(S):

Maintenance of contractual agreements with service providers.

Additional of an additional Adult Level 2 Trauma Center within the next 5 years.

OBJECTIVE: (Short and Long Range)

Work collaboratively with system providers to deliver the appropriate level of care from dispatch to definitive care throughout our community.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.12 REVIEW AND MONITORING

MINIMUM STANDARDS:
Each local EMS agency shall provide for review and monitoring of EMS system operations.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

Currently, the Alameda County (ALCO) EMS Agency continuously monitors general system operations and compliance with performance standards for all aspects of the system from dispatch to receiving facilities. These performance standards are specified by contractual agreements and Agency policy. These performance standards include metrics such as: response times, Ambulance Patient Offload Times (APOT), ensuring adequate crew rest times, etc.

Alameda County EMS employs several methods of monitoring system operations including required self-reporting and multiple technological platforms such as:

FirstWatch: All of the communication centers that provide 9-1-1 EMS resource dispatching are connected to FirstWatch which enables access to CAD records to monitor and review dispatch operations. Oakland Fire Dispatch and the Alameda County Regional Emergency Communications Center, the two ACE-accredited EMD centers in Alameda County, provide MPDS ProQA reporting within FirstWatch. An Alameda County-Contra Costa County joint hospital transport dashboard was created to enable the monitoring of facility impaction and hospital offload delays displaying transport resources from both counties at Alameda County hospitals. Several permitted interfacility ambulance transport provider patient care report databases are linked to FirstWatch, allowing Alameda County EMS to review reports for transports that originated and terminated within Alameda County. Additionally, FirstWatch is utilized for monitoring of response time and clinical performance standard compliance.

ESO: All of the 9-1-1 first response and transport providers in the county utilize ESO as their electronic health record (EHR). Alameda County EMS has an umbrella account which allows viewing of a real time track board, EHRs to be viewed, and access to health data exchange (HDE) data as well as the generation of clinical and operational reports.

PulseGenesis: Falck, the contracted 9-1-1 ambulance transport EOA provider, provides Alameda County EMS access with this platform that receives both CAD call data and all Falck automatic vehicle locator (AVL) data. The platform allows live real time system monitoring as well as retrospective review of AVL history.

Psomas SitStat: SitStat is a system monitoring platform that is linked to CAD data as well as both Falck's and Fire First Response resources. This platform allows for near real time system monitoring of calls and responding resources.

ReddiNet: All 9-1-1 transport providers, all interfacility ambulance transport providers, all 9-1-1 receiving facilities, many mental health facilities, and several long-term and acute care facilities have access to ReddiNet. ReddiNet is utilized to provide emergent information, conducting polling of providers and facilities, MCI notifications and tracking, facility diversion status, and facility bed status.

Alameda County EMS Coordinators are assigned to monitoring various aspects of system performance and reporting any issues to EMS leadership for follow-up as needed. EMS Coordinators also, on a rotating basis, serve as system duty officers in order to assist with and mitigate any issues that may arise during day-to-day operations or pursuant to a specific incident or event. During significant or large-scale incidents, EMS Coordinators and other EMS Agency personnel may deploy to scene incident commands, departmental operation centers (DOCs), or emergency operation centers (EOCs) in order to monitor system resilience and provide subject matter expertise regarding medical and health related operations.

When deficiencies are discovered, our Agency works with the specific provider to review the deficiencies and to assist with planning the steps needed to regain compliance with the established standards. Additionally, ALCO EMS conducts periodic reviews of our performance standards to confirm if those standards are useful and effective for overall system performance.

NEED(S):

- Continue to develop technological infrastructure to automate system monitoring.
- Conduct detailed audits of contractual agreements to ensure compliance is being monitored and corrected as needed.

OBJECTIVE: (Short and Long Range)

- Ensure that all system service providers are performing as expected.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.13 COORDINATION

MINIMUM STANDARDS:
Each local EMS agency shall coordinate EMS system operations.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

The Alameda County (ALCO) EMS Agency coordinates EMS system operations from prevention to definitive care.

Our Agency's Injury Prevention unit delivers education, supplies, and support to our communities in effort to prevent entry into the system or minimize the effects of an unintended event and provides education on the recognition of life-threatening medical emergencies to our communities.

Alameda County EMS works closely with ALCO PSAPs and EMD centers to ensure calls are processed and triaged and appropriate resources are assigned to incidents and that those centers also manage the available EMS resources effectively.

The ALCO EMS Agency has contractual agreements with first response and transport providers in our jurisdiction operational area to ensure appropriate and equitable response to incidents. ALCO EMS has designated EMS Coordinator liaisons within our Agency that provider agencies can coordinate with to resolve issues and plan for the future.

Alameda County EMS works collaboratively with receiving facilities to ensure efficient basic services and comprehensive, quality specialty care services to include pediatric, STEMI, stroke, trauma, and cardiac arrest care.

ALCO EMS conducts several on-going meetings with all the above system participants to maintain open communication and coordination of efforts.

Overall, we have a well-coordinated system that serves our community and anticipates future needs and adapts to those.

NEED(S):

None currently.

OBJECTIVE:

Maintain collaborative relationships with all of our system partners to ensure the delivery of quality services to our community.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

1.14 POLICY & PROCEDURES MANUAL

MINIMUM STANDARDS:
Each local EMS agency shall develop a policy and procedures manual that includes all EMS agency policies and procedures. The agency shall ensure that the manual is available to all EMS system providers (including public safety agencies, ambulance services, and hospitals) within the system.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

For many years the Alameda County EMS Agency has had established administrative policies that cover a wide range of areas, including operational, clinical, and administrative topics. Alameda County EMS began work in 2019 and is continuing to update those policies as needed by through internal input and through soliciting input from stakeholders and the public.

Additionally, our Agency has a field manual and an accompanying digital application which contains clinical and operational guidelines for field providers to reference. Typically, our Agency receives input from stakeholders and the public in an annual cycle to update these guidelines as needed, but the 2021 updates were postponed due to the COVID-19 pandemic, and we are postponing the 2023 updates to allow for time to perform a revamp of the Manual and the accompanying digital application.

NEED(S):

- Complete updates to the Agency's administrative policies.
- Conduct a gap analysis to determine if there are any policies that need to be put in place.
- Rewrite the Agency's field manual to ensure that all information within is updated and relevant to field providers.
- Ensure all policies are easily accessible to all.

OBJECTIVE:

To have up-to-date policies for all needed topics that are easily accessible.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.15 COMPLIANCE WITH POLICIES

MINIMUM STANDARDS:
Each local EMS agency shall have a mechanism to review, monitor, and enforce compliance with system policies.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

The ALCO EMS Agency utilizes multiple mechanisms to monitor and ensure compliance with policies and contractual terms. These includes pathways for self-reporting, reporting, contract audits, and automated monitoring/reporting.

The Agency utilizes technological platforms to monitor aspects such as response time requirements, Ambulance Patient Offload Times (APOT), and clinical benchmarks. ALCO EMS also ensures these same technological platforms are available to the ALCO provider agencies to encourage and facilitate internal monitoring.

When deficiencies are noted, ALCO EMS works closely with the agency or individual involved to ensure awareness of the standards and develop plans to assist to those involved to return to compliance with the established standards and/or take disciplinary measure if deemed appropriate in accord with State Statutes and Regulations. If needed, ALCO EMS follows up with directives to assist those involved to remain in compliance.

ALCO EMS conducts ongoing routine reviews of policies and standards to ensure that they are up-to-date, reasonable, and rationale for the system.

NEED(S):

None currently.

OBJECTIVE:

None currently.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☐ Long-Range Plan (more than one year)

1.16 FUNDING MECHANISM

MINIMUM STANDARDS:

Each local EMS agency shall have a funding mechanism, which is sufficient to ensure its continued operation and shall maximize use of its Emergency Medical Services Fund.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

The Alameda County EMS CSA was formed in 1983 to provide emergency medical services throughout the county, and it covers the total cost to Alameda County for providing ambulance, paramedic, trauma care and related services, including emergency medical dispatch and associated EMS program activities. With the passage of Proposition 218 in November 1996, EMS charges no longer met the definition of "benefit assessment." Therefore, a special tax, Measure C, to replace the benefit assessment was approved by Alameda County voters in 1997 with more than the required two-thirds majority with 81.4% of voters voting Yes. This special tax measure also authorizes the Board of Supervisors to adjust the tax once a year in an amount not to exceed the increase in Consumer Price Index (CPI) for the San Francisco-Oakland-San Jose area. This year, the Alameda County Board of Supervisors is expected to approve an increase for Fiscal Year 2023-2024 based on the February 2023 San Francisco-Oakland-San Jose area CPI increase data released by the Bureau of Labor Statistics.

Additionally, ALCO EMS receives funding through Measure A which supports EMS Corps, injury prevention, and behavioral health programs.

ALCO EMS annually pursues and receives grant funding through the State Homeland Security Grant Program (SHSGP) and the Bay Area Urban Areas Security Initiative (BAUASI) for disaster preparedness and community education initiatives.

In 2020, the Health Emergency Preparedness & Response (HEPR) division was transitioned from Public Health and integrated into ALCO EMS. HEPR receives grant funding through multiple federal and state programs such as the Center for Disease Control's (CDC's) Cities Readiness Initiative (CRI), CDC's Public Health Emergency Preparedness (PHEP), and Office of the Assistant Secretary for Preparedness and Response (ASPR's) Hospital Preparedness Program (HPP).

NEEDS:

Identify existing or new funding streams for potential system subsidies, system expansion, and implementation of innovative or novel programs.

OBJECTIVE: (Long Range)

- Monitor annual increase in Measure C funding to insure sustainment of existing programs, staff, and services as well as opportunities for additions or expansions.
- Continue pursuing current and identify new grant funding sources.
- Evaluate additional opportunities to expand or establish new sustainable funding streams.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

1.17 MEDICAL DIRECTION

MINIMUM STANDARDS:
Each local EMS agency shall plan for medical direction within the EMS system. The plan shall identify the optimal number and role of base hospitals and alternative base stations and the roles, responsibilities, and relationships of pre-hospital and hospital providers.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County has a comprehensive plan and program for the provision of on and off- line **medical direction** within the EMS system.

The plan identifies Highland Hospital as the system Base Hospital

- Current Base Hospital (Alameda Health System – designated since 2004).
- MOU with $200,000 annual subsidy completed- 7/1/2021-6/30/2024.
- Sole Base Hospital Agreement for the County
- Base Hospital Coordinator and Medical Director assigned. Gene Hern MD as the Base Hospital Medical Director July 2019 to the present
- All calls are recorded for QI purposes.
- Monthly Base Hospital calls are reviewed at our Clinical Quality Council

NEED(S):

OBJECTIVE:

SHORT-RANGE PLAN:

- Update / revise Base Hospital Course for second year residents in Alameda County Health Center as necessary

LONG-RANGE PLAN:

- Review subsidy & MOU as needed.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

1.18 QA/QI

MINIMUM STANDARDS:
Each local EMS agency shall establish a quality assurance/quality improvement (QA/QI) program. This may include use of provider-based programs which are approved by the local EMS agency, and which are coordinated with other system participants.

RECOMMENDED GUIDELINES:
Pre-hospital care providers should be encouraged to establish in-house procedures, which identify methods of improving the quality of care provided.

CURRENT STATUS: MEETS MINIMUM STANDARD

The Alameda County EMS Agency has had a well-established QA/QI program for many years that guides many system activities. The ALCO EMS Directors and QI Coordinators provide on-going review and refinement to the QI program on a regular basis. Refer to the Alameda County QI Plan 2022.

Additionally, all of the provider agencies, including first response, 911 transport, and non-emergency permitted providers, are all required to and currently have in place a QA/QI program for their agency, which is submitted to the ALCO EMS Agency for review and approval.

NEED(S):

None.

OBJECTIVE:

None.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.19 POLICIES, PROCEDURES, PROTOCOLS

MINIMUM STANDARDS:
Each local EMS agency shall develop written policies, procedures, and/or protocols including, but not limited to:

- triage,
- treatment,
- medical dispatch protocols,
- transport,
- on-scene treatment times,
- transfer of emergency patients,
- standing orders,
- base hospital contact,
- on-scene physicians and other medical personnel, and
- local scope of practice for pre-hospital personnel.

RECOMMENDED GUIDELINES:
Each local EMS agency should develop (or encourage the development of) pre-arrival/post-dispatch instructions.

CURRENT STATUS: MEETS MININMUM STANDARD

The Alameda County EMS Agency has both an administrative policy and field manual that covers all the minimum standards listed above and additional policies, procedures, and protocols to cover operational and clinical standards.

Alameda County EMS began the process of reviewing and updating the administrative policy manual in 2019 with a goal of completion in 2022. Refer to the Alameda County EMS Field Policies and Protocols: ALAMEDA COUNTY EMS FIELD PROTOCOLS

The field manual and the associated digital application, covers the majority of these areas and this manual and digital application is typically updated on an annual basis. Alameda County EMS is undertaking a complete review and overhaul of the field manual during 2022-2023 with the goal of having a fully review and rewrite completed for deployment in late 2023-early 2024.

All policies, procedures, and protocols are reviewed utilizing internal input, stakeholder engagement, and public comment.

NEED(S):

- Complete review and updates to the administrative manual
- Review and overhaul the field manual and digital application for deployment in 2024.

OBJECTIVE:

- To have up-to-date comprehensive policies, procedures, and protocols to guide system activities.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.20 DNR POLICY

MINIMUM STANDARDS:
Each local EMS agency shall have a policy regarding "Do Not Resuscitate (DNR)" situations in the pre-hospital setting, in accordance with the EMS Authority's DNR guidelines.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

The EMS Agency has a comprehensive “Death in the Field” protocol within the Agency’s field manual and accompanying digital application that contains guidance regarding DNR situations in line with EMSA’s #311 guidelines.

NEED(S):

None.

OBJECTIVE:

None.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

1.21 DETERMINATION OF DEATH

MINIMUM STANDARDS:
Each local EMS agency, in conjunction with the county coroner(s) shall develop a policy regarding determination of death, including deaths at the scene of apparent crimes.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

The EMS Agency has a comprehensive “Death in the Field” protocol within the Agency’s field manual and accompanying digital application that contains guidance regarding determination of death in medical and trauma scenarios and management of death at a suspected crime scene.

NEED(S):

None.

OBJECTIVE:

None.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

1.22 REPORTING OF ABUSE

MINIMUM STANDARDS:
Each local EMS agency shall ensure that providers have a mechanism for reporting child abuse, elder abuse, and suspected SIDS deaths.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEET MINIMUM STANDARD

The Alameda County EMS Agency has a policy and procedure outlined for the reporting of child abuse and/or elder abuse to the appropriate County agencies. Suspected SIDS deaths are reported to Law Enforcement and/or receiving facility staff. Refer to the 2022 EMS Policy Manual: ALAMEDA COUNTY EMS FIELD PROTOCOLS

Alameda County EMS also has a procedure located in our Field Manual to help field providers to screen for domestic violence and connect those who screen positive during that assessment with appropriate resources.

NEED(S):

None.

OBJECTIVE:

None.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

1.23 INTERFACILITY TRANSFER

MINIMUM STANDARDS:
The local EMS medical director shall establish policies and protocols for scope of practice of pre-hospital medical personnel during interfacility transfers.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD. Refer to policies listed below.

- **INTERFACILITY TRANSFERS**
  - Refer to the Alameda County Emergency Medical Services Field Manual, Operations Section on the ALCO EMS website:

ALAMEDA COUNTY EMS FIELD PROTOCOLS

- **CRITICAL CARE PARAMEDIC (CCP) POLICIES**
  - Refer to the Alameda County EMS Website: ALAMEDA COUNTY EMS CCP FIELD MANUAL

- **ALAMEDA COUNTY CRITICAL MEDICAL PATIENT TRANSFERS**
  - Refer to the Alameda County EMS Website: ALAMEDA COUNTY EMS FIELD PROTOCOLS

OBJECTIVE: MONITOR TO DETERMINE IF CURRENT POLICIES NEED TO BE UPDATED

- Alameda County EMS will follow up on Unusual Occurrence Reports. These Unusual Occurrence Reports are submitted by facilities and/or transport providers.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

1.24 ALS SYSTEMS

MINIMUM STANDARDS:
Advanced life support services shall be provided only as an approved part of a local EMS system and all ALS providers shall have written agreements with the local EMS agency.

RECOMMENDED GUIDELINES:
Each local EMS agency, based on state approval, should, when appropriate, develop exclusive operating areas for ALS providers.

CURRENT STATUS: MEETS MINIMUM STANDARDS

PROGRESS TO DATE:

Alameda County has 5 exclusive operating areas (EOA). Four EOAs are in cities and are run by the fire departments – Alameda, Albany, Berkeley, and Piedmont. The rest of the county is an EOA for which Falck won the RFP and started service July 1, 2019. All of the transport providers have agreements in place with the LEMSA. The remainder of the fire departments (with the exception of East Bay Regional Parks) are ALS departments and also have signed agreements in place with the LEMSA.

In addition, since 2019 we have been convening stakeholder meetings to inform our next RFP. Organizations have been cross-sectional and inclusive. The original stakeholder group included the LEMSA, fire departments, hospital leadership, city managers, representatives from labor, staff members from the Board of Supervisor districts, ambulance providers, and more. After those stakeholders met, the vision of the group was presented to community groups for feedback including access and functional needs communities, senior care providers, Public Health Commission, Mayors Conference, Board of Supervisors, at-large community meetings, and more.

NEED(S): Continued evaluation of the EMS system in preparation for RFP release in late 2022.

Short-Range Plan (one year or less)

- Continue working with consultant to draft our next RFP.
- Further relationships with fire departments and ambulance providers to decrease the effects of staffing issues as all have current, signed agreements
- Advance new policies and partnerships with all transport providers and hospitals to drive our APOT times down

Long-Range Plan (more than one year)

- Work through the RFP approval process with Board of Supervisors and EMSA
- Implement new RFP.

OBJECTIVE: Maintain current system and further partnership improving the care of our patients as the system is currently structured and release an RFP that includes innovation to deliver the most appropriate, timely care to our community. Pivot as needed based on COVID activity.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.25 ON-LINE MEDICAL DIRECTION

MINIMUM STANDARDS:
Each EMS system shall have on-line medical direction, provided by a base hospital (or alternative base station) physician or authorized registered nurse/mobile intensive care nurse.

RECOMMENDED GUIDELINES:
Each EMS system should develop a medical control plan that determines:

- the base hospital configuration for the system,
- the process for selecting base hospitals, including a process for designation which allows all eligible facilities to apply, and
- the process for determining the need for in-house medical direction for provider agencies.

CURRENT STATUS: MEETS MINIMUM STANDARD

Currently, Alameda County EMS has an established contractual agreement through 2024 with Alameda Health System – Highland Hospital as the sole base hospital for on-line medical direction in Alameda County.

Through contract and policy, ALCO EMS has established standards for which physicians are authorized to serve in the capacity of Base Hospital Physician. ALCO EMS has also established responsibilities for on-going reporting, review of base hospital contacts and medical direction communications.

All provider agencies are required to and have designated medical directors in-house for the purpose of off-line medical direction.

NEED(S):

None.

OBJECTIVE:

None.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

1.26 TRAUMA SYSTEM PLAN

MINIMUM STANDARDS:
The local EMS agency shall develop a trauma care system plan, based on community needs and utilization of appropriate resources, which determines:

- the optimal system design for trauma care in the EMS area, and
- the process for assigning roles to system participants, including a process which allows all eligible facilities to apply.

RECOMMENDED GUIDELINES:
CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS
Article 2. Local EMS Agency Trauma System Requirements
§ 100256. Trauma Plan Development

CURRENT STATUS: MEETS MINIMUM STANDARDS
(Compliant with current CA State Trauma Care Systems Regulations)

Refer to sections and plans:

- 1.07 (Trauma Planning) Progress Update Form 2018-19
- 1.19 (Policies, Procedures, Protocols) Progress Update 2018-19
- 1.27 (Pediatric System Plan) Progress Update Form 2018-19
- Trauma System Plan 2022

NEED(S):

Trauma system assessment

- Review and update trauma care system plan as needed.
- Improve/strengthen ALCO trauma care system by Continuous monitoring and evaluation of trauma system performance for needed policy/protocol modification, with the intention to improve system operations, quality/continuity of care, and optimize patient outcomes.

OBJECTIVE:

Improve/strengthen ALCO trauma care system by continuous monitoring and evaluation of trauma system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

1.27 PEDIATRIC SYSTEM PLAN

MINIMUM STANDARDS:
The local EMS agency shall develop a pediatric emergency medical and critical care system plan, based on community needs and utilization of appropriate resources, which determines:

- the optimal system design for pediatric emergency medical and critical care in the EMS area, and
- the process for assigning roles to system participants, including a process which allows all eligible facilities to apply.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: *'MEETS MINIMUM STANDARD'*

EMSC PROGRAM AND WORKPLAN
Alameda County EMS leverages pediatric experts and partners to develop a comprehensive EMSC program and work plan to include:

PROGRAM MANAGEMENT AND COMMITTEES

- **LEMSA - EMSC personnel and program management**
  - EMSC Coordinator, Cynthia Frankel, is implementing the EMSC Regulations and is strengthening the EMSC system plan.
  - EMSC Coordinator facilitates the Pediatric Readiness Project and Assessment
- **LEMSA - Pediatric committees and integration into existing committees**
  - EMSC Coordinator attends the UCSF Benioff Children's Hospital Emergency Preparedness Meetings.
  - EMSC Integration in ALCO EMS Receiving Hospital Committee, QI and Disaster Preparedness Health Coalition (DPHC) Meetings
  - EMSC Integration of Trauma System Plan. Refer to Trauma Plan 2021-22
  - EMSC, Pediatric Readiness, and Surge Contract Planning Meetings were held in 2021 and 2022
    - The coordinated planning focuses on the National Pediatric Readiness Project (NPRP) implementation in Alameda County
    - UCSF Benioff Children's Hospital is planning the 2022 Hospital Pediatric Site Visits using the NPRP assessment tools and pediatric simulations at all ALCO receiving hospitals
  - Western Regional Alliance for Pediatric Emergency Management (WRAP-EM)
    - UCSF Benioff Children's Hospital was awarded the Center of Excellence ASPR Grant
    - Cynthia Frankel, EMSC Coordinator leads the WRAP-EM Surge Group for this multi-state WRAP-EM project
    - Developed the Alameda County Pediatric Surge Annex with WRAP-EM and DPHC SMEs
- **EMSC coordination and collaboration with Child Injury prevention program**
  - Refer to Alameda County EMS Website
  - ALAMEDA COUNTY EMS PREVENTION PROGRAMS
- **EMSC integration in Trauma Program** – Refer to Trauma System Plan 2021
- EMSC Coordinator participates on the CA EMSC-TAC Committee and Disaster Projects; CDPH/EMSA Pediatric Surge project committee as needed; and supports the ASPR Speaker Series
- Pediatric Centers of Excellence Project Grant 2021 and 2022 with Western Regional Alliance Planning Emergency Management Team

POLICIES

- Ensuring pediatric administrative and field policies for care and services
- Refer to: ALAMEDA COUNTY EMS FIELD PROTOCOLS

- First response non-transport
- Transport
- Interfacility transfer
- Critical care
- Pediatric specific personnel training
- Pediatric ambulance equipment
- Data management requirements –quality improvement plan and evaluation *
- PedRCs Policy for Hospitals. *

- Pediatric patient destination policies - EMS agency

RESEARCH

- Research Collaborations: PECARN Node and ASPR Pediatric Surge Grant – 5 State Western Alliance WRAP-EM Grant – supports UCSF Benioff Children's Hospital Oakland Deliverables

CLINICAL OPERATIONS TRAINING

- Continuing education and training
  - Education on EMSC Prehospital Policies and Procedures – New Pediatric updates for 2021-22

ASSESSMENT, TRAINING, AND QI

- Conducting Hospital **ED Pediatric Readiness Site Visits** for "Day to Day" and Pediatric Surge Capability Assessment in 2022
  - Refer to ALAMEDA COUNTY EMS - EMS FOR CHILDREN; ALAMEDA COUNTY EMS FIELD PROTOCOLS
  - All 12 receiving hospitals will be scheduled for site visits in 2022-23 with UCSF Benioff Children's Hospital.
  - All 13 receiving hospitals completed the National pediatric readiness project NPRP assessment required in 2021.
  - A new contract with UCSF Benioff Children's Hospital in Oakland and San Francisco Mission Bay to conduct ED Site visits started January 2022. Provides Pediatric Site Visit assessments, training with simulations, and improvement plans.
  - Receiving hospitals with designated pediatric POCs and PECCs will be continually updated.
- On-going Pediatric data collection from the EMS providers & hospitals
- Mapped Pediatric critical care and trauma services facilities and assets
- Identified facilities providing pediatric physical rehabilitation services

CONTRACTS / AGREEMENTS

- Pediatric contracts / agreements for Trauma. Refer to trauma plan 2021-22.

COMMUNICATIONS

- Ensuring field pediatric communications to receiving hospitals

PEDIATRIC EMERGENCY/SURGE PLANS / TRAINING / CONFERENCES

- Prepared the ALCO Pediatric Surge Annex with CONOPS 2021 & updated with COVID-19 considerations.
- Developed HCC Pediatric Coalition Response Plan annex with the supporting Pediatric Surge Annex.
- Support California Department of Public Health and Emergency Medical Services Authority on pediatric surge planning as needed.
- EMSC Coordinator shared a Pediatric Surge presentation at the National Healthcare Coalition Preparedness Conference (NHCPC) in Orlando, Florida 2021 and on the ASPR Speaker Series April 2022
  - Developed Regional Children's Disaster CONOPs Framework with Pediatric Surge recommendations with WRAP-EM partners
- Promotes and disseminates CA Child Care Emergency Plan & "train the trainer" power point

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DISASTER SURGE / EXERCISES / TRAINING & "REAL EVENTS"

- Participated in WRAP-EM Multi-State Exercises: Burn and Telehealth

- Integrated pediatrics in the COVID-19 planning and response including therapeutics and PODs
- Focus on Triage Resource Allocation In-patients (TRAIN) Model implementation. Integrated in ALCO Pediatric Surge Annex
- Provided pediatric surge planning updates and training for the HCC Disaster Preparedness Health Coalition via WRAP-EM.

WEBSITE

- Promote Pediatric Resource Information via Alameda County EMS Website, National Pediatric Googlelist Serve and ASPR Tracie Pediatric Resources, and WRAP-EM Websites

NEED(S):

OBJECTIVE:

OBJECTIVE: The overall goal of the Alameda County EMS for Children (EMSC) program is to ensure that acutely ill and injured children have access to high quality, coordinated, and comprehensive emergency and critical care services appropriate for children's special needs.

SHORT-RANGE/ LONG RANGE

- Continue to assess the local EDs for pediatric capability. Facilitate hospital and ALS EMS provider pediatric readiness with focus on pediatric medical surge.
- Implement CA EMSC regulation guidelines - Strengthen the program consistent with CA EMSC regulations.
- Continue to promote the TRAIN Model with focus on NICU.
- Continue to support the WRAP-EM and HRSA Pediatric Pandemic Network (PPN) projects

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

1.28 EOA PLAN

MINIMUM STANDARDS:

The local EMS agency shall develop and submit for State approval, a plan, based on community needs and utilization of appropriate resources, for granting of exclusive operating areas, that determines: a) the optimal system design for ambulance service and advanced life support services in the EMS area, and b) the process for assigning roles to system participants, including a competitive process for implementation of exclusive operating areas.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Pursuant to Section 1797.224 of the California Health and Safety Code, ALCO EMS has established 5 exclusive operating areas (EOAs) for 9-1-1 ambulance transport services.

Four of the EOAs are granted through an exclusive non-competitive process due to grandfathering city fire departments that provided ambulance services prior to The Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act of 1980. The four grandfather EOAs are the city of Alameda, the city of Albany, the city of Berkeley, and the city of Piedmont. The city of Berkeley EOA includes the state property of UC Berkeley and the federal property at Lawrence Berkeley Lab.

The fifth EOA encompasses the remainder of Alameda County and is granted through an exclusive competitive process. This EOA was last competitively bid in 2018 with the winning contractor implementing service in July of 2019. The current contractor has been awarded the EOA for a 5-year term ending in June of 2024.

Lawrence Livermore National Lab (LLNL) is federal property and is exempted from the EOAs. Ambulance transport services for LNLL is provided through a federal contract with Alameda County Fire District.

First Response Advanced Life Support (FRALS) services is provided throughout all EOAs by fire departments or districts within each jurisdiction. The need for the provision of Advanced Life Support (ALS) transport services is determined through a tiered response informed by the Medical Priority Dispatch System (MPDS) and further local call prioritization as determined by historical clinical and operational data under the discretion of the Alameda County EMS Agency Medical Director's medical control. ALS transport services are provided through either an ALS ambulance staffed with at least one paramedic or through the combination of a basic life support (BLS) ambulance and a paramedic staffed quick response vehicle (QRV).

NEED(S):

- Maintenance of existing EOAs.
- Maintenance and continuous review of tiered responses.

OBJECTIVE:

- Conduct competitive process for provision of ambulance services in fifth EOA described above.
- Maintain continuous provider agreements for provision of ambulance services with non-competitive grandfathered fire department providers in other established EOAs.
- Maintain continuous provider agreements for provision of FRALS by fire departments and districts within each jurisdiction.
- Continually review MPDS and local call prioritization to ensure appropriate community response.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)

☒Long-Range Plan (more than one year)

Table 1B: Staffing/Training:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Local EMS Agency					
2.01 Assessment of Needs		✓		✓	✓
2.02 Approval of Training		✓			✓
2.03 Personnel		✓		✓	✓
Dispatchers					
2.04 Dispatch Training		✓		✓	✓
First Responders (Non-Transporting)					
2.05 First Responder Training		✓	✓		✓
2.06 Response		✓		✓	✓
2.07 Medical Control		✓		✓	✓
Transporting Personnel					
2.08 EMT-I Training		✓	✓		
Hospital					
2.09 CPR Training		✓		✓	✓
2.10 Advanced Life Support		✓			✓
Enhanced Level: Advanced Life Support					
2.11 Accreditation Process		✓		✓	✓
2.12 Early Defibrillation		✓		✓	✓
2.13 Base Hospital Personnel		✓		✓	✓

2.01 ASSESSMENT OF NEEDS

MINIMUM STANDARDS:
The local EMS agency shall routinely assess personnel and training needs.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

Refer to the Alameda County QI Plan 2022, Pediatric Surge Annex, and the Alameda County EMS System Plan following sections:

- 1.12 (Review and Monitoring)
- 1.18 (QA/QI)
- 1.27 Pediatric System Plan
- 5.01 (Assessment of Capabilities)

- 2022 QI PLAN

NEED(S): Improve provider patient care and patient outcomes.

Assess paramedic current knowledge and skills competency (SHORT & LONG RANGE)

OBJECTIVES

- Use the data management system to assess provider compliance with Policy 2000 (Ongoing).
- Conduct Alameda County EMS system-wide training sessions regarding policy changes – conducted annually following the policy review process and prior to the implementation of new policies.
- Assess pediatric resources and readiness for all Alameda County Receiving Hospitals consistent with the CA EMSC regulations and the evidence based National Pediatric Readiness Project (NPRP) benchmarks.
  - Conduct pediatric ImPACT simulation training with feedback for all hospitals with UCSF Benioff Children's Hospital

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

2.02 APPROVAL OF TRAINING

MINIMUM STANDARDS:
The EMS Authority and/or local EMS agencies shall have a mechanism to approve EMS education programs that require approval (according to regulations) and shall monitor them to ensure that they comply with state regulations.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: Meets Minimum Standards

The Alameda County EMS Agency has a mechanism to approve and monitor EMS Education Programs using the State regulations under Title 22, Division 9 -Prehospital Emergency Medical Services.
These Alameda County EMS Education Programs include:

- Paramedic Programs
- Emergency Medical Technician Programs
- CE Providers
- Public Safety First Aid (PSFA)

NEED(S):

None

OBJECTIVE:

- Continue evaluating EMS Education Programs applying for accreditation.
- Monitor compliance standards of the approved EMS Education Programs.
- Obtain consistency from the EMS Education Programs.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

2.03 PERSONNEL

MINIMUM STANDARDS:
The local EMS agency shall have mechanisms to accredit, authorize, and certify pre-hospital medical personnel and conduct certification reviews, in accordance with state regulations. This shall include a process for pre-hospital providers to identify and notify the local EMS agency of unusual occurrences that could impact EMS personnel certification.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Review DOJ/FBI reports as appropriate of licensed EMT personnel
- Oversight of EMT and paramedic training programs, with guidance as appropriate
- Mandatory county orientation, which is held on a monthly basis, for all EMTs and paramedics entering the system
- Facilitate intern candidate orientation.
- Facilitate paramedic preceptor training.
- Collaboration with clinical education and training service divisions of county EMS providers and other allied agencies
- Online reporting capability for unusual occurrences related to EMS performance issues as well as system issues.

NEED(S):

Enabled enhance online reporting and application system through an online ImageTrend-based portal.

OBJECTIVE:

Continue collaboration and coordination with ems providers, other allied agencies, and training programs.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

2.04 DISPATCH TRAINING

MINIMUM STANDARDS:
Public safety answering point (PSAP) operators with medical responsibility shall have emergency medical orientation and all medical dispatch personnel (both public and private) shall receive emergency medical dispatch training in accordance with the EMS Authority's Emergency Medical Dispatch Guidelines.

RECOMMENDED GUIDELINES:
Public safety answering point (PSAP) operators with medical dispatch responsibilities and all medical dispatch personnel (both public and private) should be trained and tested in accordance with the EMS Authority's Emergency Medical Dispatch Guidelines.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

EMD--Alameda County maintains two IAEMD ACE Accredited EMD Centers of Excellence.

ACRECC (Alameda County Regional Emergency Communications Center)--provides EMD services for all areas of the County other than the City of Oakland. ACRECC also dispatches first responder and ambulance transport apparatus for several municipalities as well as Falck Alameda County.

Oakland Fire Department-- provides EMD services for the City of Oakland.

MEDICAL DISPATCH REVIEW COMMITTEE (MDRC)

- Coordinate and standardize emergency medical dispatch functions throughout the County, Alameda County EMS has established a Medical Dispatch Review Committee that is comprised of representatives from ACRECC and the Oakland Fire Department Dispatch center as well as field personnel, the EMS Director, EMS Medical Director and provider agency and leadership.
- The establishment of this committee has assisted in standardizing the assignment of EMS resources throughout the county and maintaining cross-center dialogue has improved our data collection with respect to MPDS activities.
- This improved data collection has provided us the means to assess the effectiveness of our MPDS implementation more accurately.

NEED(S):

Work with all Dispatch Centers regarding education and specific QA/QI for calls that are potentially cardiac arrest in origin and warrant Dispatch Assisted Pre-Arrival CPR and AED instructions.

Public safety answering point (PSAPs) operators with medical dispatch responsibilities and all medical dispatch personnel are trained and tested in accordance with the EMS Authority's Emergency Medical Dispatch Guidelines. Develop and maintain bi-directional CAD to CAD communications links between all PSAP and Emergency Dispatch Centers.

OBJECTIVE: Continuously monitor system response compliance to ensure the most priority patients receive the most priority response.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

2.05 FIRST RESPONDER TRAINING

MINIMUM STANDARDS:
At least one person on each non-transporting EMS first response unit shall have been trained to administer first aid and CPR within the previous three years.

RECOMMENDED GUIDELINES:
At least one person on each non-transporting EMS first response unit should be currently certified to provide defibrillation and have available equipment commensurate with such scope of practice, when such a program is justified by the response times for other ALS providers.

At least one person on each non-transporting EMS first response unit should be currently certified at the EMT level and have available equipment commensurate with such scope of practice.

CURRENT STATUS: MEETS MINIMUM STANDARDS

TRAINING – POLICIES AND AGREEMENTS – Requirements

- Refer to the Alameda County 2022 Field Manual – General Operational Policies (Available on the Alameda County EMS – website: ALAMEDA COUNTY EMS FIELD PROTOCOLS)

- Emergency Medical Technicians - A completed EMT Skills Verification Form (EMSA-SCV 01/17) is required for those individuals who are either renewing or reinstating their EMT certification every two (2) years.

PROVIDER CONTRACTS/AGREEMENTS

- Refer to the EMS First Responder Advanced Life Support Services Agreements (FRALS) with Fire Departments

Emergency Medical Services First Responder Advanced Life Support (Paramedic) Services Agreements:

- First Responder Advanced Life Support Services Agreement - City of Alameda
- First Responder Advanced Life Support Services Agreement - City of Albany
- First Responder Advanced Life Support Services Agreement - City of Berkeley
- First Responder Advanced Life Support Services Agreement - City of Dublin
- First Responder Advanced Life Support Services Agreement - City of Emeryville
- First Responder Advanced Life Support Services Agreement - City of Fremont
- First Responder Advanced Life Support Services Agreement - City of Hayward
- First Responder Advanced Life Support Services Agreement - City of Livermore
- First Responder Advanced Life Support Services Agreement - City of Newark
- First Responder Advanced Life Support Services Agreement - City of Oakland
- First Responder Advanced Life Support Services Agreement - City of Piedmont
- First Responder Advanced Life Support Services Agreement - City of Pleasanton
- First Responder Advanced Life Support Services Agreement - City of San Leandro
- First Responder Advanced Life Support Services Agreement - City of Union City

NEED(S):
None

OBJECTIVE:

- To provide at least one person on each non-transporting first response unit trained in first aid and CPR every two years - **COMPLETED**.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)

☒ Long-Range Plan (more than one year)

2.06 RESPONSE

MINIMUM STANDARDS:
Public safety agencies and industrial first aid teams shall be encouraged to respond to medical emergencies and shall be utilized in accordance with local EMS agency policies.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

Refer to previous sections and plans:

- 2.12 (Early Defibrillation)

Public safety agencies and industrial first aid teams are encouraged to respond to medical emergencies and are utilized in accordance with local EMS agency policies.

EMS Policy Manual

- Refer to the Alameda County Administration and Policy Manual 2022 (Available on the Alameda County EMS Website)
- **ALAMEDA COUNTY EMS FIELD PROTOCOLS**
- ALAMEDA COUNTY EMS - AGENCY DOCUMENTS

Tactical Medicine

- All prehospital training is in accordance with EMSA/POST approved tactical medicine curriculum. Currently offering Tactical Medical Technician (TMT) 40-hour classes projected to resume in 2022. TMT is POST, EMSA and LEMSA approved.
- The annually held SWAT Challenge is a coordinated endeavor that is coordinated with the Alameda County Sheriff's Office to include tactical medical training for EMS personnel, medical personnel, and first responders in a full-scale exercise to practice response to a mass casualty active shooter event.
- ALCO EMS has become an approved National Association of EMTs training site to provide the Tactical Emergency Casualty Care (TECC) credential.

Tactical Emergency Medical Support (TEMS) Team

- In conjunction with the County EOA Contractor, ALCO EMS has implemented and continues to develop an active Tactical Emergency Medical Support (TEMS) program including 40 hours of training via a California EMS Authority approved curriculum and level IIIA ballistic protection for tactical EMS personnel.
- Maintained routine operation of the ALCO TEMS team in responding to high threat/ high consequence incidents county-wide.

EMS and Clinic Field Treatment Site Co-Location Project

- ALCO EMS held a Co-location tabletop exercise in April 2022. An in person multi-agency exercise will be held in June to follow with three different clinic agencies.

NEED(S):
None

OBJECTIVE:

- Ramp up Tactical Medicine training and maintain routine operation of the ALCO TEMS team.
- Complete Co-location project and continue MCI planning.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

2.07 MEDICAL CONTROL

MINIMUM STANDARDS:
Non-transporting EMS first responders shall operate under medical direction policies, as specified by the local EMS agency medical director.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

- Refer to 1.02 and 1.24 Form in this 2021 EMS System Plan
- **Refer to 2022 QI Plan**
- **Refer to the EMS Policy Manual 2022 (available on the EMS website)**
  - ALAMEDA COUNTY EMS FIELD PROTOCOLS
- Refer to the Annual Protocols Update Training on the Alameda County EMS website and available upon request to Alameda County EMS
- Printed books and IOS and Android applications are available for download
  - **Alameda County EMS Mobile Field Manual** (Free download) (iOS Devices | Android Devices)
- Provider contracts and service agreements in place

Emergency Medical Services First Responder Advanced Life Support (Paramedic) Services Agreements:

- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Alameda
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Albany
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Berkeley
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Dublin
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Emeryville
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Fremont
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Hayward
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Livermore
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Newark
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Oakland
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Piedmont
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Pleasanton
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of San Leandro
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Union City

NEED(S): None.

OBJECTIVE:

- SHORT-RANGE PLAN:
  - Ongoing Performance improvement monitoring

- LONG-RANGE PLAN
  - Renew MOUs when appropriate

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

2.08 EMT-I TRAINING

MINIMUM STANDARDS:
All emergency medical transport vehicle personnel shall be currently certified at least at the EMT-I level.

RECOMMENDED GUIDELINES:
If advanced life support personnel are not available, at least one person on each emergency medical transport vehicle should be trained to provide defibrillation.

CURRENT STATUS: MEETS MINIMUM STANDARDS

All emergency medical transport vehicles have personnel certified at least at EMT-1 level.

- EMT Certification- Required baseline
- Policy- Refer to Operations Policy “Staffing”
- All provider contracts address training

NEED(S):

NO NEEDS AT THIS TIME

OBJECTIVE:

Continue monitoring compliance with all standards.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

2.09 CPR TRAINING

MINIMUM STANDARDS:
All allied health personnel who provide direct emergency patient care shall be trained in CPR.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

- Alameda County EMS Policies require all prehospital care providers to be CPR trained.
  - Refer to 2.06 (Response)
  - Refer to 2.12 (Early Defibrillation)

AED/Pad Program

- A new contract was implemented in October 2021 with **Via Heart Project** to manage 92 Community AEDs across the county.
  - The Via Heart Project contractor deliverables include performs site visits; replaces all community AED pads and batteries; ensure an AED coordinator has been identified at each location; and requires AED inspections tracked at each community site
  - The VIA Heart Project also tracks Alameda County EMS vehicle AEDS with required inspection checks and pad and battery replacement.
  - The VIA Heart Project offers CPR and AED training to the Alameda Community AED locations under their contract if requested. The Alameda County EMS contract with VIA Heart Project does not include the training requirement.
  - Agreement with Via Heart Project has a term of 3 years ending September 30th, 2024, at which point terms, service, and performance will be reviewed. If the VIA Heart project vendor meets the contract deliverable requirements, the contract with Alameda County EMS is anticipated to be renewed.

CPR 9

- State legislation requires ninth graders that take health science be trained in CPR as a graduation requirement. Alameda County EMS has transitioned formerly used resources for CPR 7 to support the ongoing CPR 9 efforts.
  - Select CPR 7 sites decided to keep their programs, which Alameda County EMS continues to support.

Heart Screening

- Alameda County EMS has partnered with Via Heart Project as a co-sponsor for a one-day heart screening for community members 12-25 years of age. This service is FREE of charge as main sponsorship is secured by Via prior to the event. This has been on hold during the pandemic but resumed in 2022.

NEED(S): None

OBJECTIVE:

- Facilitate MOU implementation and oversight with Via Heart Project to maintain AED community sites.
  - ALCO EMS has collaborated with Alameda County Risk management as needed. (Alameda County Risk Management ensures oversight of the Alameda County owned and leased government locations with AEDs).

- Ensure long term stability and maintenance of community AED sites and program.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

2.10 ADVANCED LIFE SUPPORT

MINIMUM STANDARDS:
All emergency department physicians and registered nurses that provide direct emergency patient care shall be trained in advanced life support.

RECOMMENDED GUIDELINES:
All emergency department physicians should be certified by the American Board of Emergency Medicine.

CURRENT STATUS: MEETS MINIMUM STANDARD

NEED(S): Improve ED provider patient care and patient outcomes.

OBJECTIVE:

- EMS will continue to work collaboratively with ED Directors and Managers to seek these certifications for physicians and nurses.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

2.11 ACCREDITATION PROCESS

MINIMUM STANDARDS:
The local EMS agency shall establish a procedure for accreditation of advanced life support personnel that includes orientation to system policies and procedures, orientation to the roles and responsibilities of providers within the local EMS system, testing in any optional scope of practice, and enrollment into the local EMS agency's quality assurance/quality improvement process.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Refer to the 2018 Administration Policies and 2022 EMS Field Manual Update
  - **01/27/2022 - 2022 ALCO EMS Field Manual**
    - **PDF Version of the 2022 ALCO EMS Field Manual**

- Facilitate Alameda County EMS Monthly Quality Council Meetings
  - Refer to the Alameda County EMS 2022 EMS Quality Improvement Plan

- **EMS Orientation** held monthly

- Paramedic Accreditation information available on the Alameda County EMS website

INDIVIDUAL CERTIFICATION/ACCREDITATION

- **EMT Initial Certification Application**
- **EMT Recertification Application**
- **Paramedic Accreditation Application**
- **EMT Skills Competency Verification**

- **Policy 2000** updated in Nov. 2021, Alameda County EMS has established a procedure for accreditation of ALS personnel that includes orientation to system policies and procedures. Contact Alameda County EMS for additional information.

NEED(S): Improve provider patient care and patient outcomes

OBJECTIVE:
- Improve policies, accreditation process
- 2018 Administration Policies and 2022 EMS Field Manual Updates
- Establish an online EMT certification and Paramedic accreditation application process
  - https://ems.acgov.org/CertsAccreditation/CertsAccreditation.page?
- Refer to the Alameda County EMS 2022 EMS Quality Improvement Plan

TIME FRAME FOR MEETING OBJECTIVE:
- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

2.12 EARLY DEFIBRILLATION

MINIMUM STANDARDS:
The local EMS agency shall establish policies for local accreditation of public safety and other basic life support personnel in early defibrillation.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

Refer to EMS System plan sections and plans:

- Section 2.06
- Section 2.09
- 2022 QI Plan

AED/PAD PROGRAM

- Alameda County EMS continues to support the placement of AEDs throughout Alameda County. The Alameda County AED locations are shared with the two 9-1-1 dispatch centers.
- Alameda County EMS continues to have a designated AED Coordinator

AED/PAD PROGRAM – HEARTSAFE PROJECT

- A new contract was implemented in October 2021 with **Via Heart Project** to manage 92 Community AEDs across the county.
  - The Via Heart Project contractor deliverables include performs site visits; replaces all community AED pads and batteries; ensure an AED coordinator has been identified at each location; and requires AED inspections tracked at each community site. The VIA Heart Project also tracks Alameda County EMS vehicle AEDS with required inspection checks and pad and battery replacement.
  - The VIA Heart Project offers CPR and AED training to the Alameda Community AED locations under their contract if requested. The Alameda County EMS contract with VIA Heart Project does not include the training requirement.
  - Agreement with Via Heart Project has a term of 3 years ending September 30th, 2024, at which point terms, service, and performance will be reviewed. If the VIA Heart project vendor meets the contract deliverable requirements, the contract with Alameda County EMS is anticipated to be renewed.

PULSEPOINT

- Alameda County EMS is collaborating with the PulsePoint vendor to update Alameda County AEDs within the PulsePoint APP. In addition. Alameda County Fire Departments are working with the PulsePoint Vendor to ensure accurate and timely updates for the Alameda County AED locations. Expansion of PulsePoint into the city of Oakland is currently in progress.

CERTIFICATION/RECERTIFICATION CHECKLIST

- Refer to the EMS Administration Manual. Contact Alameda County EMS for additional information.
- https://ems.acgov.org/CertsAccreditation/CertsAccreditation.page?

PUBLIC SAFETY FIRST AID PROGRAMS

- Implemented credentialing program as required by state regulation for Public Safety First Aid programs in 2022. Continued identifying new programs 2022-2-23 - https://ems.acgov.org/CertsAccreditation/CertsAccreditation.page?
- Public Safety First Aid Providers (PSFA)

- Public Safety First Aid Providers are recognized through completion of initial training through an approved entity, and that recognition is maintained through completion of refresher training in accordance with regulation.
- View the California Regulations pertaining to Public Safety First Aid Providers

NEED(S): Improve layperson, Public Safety, and BLS responses to cardiac arrest patients to improve patient outcomes

OBJECTIVE: Improve cardiac arrest survival

- Encourage citizens to install PulsePoint on their smartphones in order to get more bystanders who are motivated to perform CPR to do so inclusive of apply defibrillators to patients in cardiac arrest
- Continue HeartSAFE Community AED project
- Continue contract for HeartSAFE project with VIA Heart Project to maintain 92 Community AEDs for three years.
- Work with Fire Departments on the data analysis regarding frequency of activations and responder participation in CPR and use of AED prior to EMS arrival.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

2.13 BASE HOSPITAL PERSONNEL

MINIMUM STANDARDS:
All base hospital/alternative base station personnel who provide medical direction to pre-hospital personnel shall be knowledgeable about local EMS agency policies and procedures and have training in radio communications techniques.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- 2021 - Renewed 3-year agreement with Base Hospital – Highland Hospital (Alameda Health System) in Oakland

NEED(S): Improved base hospital physician medical direction to field providers

OBJECTIVE: Provide timely and appropriate Physician Medical Direction for field EMTs and Paramedics (Short and Long Range)

- Conduct Monthly Base Call Reviews
- Refer to 2022 QI PLAN
- Refer to 2021 EMS System Plan Sections:
  - 1.12 (Review and Monitoring)
  - 5.01 (Assessment of Capabilities)
  - 1.18 (QA/QI)
  - 3.01 (Communications Plan)

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

Table 1C: Communications:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Communications Equipment					
3.01 Communication Plan*		✓	✓	✓	✓
3.02 Radios		✓	✓		
3.03 Interfacility Transfer*		✓		✓	
3.04 Dispatch Center		✓			
3.05 Hospitals		✓	✓	✓	
3.06 MCI/Disasters		✓			✓
Public Access					
3.07 9-1-1 Planning/Coordination		✓	✓		✓
3.08 9-1-1 Public Education		✓			
Resource Management					
3.09 Dispatch Triage		✓	✓	✓	✓
3.10 Integrated Dispatch		✓	✓		

3.01 COMMUNICATIONS PLAN

MINIMUM STANDARDS:
The local EMS agency shall plan for EMS communications. The plan shall specify the medical communications capabilities of emergency medical transport vehicles, non-transporting advanced life support responders, and acute care facilities and shall coordinate the use of frequencies with other users.

RECOMMENDED GUIDELINES:
The local EMS agency's communications plan should consider the availability and use of satellites and cellular telephones.

CURRENT STATUS: *'MEETS MINIMUM STANDARD*

REDDINET COMMUNICATIONS

- ReddiNet access and utilization a priority; expanding to leverage new partners including transport providers, clinics, skilled nursing facilities and dialysis centers.
- ReddiNet upgrades and new users for non-911 transport permitted providers.
- ReddiNet upgrades and new user for skilled nursing facilities

700/800 MEGAHERTZ COMMUNICATIONS EBRCS XAL COMMUNICATIONS

- The EMS 700/800 Megahertz radio communications system is hosted by the East Bay Regional Communications System Authority (EBRCSA). Redundant and interoperable communications with common radio frequencies between fire and ambulance providers, hospitals and law enforcement is fully operational. Portable EBRCSA radios have been issued to each EMS Agency Duty Officer, the MHOAC and RDMHS Region II and have also been distributed to all hospital emergency planners for the hospital incident command centers.
- All ALS and BLS/IFT providers integrate 700/800 Megahertz Radios into daily operations.
- Alameda County EMS conducts monthly 700/800 Megahertz Radio drills with Hospital Command Center partners.
- All provider radios have updated TDMA firmware and possess the latest XAL Communications Code Plug Programming System Key.
- In the event of a large-scale event or Mass Casualty Incident (MCI) all providers have interoperability with Dispatch Centers, Receiving Hospitals, County-based Provides, and Law Enforcement with the ability to integrate in the existing Disaster Plan.

CALIFORNIA HEALTH ALERT NETWORK (CAHAN)

- Alameda County EMS has updated the CAHAN contacts with 911 and Non-911 emergency permitted Providers in 2022.
- Alameda County EMS CAHAN Administrators participate in monthly CAHAN conference call meetings and exercises.

LOCAL ALAMEDA COUNTY MASS NOTIFICATION SYSTEM – EVERBRIDGE

- Alameda County participates in HCSA Emergency Operations Workgroup to develop AC Alert user groups, policies, messaging, and completed additional training modules.
- Alameda County participates in Mass Notification planning meetings and exercises with Alameda County OES in accordance with the Disaster Plan.

ALAMEDA COUNTY EMS WEBSITE

- The Alameda County EMS Agency website is frequently updated and socializes the public, partners and stakeholders with the latest information to keep all parties informed and educated.

COORDINATION WITH OTHER EMS AGENCIES: Alameda County maintains interoperability with neighboring dispatch centers through Reddi-Net. In addition, ABAHO facilities and stakeholders maintain monthly meetings and conference calls.

NEED(S): NONE CURRENTLY.

OBJECTIVE:

• On-going training and exercises to test redundant and interoperable communications
• Continue to expand partner access and competency on ReddiNet with focus on messaging, MCI alerting, patient tracking and customized polling

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

3.02 RADIOS

MINIMUM STANDARDS:
Emergency medical transport vehicles and non-transporting advanced life support responders shall have two-way radio communications equipment which complies with the local EMS communications plan which provides for dispatch and ambulance-to-hospital communication.

RECOMMENDED GUIDELINES:
Emergency medical transport vehicles should have two-way radio communications equipment that complies with the local EMS communications plan and that provides for vehicle-to-vehicle (including both ambulances and non-transporting first responder units) communication.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

COMMUNICATION RADIOS

- All Alameda County EMS Providers, Dispatch Centers and PSAPs, Hospital Command Centers, and HCSA Command Staff share the ability to communicate EBRCSA 700/800 megahertz radios with full interoperability. Functional tests are performed at predetermined intervals.

EBRCS XAL COMMUNICATIONS

- Full integration of TDMA EBRCSA XAL Communications Code Plug to improve EMS provider radio communications.

Refer to previous sections and plans:
• 1.12 (Review and Monitoring) Progress Update Form 2021-2022 **
• 1.18 (QA/QI) Progress Update Form 2021-2022 **
• 3.01 (Communications Plan) Progress Update Form 2021-2022 **
• 3.04 (Dispatch Center) Progress Update Form 2021-2022 **
• 3.07 (9-1-1 Planning Coordination) Progress Update Form 2021-2022
• 5.01 (Assessment of Capabilities) Progress Update Form 2021-2022
• 2022 QI PLAN PROGRESS TO DATE

NEED(S): NONE CURRENTLY

OBJECTIVE: Maintain operation of TDMA EBRCSA 700/800 megahertz radios at receiving facilities and ensure operations through testing and a QI/QA process.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

3.03 INTERFACILITY TRANSFER

MINIMUM STANDARDS:
Emergency medical transport vehicles used for interfacility transfers shall have the ability to communicate with both the sending and receiving facilities. This could be accomplished by cellular telephone.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- All 9-1-1 and non-9-1-1 permitted providers have radios that are able to function with all facets of our current EBRCS radio system. This is required equipment as listed in the alameda county EMS field manual – operations section.
- Firmware updates have been installed to all EBRCS radios (2021)
- All Alameda receiving hospitals have the ability to receive radio communications via the EBRCS system.
- Out of county receiving facilities are notified by transporting unit(s) or the base hospital.
- All 9-1-1 transport providers and non-9-1-1 permitted providers issue cell phones to on duty crews
- All Alameda receiving hospitals, 9-1-1 and non-9-1-1 permitted providers have access to Reddinet with the messaging, status, and MCI modules

Refer to previous sections and plans:

- 1.12 (Review and Monitoring) Progress Update Form 2018-19 **
- 1.18 (QA/QI) Progress Update Form 2018-19 **
- 3.01 (Communications Plan) Progress Update Form 2018-19 **
- 3.02 (Radios) Progress Update Form 2018-19 **
- 5.01 (Assessment of Capabilities) Progress Update Form 2018-19
- 2019 QI PLAN

COORDINATION WITH OTHER EMS AGENCIES: EBRCS programmed radios provide ability for cross communication between Alameda County resources and Contra Costa County resources. Additionally, interfacility ambulance companies that may function in additional counties, would have access to EBRCS if permitted and functioning in either Alameda County or Contra Costa County.

NEED(S): NONE AT THIS TIME

OBJECTIVE:

- Continue to perform monthly radio checks with the non-9-1-1 permitted providers.
- Evaluate the need for an updated bls code plug.
- Ensure non-9-1-1 permitted providers continue to instruct new hires in the use of the ebrcs radio.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

3.04 DISPATCH CENTER

MINIMUM STANDARDS:
All emergency medical transport vehicles where physically possible, (based on geography and technology), shall have the ability to communicate with a single dispatch center or disaster communications command post.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

• All EOA provider contracts require interoperable radio and disaster communications capability including Falck, FRALS, and two dispatch centers - the Alameda County Regional Emergency Communications Center (ACRECC) and Oakland Fire Dispatch.

• EMS Providers utilize East Bay Regional Communications System Authority (EBRCSA) radio programming.

• Alameda County maintains two IAED ACE Accredited EMD Centers of Excellence. OFD provides EMD services for the City of Oakland. ACRECC (Alameda County Regional Emergency Communications Center) provides EMD services for the remainder of the county.

• ACRECC also dispatches first responders and ambulance apparatus for several municipalities as well as our 9-1-1 ambulance contract provider, Falck Alameda County.

•To coordinate and standardize emergency medical dispatch functions throughout the County, Alameda County EMS has established a Medical Dispatch Review Committee (MDRC) comprised of representatives from ACRECC and the Oakland Fire Department Dispatch center as well as field personnel, the EMS Director, EMS Medical Director and provider agency and leadership. The establishment of this committee has assisted in standardizing the assignment of EMS resources throughout the county. Establishing cross-center dialogue has improved our data collection with respect to MPDS activities. This improved data collection allows us to accurately assess MPDS implementation.

NEED(S): NONE CURRENTLY

OBJECTIVE: All emergency medical transport vehicles shall have ability to communicate with dispatch centers and disaster communications centers.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☐ Long-Range Plan (more than one year)

3.05 HOSPITALS

MINIMUM STANDARDS:
All hospitals within the local EMS system shall (where physically possible) have the ability to communicate with each other by two-way radio.

RECOMMENDED GUIDELINES:
All hospitals should have direct communications access to relevant services in other hospitals within the system (e.g., poison information, pediatric and trauma consultation).

CURRENT STATUS: *'MEETS MINIMUM STANDARD'*

REDDINET

- ReddiNet continues to be used in Alameda County and is our dedicated emergency medical communications network. ReddiNet facilitates timely and efficient information exchange between hospitals, EMS, prehospital 911 and Non-911 Permitted Transport providers, dispatch centers, law enforcement, and other health care facilities. ReddiNet provides messaging, MCI initiation, ED status, patient tracking, and assessment polling

- All ALCO receiving hospitals have access to ReddiNet – Refer to ReddiNet Utilization Policy- ALCO EMS Administrative Policies.

PLANS, POLICIES, AND PROCEDURES – Hospital Communications:

- Hospitals have plans, policies, and procedures that provide communication and information management protocols aligned with the Alameda County Operational Area Communications Plans. Refer to the plans and policies below:
    - **ALCO EMS DPHC Preparedness and Response Plans 2021** – describes communications
    - **Multi-Casualty Incident Policy** - describes radio utilization requirements
    - **ReddiNet Utilization Policy**
    - **Alameda County Emergency Operations Plan**
    - **Alameda County Healthcare Services Agency (HCSA) Emergency Operations Plan**
    - **Pediatric Surge Annex** 2021
    - **EMS Situation Status/Resource Request Forms** – Revised for COVID-19
    - **Alameda County Medical Health Operational Coordinator (MHOAC) Manual** - identifies the notification and communication pathways.

RACES / ARES

- The operational area communications plan supports hospitals and includes Radio Amateur Civil Emergency Services (RACES) and Amateur Radio Emergency Services ARES Field Response Manual. On-going training opportunities offered for HCC hospital coalition partners in 2021 and 2022.

RADIOS – 700/800 MEGAHERTZ

- In addition to radios in each emergency department, hospitals have received portable EBRCS (700/800 megahertz radios) for their Hospital Command Centers.
- A radio communications test between hospitals is conducted each month.

REFER TO SECTIONS, PLANS, AND POLICIES:

- 3.01 (Communications Plan)
- 3.02 (Radios)

NEED(S):

- Offer additional radio training for receiving hospital emergency managers and/or provide with a user operations sheet' for radio use.

OBJECTIVE:

- Continue monthly radio checks with all receiving Hospital Emergency Departments.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

3.06 MCI/DISASTERS

MINIMUM STANDARDS:
The local EMS agency shall review communications linkages among providers (pre-hospital and hospital) in its jurisdiction for their capability to provide service in the event of multi-casualty incidents and disasters.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

Alameda County EMS has developed and updated the MCI policy, Health Care Services Agency (HCSA) EOP, Disaster Preparedness Health Coalition (DPHC) Response plan and medical surge workplans which focus on bi-directional communications and information flow pathways for all health care system operational area partners. (Consistent with the state CA Medical/Health EOM and HPP requirements).

REDUNDANT AND INTEROPERABLE COMMUNICATIONS SYSTEMS

- Alameda County EMS utilizes the following communication systems:

○ 700/800 Megahertz Radios – East Bay Regional Communications System (EBRCS)	○ ReddiNet
○ CAHAN	○ Everbridge (AC Alert)
○ MED1 – Disaster specific email notification	○ CA DHV / MRC system
○ Web Based Conference Call Platforms (TEAMS, Zoom, and other systems)	○ Email, Phone and FAX

REDDINET TRAINING and "REAL EVENTS"

- ReddiNet training is ongoing to ensure practice and test the Administration Portal customized profile options for notifications, MCI Initiation, Patient Tracking, HAvBED Polling, and Customized Assessment Polling.

- The Alameda County EMS ReddiNet Coordinator conducts customized training for partners and tests ReddiNet in quarterly exercises and/or "real events" including the CDPH required HAvBED drills.

- Alameda County EMS ensures ongoing messages and status assessment polling within healthcare system and ambulance providers as needed. During COVID-19, the ReddiNet message module was frequently utilized for health system notification and the assessment module for customized polling as needed.

REDDINET ACCESS AND UTILIZATION

- Expanding "users" beyond existing partners including fire departments with hospitals, prehospital providers (911 transport and non-911 Emergency Permitted Transport Providers) OES, clinics, skilled nursing facilities and behavioral health crisis service providers – including the Community Assessment & Transport Team (CATT).

- Facilitating ReddiNet Upgrades with new modules and permissions for system disaster response partners; ensuring training and exercises for all Alameda County ReddiNet Users including FRALS, 911 transport and non-emergency Permitted Transport Providers

DISASTER PREPAREDNESS HEALTH COALITION (DPHC)

- Quarterly HCC - DPHC General Partner meetings focus on strengthening communications pathways and plans.

RADIOS – 700/800 MEGAHERTZ

- Hospitals have received portable 700/800 Megahertz – East Bay Regional Communications System (EBRCS) radios for their Hospital Command Centers.

HAM RADIO COMMUNICATIONS

- Alameda County EMS offers Ham Radio Communication Classes with an opportunity to participate in monthly ham radio checks.

NEED(S):

- Ensure consistent participation in communication "real events", exercises and drills with Alameda County OA Healthcare and EMS partners to ensure situation awareness in surge, MCI and other disaster events

OBJECTIVE:

- Continue outreach and training for all communication system current and new users. Ensure communications to multiple levels of Alameda County EMS System partners within health systems (to include regional hospital hubs, transfer centers, and pharmacists)

LONG-RANGE

The goal is to leverage health care system partners to ensure effective timely and reliable disaster preparedness and response communications and information management

- To ensure the ability to communicate in the event of a disaster with all EMS partners and stakeholders.
- Utilize ReddiNet for urgent messaging, to track patients in an MCI and customized assessment polling.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

3.07 9-1-1 PLANNING/COORDINATION

MINIMUM STANDARDS:
The local EMS agency shall participate in ongoing planning and coordination of the 9-1-1 telephone service.

RECOMMENDED GUIDELINES:
The local EMS agency should promote the development of enhanced 9-1-1 systems.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

DISPATCH SYSTEM

- Alameda County maintains two IAED ACE Accredited EMD Centers of Excellence. OFD provides EMD services for the City of Oakland. ACRECC (Alameda County Regional Emergency Communications Center) provides EMD services for the remainder of the county.
- The EMD Centers provide pre-arrival instructions and drive MPDS based resource assignment and response
- 18 Public Safety Answering Points (PSAPs) in Alameda County receive 911 calls
- ACRECC also dispatches first responders and ambulance apparatus for several municipalities as well as our 9-1-1 ambulance contract provider Falck Alameda County.

PRIMARY QUALITY IMPROVEMENT PARTNERS

- All providers and dispatch centers
- All PSAPS
- All EOA provider contracts require radios and disaster communications including Falck Alameda County, FRALS, and the two dispatch centers (ACRECC) and Oakland Fire Dispatch.

QUALITY IMPROVEMENT PLAN

- Calls are reviewed for appropriateness and monitored.
- To coordinate and standardize emergency medical dispatch functions throughout the County, Alameda County EMS has established a Medical Dispatch Review Committee (MDRC) that is comprised of representatives from ACRECC and the Oakland Fire Department Dispatch Center as well as field personnel, the EMS Director, EMS Medical Director and provider agency and leadership. The establishment of this committee has assisted in standardizing the assignment of EMS resources throughout the county. Establishing cross-center dialogue has improved our data collection with respect to MPDS activities. This improved data collection has provided the means to assess the effectiveness of MPDS implementation more accurately. EMS Dispatch QI, and Unusual Occurrence incidents are reviewed.

Refer to previous EMS System Plan sections and plans:

- 1.12 (Review and Monitoring) Progress Update Form 2021-2022 **
- 1.18 (QA/QI) Progress Update Form 2021-2022 **
- 3.01 (Communications Plan) Progress Update Form 2021-2022 **
- 3.04 (Dispatch Center) Progress Update Form 2021-2022 **
- 3.07 (9-1-1 Planning Coordination) Progress Update Form 2021-2022
- 5.01 (Assessment of Capabilities) Progress Update Form 2021-2022
- 2022 QI PLAN

NEED(S):

OBJECTIVE: Improve dispatcher level of training, 9-1-1 access and turn-around time for calls that need a medical response, monitor dispatch times from first ring at the PSAP to on scene, assist as needed with implementation of cell phone calls going to local jurisdictions if the jurisdictions so choose (Long-Range Plan)

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)

☒ Long-Range Plan (more than one year)

3.08 PUBLIC EDUCATION

MINIMUM STANDARDS:
The local EMS agency shall be involved in public education regarding the 9-1-1 telephone service as it impacts system access.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

Educational events in partnership with first responder agencies and Falck Alameda County reach thousands of school aged children each year. Activities include EMS Week Kids Day, earthquake preparedness/safety, water safety, wheeled sports safety, fire prevention, and 911 education. Stop the Bleed training sessions occur in multiple Alameda County locations. Senior Injury Prevention Partnership Education Forum with education to assist with mobility, agility, balance, and mindfulness. Refer to the Alameda County EMS website resources below:

EDUCATIONAL RESOURCES

- **911 educational information updated on the EMS website: http://ems.acgov.org/commtyresources/educationalresources.page?**

CHILD INJURY PREVENTION PROGRAM

- **https://ems.acgov.org/CommtyResources/CIP.page?**

SENIOR INJURY PREVENTION PROGRAMS

- **https://ems.acgov.org/CommtyResources/SIPP.page?**

STOP THE BLEED CAMPAIGN

- **https://ems.acgov.org/CommtyResources/StopTheBleed.page?**

NEED(S):

OBJECTIVE: Develop public service announcements in collaboration with first responder and transport provider agencies. Provide information that educates the public on how to appropriately use 9-1-1 and how calls integrate into MPDS. The Alameda County EMS System will continually monitor and maintain an effective EMS resource deployment.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☐ Long-Range Plan (more than one year)

3.09 DISPATCH TRIAGE

MINIMUM STANDARDS:
The local EMS agency shall establish guidelines for proper dispatch triage that identifies appropriate medical response.

RECOMMENDED GUIDELINES:
The local EMS agency should establish a emergency medical dispatch priority reference system, including systemized caller interrogation, dispatch triage policies, and pre-arrival instructions.

CURRENT STATUS: *MEETS MINIMUM STANDARD*

QUALITY IMPROVEMENT PLAN

- Calls are monitored and reviewed for appropriateness.
- To coordinate and standardize emergency medical dispatch functions throughout the County, Alameda County EMS has established a Medical Dispatch Review Committee (MDRC) that is comprised of representatives from ACRECC and the Oakland Fire Department Dispatch center as well as field personnel, the EMS Director, EMS Medical Director and provider agency and leadership. The establishment of this committee has assisted in standardizing the assignment of EMS resources throughout the county. Establishing cross-center dialogue has improved our data collection with respect to MPDS activities.
- This improved data collection has provided us the means to assess and improve the effectiveness of our MPDS implementation more accurately.
- ACCREC reviews all cardiac arrest calls to ensure accuracy and efficiency. ACRECC implements CPR instructions during call-taking to improve cardiac arrest outcomes.

DISPATCH SYSTEM AND QUALITY IMPROVEMENT

- Alameda County maintains two International Academies of Emergency Dispatch (IAED) ACE Accredited Centers of Excellence. Oakland Fire Department (OFD) provides Emergency Medical Dispatch (EMD) services for the City of Oakland. ACRECC (Alameda County Regional Emergency Communications Center) provides EMD services for the remainder of the county.
- The EMD Centers provide pre-arrival instructions and facilitate Medical Priority Dispatch Systems (MPDS) based prioritization. Alameda County has 18 Public Safety Answering Points (PSAPs) that receive 911 calls.

Refer to previous sections and plans: • 1.12 (Review and Monitoring) Progress Update Form 2018-19 ** • 1.18 (QA/QI) Progress Update Form 2018-19 ** • 3.01 (Communications Plan) Progress Update Form 2018-19 ** • 3.04 (Dispatch Center) Progress Update Form 2018-19 ** • 5.01 (Assessment of Capabilities) Progress Update Form 2018-19 • 2019 QI PLAN

NEED(S): None.

OBJECTIVE:

- Work with both Dispatch Centers regarding education and specific QA/QI for calls that are or could be cardiac arrest and warrant Dispatch Assisted Pre-Arrival CPR and AED instructions.
- Schedule meetings for MPDS Committee and sustain quality improvement plan.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

3.10 INTEGRATED DISPATCH

MINIMUM STANDARDS:
The local EMS system shall have a functionally integrated dispatch with system-wide emergency services coordination, using standardized communications frequencies.

RECOMMENDED GUIDELINES:
The local EMS agency should develop a mechanism to ensure appropriate system-wide ambulance coverage during periods of peak demand.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Alameda County EMS system uses 700/800 Megahertz radios using P25 compliant communications and participates in regional communications via the East Bay Regional Communications System Authority (EBRCSA).
- ACRECC continues to utilize a "closest most appropriate unit" model throughout the service area to coordinate peak demand response and transport through mutual aid.
- Mutual aid performance is closely monitored and tracked for effectiveness.

NEED(S): NONE CURRENTLY

OBJECTIVE: Continuously monitor mutual aid performance.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

Table 1D: Response/Transportation:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Universal Level					
4.01 Service Area Boundaries*		✓	✓		✓
4.02 Monitoring		✓	✓	✓	
4.03 Classifying Medical Requests		✓			✓
4.04 Prescheduled Responses		✓		✓	
4.05 Response Time*		✓		✓	✓
4.06 Staffing		✓			
4.07 First Responder Agencies		✓			✓
4.08 Medical & Rescue Aircraft*		✓		✓	
4.09 Air Dispatch Center		✓		✓	
4.10 Aircraft Availability*		✓		✓	
4.11 Specialty Vehicles*		✓			✓
4.12 Disaster Response		✓		✓	✓
4.13 Intercounty Response*		✓			✓
4.14 Incident Command System		✓			✓
4.15 MCI Plans		✓			✓
Enhanced Level: Advanced Life Support					
4.16 ALS Staffing		✓	✓		
4.17 ALS Equipment		✓		✓	✓
Enhanced Level: Ambulance Regulation					
4.18 Compliance		✓			
Enhanced Level: Exclusive Operating Permits					
4.19 Transportation Plan		✓			
4.20 “Grandfathering”		✓			
4.21 Compliance		✓			
4.22 Evaluation		✓			

4.01 SERVICE AREA BOUNDARIES

MINIMUM STANDARDS:
The local EMS agency shall determine the boundaries of emergency medical transportation service areas.

RECOMMENDED GUIDELINES:
The local EMS agency should secure a county ordinance or similar mechanism for establishing emergency medical transport service areas (e.g., ambulance response zones).

CURRENT STATUS: MEETS MINIMUM STANDARD

COORDINATION WITH OTHER EMS AGENCIES:

- Providing on-going monitoring for system compliance.
- ALS Provider agreements with Falck, City of Albany, City of Berkeley, City of Piedmont, and City of Alameda for emergency medical transportation- Response zones established as part of agreements.

NEED(S): None

OBJECTIVE:

- Continuously monitor system compliance. The EMS agency shall determine the boundaries of emergency transportation service areas.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

4.02 MONITORING

MINIMUM STANDARDS:
The local EMS agency shall monitor emergency medical transportation services to ensure compliance with appropriate statutes, regulations, policies, and procedures.

RECOMMENDED GUIDELINES:
The local EMS agency should secure a county ordinance or similar mechanism for licensure of emergency medical transport services. These should be intended to promote compliance with overall system management and should, wherever possible, replace any other local ambulance regulatory programs within the EMS area.

- **Alameda County EMS monitors the 9-1-1 providers to ensure compliance with contracts, statutes, regulations, policies, and procedures.**
    - Pursuant to Section 1797.224 of the California Health and Safety Code, Alameda County EMS has established 5 exclusive operating areas (EOAs) for 9-1-1 ambulance transport services
        - 2018-2024 Emergency Medical Services Ambulance Transport Provider Agreements
- **Alameda County EMS monitors the Non-9-1-1 Permitted provider (with the Ambulance Ordinance for Non-9-1-1 Permitted Providers) to ensure compliance with statutes, regulations, policies, and procedures.**
    - In addition to 9-1-1 providers, Alameda County EMS, through the Ambulance Ordinance, permits fourteen interfacility ambulance providers to operate within the County. These providers operate basic life support (BLS), critical care transport paramedic (CCT-P), and critical care transport registered nurse (CCT-RN) level resources.
- **Alameda County EMS monitors the FRALS compliance with executed agreements**
    - First Response Advanced Life Support (FRALS) Services are provided throughout all EOAs by Fire Departments or Districts within each Jurisdiction. All FRALS Providers have signed, Executed Agreements in place with Alameda County EMS Through June 30, 2024, and are eligible for a five-year extension
- Alameda County EMS ensures ongoing QI and monitors emergency medical transportation services for compliance as follows:
    - Alameda County EMS QA/QI Plan - Monthly Quality Council Meetings
    - Quarterly Meetings with Non-9-1-1 Permitted Providers to discuss any current issues or questions
        - Site Visits with Non-9-1-1 Permitted Providers to Audit Compliance
    - Quarterly Meetings with Receiving Hospitals to discuss any current issues or questions
    - Bi-weekly meetings with 9-1-1 Contract Provider
    - Monthly EMS Section Meetings
    - Investigation of Unusual Occurrence Reports
    - Established County Wide Health Data Exchange (HDE) Program to Facilitate Training and Education

        - In 2021, Alameda County EMS, in partnership with ESO, began implementation of Health Data Exchange (HDE) project. The HDE project links prehospital electronic health records to the hospital patient care records in the hospital. Once linked, prehospital data will automatically be securely imported into the hospital data collection systems and hospital data such as outcome information will be securely exported out to the prehospital data system.
        - This exchange of data will facilitate improved and efficient access to prehospital records for the hospitals and provide valuable follow up information on patients to prehospital providers.
    - Ambulance Patient Offload Times (APOT) – Monthly Meetings with Receiving Hospitals and Transport Providers with the Goal of Shortening APOT times through teamwork and a shared understanding

        - Although ambulance patient offload times (APOT) have historically been a challenge in Alameda County, COVID-19 has created an environment where offload times have significantly increased and peaked as high as a ninetieth-percentile time of 69 minutes systemwide. To address this systemic concern, Alameda County EMS has engaged all of its transport providers and executive level management at all of the receiving facilities to participate in monthly APOT meetings in order to actively work to lower APOT and share best practices across all stakeholders. The mission of the group is to strive to get APOT down to 20 mins or less ninety percent of the time systemwide.
    - Standardized County-Wide Electronic Patient Care Reporting and Monitoring System is in place

<u>REFER TO PREVIOUS EMS SYSTEM SECTIONS AND PLANS</u>:

- 1.12 (Review and Monitoring) - - - 1.18 (QA/QI) Progress Update Form - - - 5.01 (Assessment of Capabilities)

NEED(S):

- Review current Ambulance Ordinance for possible need for revision
- Development of RFP for upcoming system BID.
- Update Alameda County EMS QA/QI plan to include BLS specific standards

OBJECTIVE: Alameda County EMS will continue to monitor Emergency Medical Transportation Services to ensure compliance with statutes and regulations.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

4.03 CLASSIFYING MEDICAL REQUEST

MINIMUM STANDARDS:
The local EMS agency shall determine criteria for classifying medical requests (e.g., emergent, urgent, and non-emergent) and shall determine the appropriate level of medical response to each.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

The Alameda County EMS System continues to utilize EMD and MPDS in both of our ACE Accredited Dispatch Centers. Alameda County EMS implements tools to analyze MPDS and clinical data to inform the decision-making process used in developing deployment strategies tied to MPDS call types and severity codes. The Medical Dispatch Review Committee – MDRC meets quarterly to review data and QI/QA directives.

Refer to previous sections and plans:
- 1.12 (Review and Monitoring) Progress Update Form 2021-2022 **
- 1.18 (QA/QI) Progress Update Form 2021-2022 **
- 3.09 (Interfacility Transfer) Progress Update Form 2021-2022
- 2022 QI PLAN

NEED(S):

OBJECTIVE:
- Implement and maintain a fully tiered, MPDS based 9-1-1 response system that ensures the appropriate emergency resource.

OBJECTIVES: (LONG-RANGE PLAN)
- Have a fully tiered, MPDS based 9-1-1 response system that ensures the “Right Resources are Dispatched to the Right Patients at the Right Time(s).”

TIME FRAME FOR MEETING OBJECTIVE:
- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

4.04 PRESCHEDULED RESPONSES

MINIMUM STANDARDS:
Service by emergency medical transport vehicles that can be prescheduled without negative medical impact shall be provided only at levels that permit compliance with local EMS agency policy.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Non-Emergency Ambulance Providers

- Currently, Alameda County EMS utilizes an Alameda County Emergency Medical Services Ambulance Ordinance. In Order to Transport within and from an Alameda County Facility, the Transport Provider is required to become an Alameda County Permitted Provider. To become Permitted by Alameda County EMS, the Provider is required to comply with this Ordinance and submit an application for review. If Approved, Certification of Operation and Ambulance Permits will be issued. Compliance is monitored. Refer to the Alameda County EMS Website links below:

- The organizations listed below are ambulance providers approved by the Alameda County EMS Agency to provide service requested outside of the 911 system. These services include requests such as transfers between medical facilities, and to and from medical appointments:
  - American Medical Response
  - Arcadia Ambulance
  - Bay Medic Transportation
  - Eagle Ambulance
  - Falck Northern California
  - Falcon Critical Care Transport
  - NorCal Ambulance
  - Pro Transport-1
  - Royal Ambulance
  - United Ambulance
  - Westmed Ambulance

- Ambulance Ordinance Chapter 6.114
- Certificate of Operation Application

CRITICAL CARE PARAMEDIC (CCP) INTER-FACILITY TRANSPORT

- California EMSA allows Critical Care Paramedic (CCP) Inter-Facility Transport of Patients and requires Alameda County EMS to monitor and regulate all Paramedic Prehospital Care providers. The CCP Inter-Facility Transport Agreement with American Medical Response incorporates County EMS Guidelines and Standards, Patient Transfer Protocols, Data Collection and Reporting Requirements that ensure Patient Safety.

INVESTIGATIONS

- Alameda County Unusual Occurrence (UO) Reports and Investigations are used to assist In addressing compliance Issues. All UO Reports are tracked and investigated.

CRITICAL MEDICAL PATIENT TRANSFER POLICY

- Critical Medical Patient Transfer Policy- Provides Guidelines and Resources for use of Non-911 transport Providers.

- 2022 FIELD PROTOCOLS
  - 2022 Alameda County Field Manual
  - 2020 Alameda County Critical Care Paramedic Field Manual

NEED(S): NONE

OBJECTIVE:

- Review current Ambulance Ordinance for possible needs and revisions**.**
- Expand Alameda County Quality Improvement Plan to be more inclusive of BLS providers.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

4.05 RESPONSE TIME STANDARDS

MINIMUM STANDARDS:

Each local EMS agency shall develop response time standards for medical responses. These standards shall take into account the total time from receipt of call at the primary public safety answering point (PSAP) to arrival of the responding unit at the scene, including all dispatch time intervals and driving time.

RECOMMENDED GUIDELINES:

Emergency medical service areas (response zones) shall be designated so that, for ninety percent of emergency responses, response times shall not exceed:

	Metropolitan/Urban Area	Suburban/Rural Area	Wilderness Area
BLS and CPR Capable First Responder	5 minutes	15 minutes	As quickly as possible
Early Defibrillation – Capable Responder	5 minutes	As quickly as possible	As quickly as possible
ALS Capable Responder (not functioning as first responder)	8 minutes	20 minutes	As quickly as possible
EMS Transportation Unit (not functioning as first responder)	8 minutes	20 minutes	As quickly as possible

CURRENT STATUS: MEETS MINIMUM STANDARD

ALCO EMS has established response time requirements to which FRALS and 9-1-1 ambulance transport providers must adhere to and not exceed ninety percent of the time. These requirements are delineated within the executed provider agreements and are broken down by dispatch priority which is informed by MPDS and historical clinical and operational data under EMS Medical Director medical control, and for the private 9-1-1 ambulance provider by service areas or response zones. For FRALS or fire transport providers that do not utilize the priority system, all calls are held to the priority 1 standard, with the exception of ambulance response to priority 5, non-medical 5150, calls.

For the FRALS providers the response time standard, for ninety percent of emergency responses, shall not exceed:

DISPATCH PRIORITY	RESPONSE TIME
Priority 1	8 minutes 30 seconds
Priority 2	8 minutes 30 seconds
Priority 3	8 minutes 30 seconds
Priority 4	N/A
Priority 5 (5150)	N/A

For the fire 9-1-1 ambulance transport providers the response time standard, for ninety percent of emergency responses, shall not exceed:

DISPATCH PRIORITY	RESPONSE TIME
Priority 1	10 minutes
Priority 2	10 minutes
Priority 3	10 minutes
Priority 4	18 minutes
Priority 5	40 minutes

For the private 9-1-1 ambulance transport provider the response time standard, for ninety percent of emergency responses, shall not exceed:

DISPATCH PRIORITY	**LEVEL OF CARE**	**METRO**	**SUBURBAN**	**RURAL/OPEN SPACE**
Priority 1	ALS	10 minutes	14 minutes	16 minutes
Priority 2	ALS	12 minutes	16 minutes	20 minutes
Priority 3	ALS	14 minutes	18 minutes	20 minutes
Priority 4	ALS or BLS	20 minutes	30 minutes	40 minutes
Priority 5 (5150)	ALS, BLS, or Alt.	40 minutes	50 minutes	60 minutes

COORDINATION WITH OTHER EMS AGENCIES:

- Response time standards are not coordinated with other EMS agencies.

NEED(S):

- Develop system for automated call priority review.

OBJECTIVE:

- Actively working with vendor to develop automated call priority review platform.
- Continually monitor prioritization system.
- Continually monitor and report response time compliance for all providers.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.06 STAFFING

MINIMUM STANDARDS:
All emergency medical transport vehicles shall be staffed and equipped according to current state and local EMS agency regulations and appropriately equipped for the level of service provided.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Staffing requirements are in “Staffing- ALS and BLS Providers” Policy

- The 2021 and 2022 EMS field policies define transport provider staffing and equipment requirements
    - Staffing requirements
    - Equipment requirements and inspection
    - Equipment list

2022 FIELD PROTOCOLS

- 2022 Alameda County Field Manual

NEED(S): None

OBJECTIVE:

- Provide the right resource to the right patient at the right time. Improve the efficient use of resources.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

4.07 FIRST RESPONDER AGENCIES

MINIMUM STANDARDS:
The local EMS agency shall integrate qualified EMS first responder agencies (including public safety agencies and industrial first aid teams) into the system.

RECOMMENDED GUIDELINES:
None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

As mergers and transitions occur, partners integrate into a cohesive response system:

EMS System Providers:

ALS GROUND TRANSPORT PROVIDERS

- City of Alameda
- City of Albany
- City of Berkeley
- City of Piedmont
- Falck Alameda County

FIRST RESPONDER ALS (FRALS)

- Alameda County Fire Department (ACFD)
- City of Alameda
- City of Albany
- City of Berkeley
- City of Dublin (Contracts with ACFD)
- City of Emeryville (Contracts with ACFD)
- City of Fremont
- City of Hayward
- City of Livermore
- City of Newark (Contracts with ACFD)
- City of Oakland
- City of Piedmont
- City of Pleasanton
- City of San Leandro (Contracts with ACFD)
- City of Union City (Contracts with ACFD)

RECEIVING FACILITIES

- Alta Bates Summit – Berkeley Campus
- Alta Bates Summit – Oakland Campus
- UCSF Benioff children's Hospital
- Kaiser Permanente Oakland Medical Center
- Alameda Hospital – Alameda Health System
- Highland – Alameda Health System
- San Leandro Hospital – Alameda Health System
- John George Psychiatric Pavilion
- Willow Rock
- Sutter-Eden Medical Center
- Stanford Valley Care
- Kaiser Permanente – San Leandro Hospital
- Kaiser Permanente – Fremont Medical Center
- Washington Hospital

AIR TRANSPORT PROVIDERS

- Reach
- CALSTAR
- LifeFlight
- East Bay Regional Parks

BASIC LIFE SUPPORT (BLS) INTERFACILITY TRANSPORT PROVIDERS

- Eagle Ambulance
- Sutter – AMR
- Royal Ambulance
- NorCal Ambulance
- United Ambulance
- Falcon CCT
- Pro-Transport 1
- Arcadia Ambulance
- BayMedic Ambulance
- WestMed Ambulance

- LifeWest Ambulance

NEED(S): None Currently

OBJECTIVE:

- Continue to implement and sustain credentialing program as required by state regulation for Public Safety First Aid programs.

- On-going integration of EMS first responder agencies into the system

LONG-RANGE:

- Integration of new EMS first responder agencies into the system
- Implement and sustain credentialing program as required by state regulation for Public Safety First Aid programs.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.08 MEDICAL & RESCUE AIRCRAFT

MINIMUM STANDARDS:
The local EMS agency shall have a process for categorizing medical and rescue aircraft and shall develop policies and procedures regarding:

- authorization of aircraft to be utilized in pre-hospital patient care,
- requesting of EMS aircraft,
- dispatching of EMS aircraft,
- determination of EMS aircraft patient destination,
- orientation of pilots and medical flight crews to the local EMS system, and
- addressing and resolving formal complaints regarding EMS aircraft.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- 911 Aircraft requests are initiated by either first responding or transporting agencies via ACRECC in accordance with ALCO "EMS Aircraft Transport" Field Policy.
- ACRECC relays the request and coordinates the response of the appropriate Aircraft Provider.

COORDINATION WITH OTHER EMS AGENCIES: YES, Refer to EMS System Plan Section 4.09

NEED(S): Deploy right resource to the right patient at the right time

OBJECTIVE: Review and update Alameda County EMS Aircraft Dispatch and Field Aircraft policies to improve patient outcomes

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

4.09 AIR DISPATCH CENTER

MINIMUM STANDARDS:
The local EMS agency shall designate a dispatch center to coordinate the use of air ambulances or rescue aircraft.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Refer to EMS System Plan Sections 4.08 and 4.10
- Refer to 2022 QI Plan

- 911 Aircraft requests are initiated by either first responding or transporting agencies via ACRECC in accordance with ALCO “EMS Aircraft Transport” Field Policy
    - 2022 FIELD PROTOCOLS
    - 2022 Alameda County Field Manual (p. 93)
- ACRECC relays the request and coordinates the response of the appropriate Aircraft Provider.

NEED(S): Dispatch the closest aircraft to the emergency

OBJECTIVE: Review and update Alameda County EMS Dispatch policy to improve patient outcomes

TIME FRAME FOR MEETING OBJECTIVE:
☒Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

4.10 AIRCRAFT AVAILABILITY

MINIMUM STANDARDS:
The local EMS agency shall identify the availability and staffing of medical and rescue aircraft for emergency patient transportation and shall maintain written agreements with aeromedical services operating within the EMS area.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Refer to EMS System Plan Sections 4.08 and 4.09
- Written agreements in place with Aircraft Transport Providers
- Refer to the 2022 QI Plan

- In accordance with written agreements, CALSTAR and REACH Air Medical Services cover most of the 911 EMS Aircraft transports on a rotation system in the cities of Alameda, Albany, Berkeley, Castro Valley, Emeryville, Dublin, Livermore, Oakland, Piedmont and San Leandro. Stanford Life Flight covers the cities of Fremont, Hayward, Newark, Pleasanton, San Lorenzo, Sunol and Union City. Although infrequent, California Highway Patrol and East Bay Regional Parks when staffed with properly trained medical personnel may assist Prehospital providers in air transport. On even days, REACH is scheduled to respond to emergent 911 calls in accordance with Alameda County's "EMS Aircraft Transport" policy. On odd days, CALSTAR is scheduled to respond to emergent 911 calls. REACH may respond on odd days if CALSTAR is unavailable.

    - **2022 FIELD PROTOCOLS**
    - 2022 Alameda County Field Manual – (EMS AIRCRAFT TRANSPORT P. 93)

COORDINATION WITH OTHER EMS AGENCIES: YES

NEED(S): Update dispatch to closest available aircraft

OBJECTIVE: Improve aircraft response to improve patient outcomes

TIME FRAME FOR MEETING OBJECTIVE:
☒Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

4.11 SPECIALTY VEHICLES

MINIMUM STANDARDS:
Where applicable, the local EMS agency shall identify the availability and staffing of all-terrain vehicles, snow mobiles, and water rescue and transportation vehicles.

RECOMMENDED GUIDELINES:
The local EMS agency should plan for response by and use of all-terrain vehicles, snow mobiles, and water rescue vehicles areas where applicable. This plan should consider existing EMS resources, population density, environmental factors, dispatch procedures and catchment area.

CURRENT STATUS: MEETS MINIMUM STANDARD

- **COORDINATION WITH OTHER AGENCIES:**
  - ALCO Based Fire Departments,
  - Local Law Enforcement Agencies,
  - Coast Guard and
  - Search and Rescue (SAR) has needed equipment and specialized vehicles.

NEED(S): NONE

OBJECTIVE:
- Continue partnership with allied agencies

TIME FRAME FOR MEETING OBJECTIVE:
☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.12 DISASTER RESPONSE

MINIMUM STANDARDS:
The local EMS agency, in cooperation with the local office of emergency services (OES), shall plan for mobilizing response and transport vehicles for disaster.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- **ALAMEDA COUNTY EMS DISASTER RESPONSE PLANS**
  - Coordination with Alameda County OES and supports Alameda County OA Emergency Operations Plan (EOP)
  - EMS/Medical Surge Plan
  - EMS Field Treatment Policy Manual
  - Pediatric Medical Surge Annex - Supports the Disaster Preparedness Healthcare Coalition (DPHC) Response Plan and aligns with the Western Regional Alliance for Pediatric Emergency Management (WRAP-EM)
  - Burn Surge Annex - Supports the Disaster Preparedness Healthcare Coalition (DPHC) Response Plan
  - Medical Health Operational Area Coordinator (MHOAC) Manual (Integrated in the HCSA EOP)

  - **Alameda County EMS Response Plans, Policies, and Annexes** - Links
    - **DPHC Response Plan 2021**
    - **HCC Medical Countermeasure Dispensing Plan**
    - **HCC Burn Surge Annex**
    - **HCC Pediatric Surge Annex**
    - **EMS System Surge Plan** – (Alameda County EMS Website)
    - **Pediatric Medical Surge Plan** (Pediatric Critical Care Expansion Options)
    - **Multiple Casualty Incident (MCI) Policy**
    - **ReddiNet Utilization Policy** (Alameda County EMS Website for Administrative Communications Policy)

  - **COVID-19 Disaster Situation Status and Request Forms**
    - **COVID-19 Webpage** (Alameda County EMS Website)
    - **Situation Status Form for Facilities Specific to COVID-19** - This form is for EMS Provider Agencies and Healthcare Facilities to report their service's or facility's status related to the COVID-19 pandemic.(Refer to Alameda County EMS website)
    - **Storefront for requesting PPE and Medical Supplies Specific for COVID-19** - This storefront is for EMS Provider Agencies and Healthcare Facilities based in Alameda

- County to request personal protective equipment (PPE) or medical supplies related to the COVID-19 pandemic.
- **Resource Request Form for Medical Personnel Specific for COVID-19** - Form is for EMS Provider Agencies and Healthcare Facilities to request medically trained personnel to meet staffing needs related to COVID-19 pandemic.
- **Resource Request Form** – All Hazard Form (2019 Form - Plan to transition to different format)
- **Situation Status Form** - All Hazard Form (2019 Form - Plan to Transition to different format)

- **CALIFORNIA MEDICAL AND PUBLIC HEALTH EOM ANNEXES**
  - Alameda County EMS contributed to development of the California Medical Health EOM annexes including Behavioral Health.

- **CALIFORNIA PATIENT MOVEMENT PLAN** (Alameda County EMS aligns and supports these plans)

  - https://emsa.ca.gov/wp-content/uploads/sites/71/2019/03/Patient-Movement-Plan_Final-3-6-19.pdf
  - California Perinatal, Neonatal, and Pediatric Surge Annex

    - https://emsa.ca.gov/wp-content/uploads/sites/71/2022/02/CA-Pediatric-Surge-Annex-9.30.21-FINAL.pdf

- **REGIONAL DISASTER MEDICAL HEALTH SPECIALIST (RDMHS)**
  - Alameda County EMS Agency holds the RDMHS Region II position.

- **AMBULANCE STRIKE TEAMS (AST) Coordination**
  - Alameda County EMS supports the EMSA planning and response as needed

NEED(S): On-going Emergency / Surge Plan updates adapted to "real" current events, expanded regional partner integration, and multi-level training for the Alameda County EMS Health Care System

OBJECTIVE:

- **Continue strengthening current partnerships and build new ones appropriate to closing gaps in response** - (Long-Range)
  - Continue to strengthen MHOAC program with EMS, Public Health, and other Health Care Services Agency partners. Priority focus – Strengthen Medical Surge Plan. EMS to continue to provide EMS Duty Officer, MHOAC, RDMHS and EOC Medical/Health Branch leadership response capability 24/7.
  - Develop framework to co-locate EMS treatment sites at a community-based primary care clinic to mitigate medical surge at acute care facilities and optimize use of limited available resources after a catastrophic event

- **Review and update Alameda County EMS Plans** - (Short-Range and Long-Range)

- Update Pediatric Surge Annex based on RSV & Respiratory Illness Event 2022 and COVID-19
- Update EMS Surge Plan as needed
- Transition COVID-19 Status and Resource Request forms to an ALL-Hazard Format
- Support Ebola Preparedness for California Frontline Healthcare Facilities and EMS Providers. Update plans as needed.
- Support CDPH / EMSA MHCC RSV and Respiratory Illness response and update plans as needed

- **Continue surge and disaster training with Alameda County OES, EMS transport providers, and other health system partners in exercises and "real events"**
  - Planning for Medical Response and Surge Exercise (MRSE) March 15, 2023 (Short- Range)
  - Conduct on-going Pediatric Readiness and Surge Site Visits with Alameda County Receiving Hospitals. Contract with UCSF Benioff Children's Hospital to assess pediatric readiness with simulations and surge training

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.13 INTERCOUNTY RESPONSE

MINIMUM STANDARDS:
The local EMS agency shall develop agreements permitting inter-county response of emergency medical transport vehicles and EMS personnel.

RECOMMENDED GUIDELINES:
The local EMS agency should encourage and coordinate development of mutual aid agreements that identify financial responsibility for mutual aid responses.

CURRENT STATUS: *MEETS MINIMUM STANDARD*

- Refer to Alameda County EMS System Plan Section 4.07

- Alameda County EMS has developed agreements permitting inter-county response of emergency medical transport vehicles and EMS personnel. Alameda County EMS Ambulance Ordinance provides planning and regulations for EMS ambulance providers for inter-county response.
- Vehicles and personnel have responded through direct provider to provider request for mutual aid and must notify the EMS on-call "Duty Officer" personnel via the Alameda County Regional Emergency Communications Center (ACRECC) based upon pre-identified trigger points such that the MHOAC in conjunction with the RDMHS can coordinate medical mutual aid as needed per regulation

Non-Emergency Ambulance Providers

The organizations listed below are ambulance providers approved by the Alameda County EMS Agency to provide service requested outside of the 911 system. These services include requests such as transfers between medical facilities, and to and from medical appointments:

- American Medical Response
- Arcadia Ambulance
- Bay Medic Transportation
- Eagle Ambulance
- Falck Northern California
- Falcon Critical Care Transport
- Norcal Ambulance
- Pro Transport-1
- Royal Ambulance
- United Ambulance
- Westmed Ambulance

Ambulance service provider approval requirements to operate in Alameda County

- Ambulance Ordinance Chapter 6.114
- Certificate of Operation Application

For additional information on Non-Emergency Transport, contact Ambulance Ordinance Officer.

- *Andrew Sulyma, Alameda County EMS Coordinator*
    - *Monitors EMS System Operations and Communications, EMS Dispatch Liaison, tests EBRCS Radio Communications and Unusual Occurrence Management as needed*
- *Leslie Simmons, Alameda County EMS Coordinator*
    - *Oversees the Non-Emergency Permitted Ambulance Ordinance; IFT/BLS Communications Liaison; and ensures Unusual Occurrence Management; Continues to monitor compliance and overall performance by all EMS Non-911 Emergency Permitted transport providers.*

NEED(S): improve Inter-Agency Coordination

OBJECTIVE:

- Continue to Work with Transportation Subgroup on mutual aid agreements between fire transport agencies and private contracted providers.
- Continued integration of BLS Providers into the County surge/disaster plans to assist large-scale movement of patients

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.14 INCIDENT COMMAND SYSTEM

MINIMUM STANDARDS:
The local EMS agency shall develop multi-casualty response plans and procedures that include provision for on-scene medical management using the Incident Command System.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Refer to EMS Field Policy 2022 for the MCI Policy
- **2022 FIELD PROTOCOLS**
  - 2022 Alameda County Field Manual Refer to p. 159
    - MCI NOTIFICATIONS: Incident Commanders shall make notifications through ACRECC.
    - For the duration of the MCI, the Transportation Unit Leader under ICS will determine transportation methods and destinations
- Alameda County EMS System MCI Policy and Procedures Include
  - Medical Group Supervisor
  - Transport Group Supervisor
  - Other MCI Roles Under Incident Command
- Refer to Alameda County EMS Website for training opportunities
  - Bay Area UASI Training and Exercise Program
  - California Specialized Training Institute
  - FEMA Center for Domestic Preparedness

NEED(S): Update MCI Policy and provide training as needed

OBJECTIVE: Promote appropriate MCI and ICS training amongst all Alameda County EMS providers

TIME FRAME FOR MEETING OBJECTIVE:
☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.15 MCI PLANS

MINIMUM STANDARDS:
Multi-casualty response plans and procedures shall utilize state standards and guidelines.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- *Refer to EMS System Plan Section 4.14*

Alameda County Multi-casualty response plans and procedures utilize state standards and guidelines.

- Alameda County EMS completed the **Alameda County 2022 EMS Policy Manual focused on the MCI Policy** including:
    - Ambulance Strike Team (AST) Utilization
    - Mutual aid via SEMS
        - **Refer to the 2022 ALCO EMS Field Manual**
            - PDF Version of the 2022 ALCO EMS Field Manual (MCI Policy p. 159 – Resource Ordering table)
- Completed the Alameda County Pediatric Surge Annex which includes pediatric considerations and strategies for an MCI
    - HCC Pediatric Surge Annex
- The Alameda County Health Care Services Agency HCSA EOP includes the MHOAC Program Manual with Incident Response guides aligned and supporting the state Medical and Public Health EOM.
    - Contact Alameda County EMS for HCSA EOP – MHOAC Program Manual Section (p.16 and 46)

NEED(S):
- The local EMS agency shall encourage all responding entities (including hospitals) to prepare for mass casualty response aligned with state standards / guidelines, and Alameda County EMS plans.
- Provide ongoing Alameda County MCI Policy and Pediatric Surge Annex updates

OBJECTIVE:
- Continue to assess and revise the MCI policy consistent with state standards.
- Continue to coordinate and plan for MCIs with Health Care Facilities and EMS providers

TIME FRAME FOR MEETING OBJECTIVE:
☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.16 ALS STAFFING

MINIMUM STANDARDS:
All ALS ambulances shall be staffed with at least one person certified at the advanced life support level and one person staffed at the EMT-I level.

RECOMMENDED GUIDELINES:
The local EMS agency should determine whether advanced life support units should be staffed with two ALS crew members or with one ALS and one BLS crew member.

On an emergency ALS unit which is not staffed with two ALS crew members, the second crew member should be trained to provide defibrillation, using available defibrillators.

CURRENT STATUS: MEETS MINIMUM REQUIREMENTS

NEED(S): None.

OBJECTIVE:

All ALS ambulances shall be staffed with at least one person certified at the advanced life support level. The other person may either be an EMT-1 or another person certified at the advanced life support level. On an emergency ALS unit which is not staffed with two ALS crew members, the second crew member must be trained to provide defibrillation, using available defibrillators.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

4.17 ALS EQUIPMENT

MINIMUM STANDARDS:
All emergency ALS ambulances shall be appropriately equipped for the scope of practice of its level of staffing.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD'***

- Refer to the Alameda County EMS 2022 QI Plan
- Written agreements with ALS transport providers ensure appropriate ALS vehicles with ALS/BLS equipment as specified in policy

911 Emergency Medical Services Ambulance Transport Agreements:

- Emergency Medical Services Ambulance Transport Agreement - City of Alameda
- Emergency Medical Services Ambulance Transport Agreement - City of Albany
- Emergency Medical Services Ambulance Transport Agreement - City of Berkeley
- Emergency Medical Services Ambulance Transport Agreement - City of Piedmont
- Emergency Medical Services Ambulance Transport Provider Agreement - Falck Northern California

The Alameda County EMS Equipment and Supply Specifications Policy establishes the equipment that must be stocked on each BLS and ALS vehicle.

- Refer to the Alameda County EMS Field Policy Manual 2022 "Equipment and Supply Specifications - ALS/BLS" - (p, 98)
  - 2022 FIELD PROTOCOLS
  - 2022 Alameda County Field Manual

NEED(S): Continuous assessment and update of ALS ambulance equipment needs

OBJECTIVE:

- Update EMS Policy ALS ambulance equipment and supply specifications as needed
- Evaluate and implement equipment and supplies that reduces pain and suffering and improves the health of patient and providers.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

4.18 TRANSPORT COMPLIANCE

MINIMUM STANDARDS:
The local EMS agency shall have a mechanism (e.g., an ordinance and/or written provider agreements) to ensure that EMS transportation agencies comply with applicable policies and procedures regarding system operations and clinical care.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County EMS has a mechanism to ensure that EMS transportation agencies comply with applicable policies and procedures. Refer to Quality Improvement Plan 2022 and 911 Transport Agreements/Contracts which focus on compliance with Alameda County EMS Policies.

911 Emergency Medical Services Ambulance Transport Agreements:

- Emergency Medical Services Ambulance Transport Agreement - City of Alameda
- Emergency Medical Services Ambulance Transport Agreement - City of Albany
- Emergency Medical Services Ambulance Transport Agreement - City of Berkeley
- Emergency Medical Services Ambulance Transport Agreement - City of Piedmont
- Emergency Medical Services Ambulance Transport Provider Agreement - Falck Northern California

NEED(S):

OBJECTIVE: Ensure EMS Transport Provider Compliance with Alameda County Policies and Agreements.

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

4.19 TRANSPORTATION PLAN

MINIMUM STANDARDS:
Any local EMS agency that desires to implement exclusive operating areas, pursuant to Section 1797.224, H&S Code, shall develop an EMS transportation plan which addresses: a) minimum standards for transportation services; b) optimal transportation system efficiency and effectiveness; and c) use of a competitive bid process to ensure system optimization.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

911 TRANSPORT – FALCK

- The Ambulance Transport Provider Agreement with Falck contains details of the Alameda County EMS Transportation Plan.
- Falck began 911 Emergency Ground Ambulance Service on July 1, 2019

911 Emergency Medical Services Ambulance Transport Agreements:

- Emergency Medical Services Ambulance Transport Agreement - City of Alameda
- Emergency Medical Services Ambulance Transport Agreement - City of Albany
- Emergency Medical Services Ambulance Transport Agreement - City of Berkeley
- Emergency Medical Services Ambulance Transport Agreement - City of Piedmont
- Emergency Medical Services Ambulance Transport Provider Agreement - Falck Northern California

In 1984, the Alameda County Board of Supervisors designated the EMS Agency as the Local Emergency Medical Services Agency (LEMSA) for the County of Alameda, as authorized by California Health & Safety Code section 1797.200. In this role, the EMS Agency has the exclusive authority over and sole responsibility for planning, implementing, and evaluating the County's EMS System. This authority includes the power to designate a 911 Ambulance service provider selected through a competitive procurement process.

Four of the EOAs are granted through an exclusive non-competitive process due to grandfathering city fire departments that provided ambulance services prior to The Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act of 1980. The four grandfathered EOAs are the cities of Alameda, Albany, Berkeley, and Piedmont. The city of Berkeley EOA includes the state property of UC Berkeley and the federal property at Lawrence Berkeley Lab. The fifth EOA encompasses the remainder of Alameda County and is granted through an exclusive competitive process. This EOA was last competitively bid in 2018 with the winning contractor, Falck, implementing service in July of 2019. Falck has been awarded the EOA for a 5-year term ending in June of 2024. Lawrence Livermore National Lab (LLNL) is federal property and is exempted from the EOAs. Ambulance transport services for LNLL is provided through a federal contract with Alameda County Fire District.

Alameda County EMS has signed, executed transport agreements with all of the 9-1-1 ambulance providers with the exception of Alameda County Fire District which operates under a federal contract. All of the agreements are effective through June 30, 2024, and the fire transport providers are eligible for a five-year extension. ALCO EMS is planning an RFP process to select and implement a contract for services to the Exclusive Operating Area (EOA) for the future.

NEED(S):

OBJECTIVE:

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)

☐ Long-Range Plan (more than one year)

4.20 "GRANDFATHERING"

MINIMUM STANDARDS:
Any local EMS agency which desires to grant an exclusive operating permit without use of a competitive process shall document in its EMS transportation plan that its existing provider meets all of the requirements for non-competitive selection ("grandfathering") under Section 1797.224, H&SC.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Pursuant to Section 1797.224 of the California Health and Safety Code, Alameda County EMS has established 5 Exclusive Operating Areas (EOAs) for 9-1-1 Ambulance Transport Services.
    - Four of The EOAs are granted through an Exclusive Non-Competitive Process due to grandfathering City Fire Departments that provided Ambulance Services prior to the Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act of 1980.
        - The four Grandfathered EOAs are the Cities of Alameda, Albany, Berkeley, and Piedmont.
        - The City of Berkeley EOA includes the State Property of UC Berkeley and the Federal Property at Lawrence Berkeley Lab.
    - The Fifth EOA Encompasses the remainder of Alameda County and is granted through an Exclusive Competitive Process. this EOA was last competitively Bid In 2018 with the winning Contractor, Falck, implementing service
        - In July Of 2019. Falck has Been awarded the EOA for 5-Year Term Ending in June of 2024.
    - Lawrence Livermore National Lab (LLNL) is Federal Property and is exempted from the EOAs.
        - Ambulance Transport Services for LNLL Is provided through a Federal Contract with Alameda County Fire District.
    - Alameda County EMS has Signed, Executed Transport Agreements with all of the 9-1-1 Ambulance Providers with the exception of Alameda County Fire District which operates under a Federal Contract.
        - All of the Agreements are Effective through June 30, 2024, and the Fire Transport Providers are eligible for a Five-Year Extension.

NEED(S):

OBJECTIVE:

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

4.21 EOA COMPLIANCE

MINIMUM STANDARDS:
The local EMS agency shall have a mechanism to ensure that EMS transportation and/or advanced life support agencies to whom exclusive operating permits have been granted, pursuant to Section 1797.224, H&SC, comply with applicable policies and procedures regarding system operations and patient care.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Refer to the QI PLAN 2022

QUALITY IMPROVEMENT (QI) AND MANAGEMENT OF DATA

- In 2021, Alameda County EMS, in partnership with ESO, began implementation of the **Health Data Exchange (HDE) project**. The HDE project links prehospital electronic health records to the hospital patient care records in the hospital. Once linked, prehospital data will automatically be securely imported into the hospital data collection systems and hospital data such as updated demographics, billing, and outcome information will be securely exported out to the prehospital data system. This exchange of data will facilitate improved and efficient access to prehospital records for the hospitals and provide valuable follow up information on patients to prehospital providers. Currently five receiving hospitals are connected to HDE: Highland Medical Center, Alameda Hospital, San Leandro Hospital, John George Psychiatric Hospital, and St. Rose Hospital. The remaining in-county hospitals are working towards connecting their systems with the HDE, with the hope to have all receiving centers connected by end of fiscal year 2022-2023.

AMBULANCE PATIENT OFFLOAD TIME (APOT)

- Although ambulance patient offload times (APOT) have historically been a challenge in Alameda County, COVID-19 has created an environment where offload times have significantly increased and peaked as high as a ninetieth-percentile time of 69 minutes systemwide. To address this systemic concern, Alameda County EMS has engaged all of its transport providers and executive level management at all of the receiving facilities to participate in monthly APOT meetings in order to actively work to lower APOT and share best practices across all stakeholders. Significant progress was made by the group prior to the COVID-19 Omicron surge that occurred in December 2021 and January 2022, and times have improved again as the surge has subsided. The mission of the group is to strive to get APOT down to 20 mins or less ninety percent of the time systemwide.

RESPONSE TIME REQUIREMENTS

- ALCO EMS has established response time requirements to which FRALS and 9-1-1 ambulance transport providers must adhere to and not exceed ninety percent of the time. These requirements are delineated within the executed provider agreements and are broken down by dispatch priority which is informed by MPDS and historical clinical and operational data under EMS Medical Director medical control, and for the private 9-1-1 ambulance provider by service areas or response zones. For FRALS or fire transport providers that do not utilize the priority system, all calls are held to the priority 1 standard, with the exception of ambulance response to priority 5, non-medical 5150, calls.

Alameda County EMS has **PROVIDER AGREEMENTS & CONTRACTS** to ensure compliance with policies and procedures as follows:

911 Emergency Medical Services Ambulance Transport Agreements:

- Emergency Medical Services Ambulance Transport Agreement - City of Alameda
- Emergency Medical Services Ambulance Transport Agreement - City of Albany
- Emergency Medical Services Ambulance Transport Agreement - City of Berkeley

- Emergency Medical Services Ambulance Transport Agreement - City of Piedmont
- Emergency Medical Services Ambulance Transport Provider Agreement - Falck Northern California

Emergency Medical Dispatch Services Agreement:

- Emergency Medical Dispatch Service Agreement - Alameda County Fire Department

Emergency Medical Services First Responder Advanced Life Support (Paramedic) Services Agreements:

- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Alameda
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Albany
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Berkeley
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Dublin
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Emeryville
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Fremont
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Hayward
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Livermore
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Newark
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Oakland
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Piedmont
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Pleasanton
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of San Leandro
- Emergency Medical Services First Responder Advanced Life Support Services Agreement - City of Union City

- Refer to the 2021-2023 Alameda County Executive Summary and the EMS System Plan 4.01 Form.

NEED(S):

OBJECTIVE:

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

4.22 EOA EVALUATION

MINIMUM STANDARDS:

The local EMS agency shall periodically evaluate the design of exclusive operating areas.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Pursuant to Section 1797.224 of the California Health and Safety Code, ALCO EMS has established 5 exclusive operating areas (EOAs) for 9-1-1 ambulance transport services. The EOAs, as currently configured, were implemented on June 29, 1990.

Four of the EOAs are granted through an exclusive non-competitive process due to grandfathering city fire departments that provided ambulance services prior to The Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act of 1980. The four grandfather EOAs are the city of Alameda, the city of Albany, the city of Berkeley, and the city of Piedmont. The city of Berkeley EOA includes the state property of UC Berkeley and the federal property at Lawrence Berkeley Lab. There has been no efforts or requests to re-evaluate these EOAs.

In 2019, post-implementation of the successful contractor from the last competitively bid process, the fifth EOA, which encompasses the remainder of Alameda County, except for the federal LLNL property, was re-evaluated by a LEMSA initiated work group comprised of system stakeholders which included representatives from ambulance providers, fire departments, hospitals, and elected officials from both the cities and county. The work group determined that it was important to maintain the EOA as is to provide equitable and consistent delivery of high-quality EMS services to our communities.

The fifth EOA was last competitively bid in 2018 with the winning contractor, Falck, implementing service in July of 2019. Falck has been awarded the EOA for a 5-year term ending in June of 2024.

Alameda County EMS is now planning for the next RFP Process for 911 EOA Emergency Ambulance Services, with the goal of ensuring an EMS System driven by clinical and operational excellence as well as financial viability.

NEED(S):

- 2019 evaluation is informing development of current RFP. No needs at this time.

OBJECTIVE:

- Alameda County EMS evaluates the design of exclusive operating area. (LONG-RANGE)
  - Periodic evaluation of EOAs.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

Table 1E: Facilities/Critical Care:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Universal Level					
5.01 Assessment of Capabilities		✓	✓	✓	
5.02 Triage & Transfer Protocols*		✓		✓	
5.03 Transfer Guidelines*		✓		✓	✓
5.04 Specialty Care Facilities*		✓		✓	✓
5.05 Mass Casualty Management		✓	✓		✓
5.06 Hospital Evacuation*		✓			✓
Enhanced Level: Advanced Life Support					
5.07 Base Hospital Designation*		✓		✓	✓
Enhanced Level: Trauma Care System					
5.08 Trauma System Design		✓		✓	✓
5.09 Public Input		✓		✓	✓
Enhanced Level: Pediatric Emergency Medical and Critical Care System					
5.10 Pediatric System Design		✓		✓	✓
5.11 Emergency Departments		✓	✓	✓	✓
5.12 Public Input		✓			
Enhanced Level: Other Specialty Care Systems					
5.13 Specialty System Design		✓		✓	✓
5.14 Public Input		✓		✓	✓

5.01 ASSESSMENT OF CAPABILITIES

MINIMUM STANDARDS:
The local EMS agency shall assess and periodically reassess the EMS related capabilities of acute care facilities in its service area.

RECOMMENDED GUIDELINES:
The local EMS agency should have written agreements with acute care facilities in its service area.

CURRENT STATUS: MEETS MINIMUM STANDARDS

2022-23 PEDIATRIC READINESS AND SURGE PROJECT

- Alameda County (ALCO) EMS conducts pediatric readiness assessments and reassessments of ALCO Receiving Hospital acute care facilities every 2 years.
    - Alameda County EMS has implemented the Jan. 1, 2022 to June 30,2023 ED Pediatric Readiness Contracts with UCSF Benioff Children's Hospital Oakland and Mission Bay to conduct pediatric readiness assessments, education and training for 12 ALCO Receiving Hospitals.
    - The UCSF Contractors provide on-site pediatric simulation scenarios and surge assessment of pediatric capabilities to support the CA EMS for Children regulations: California Code of Regulations, Title 22. Social Security, Division 9. Prehospital Emergency Medical Services, Chapter 14. Emergency Medical Services for Children
    - The Pediatric Readiness project methodology and process includes:
        - Reviewing the 2021 hospital ED Pediatric Readiness project self-assessment tool with scores and compare with previous reports consistent with the National Pediatric Readiness Project (NPRP)
        - Collaboratively preparing the site-assessment team members and hospital wide participants
        - Conducting the on-site ED pediatric simulated scenarios training with immediate debrief and feedback
        - Preparing the follow-up report with recommendations for improvement for up to 12 hospitals in Alameda County.
    - All Alameda County Receiving hospitals have been scheduled for the pediatric site visits through June 2023
    - Alameda County EMS anticipates an extension of the UCSF Benioff Children's Hospital Contracts with Mission Bay and Oakland.

SPECIALTY CENTER DESIGNATIONS AND MOUS (Trauma, Stroke, and STEMI Center)

- All Receiving Hospitals with Specialty Center Designations have current MOUs In Place.
    - Alameda County Receiving Hospitals designated as Specialty Centers must comply with the following in orders:
        - California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services, Chapter 7. Trauma Care Systems
        - California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services, Chapter 7.2 Stroke Critical Care System

- California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services, Chapter 7.1 St-Elevation Myocardial Infarction Critical Care System

Receiving Facilities (Hospitals)

The Alameda County EMS Agency works closely with the receiving hospital facilities to assure the continuum of medical care and assists them with integration of specialized care programs including trauma, stroke, and cardiac services into the EMS System.

- Alameda Hospital | Basic Emergency Services, Primary Stroke Center
- Alta Bates Summit Medical Center- Ashby Campus | Basic Emergency Services, Labor and Delivery
- Alta Bates Summit Medical Center- Summit Campus | Basic Emergency Services, Primary Stroke Center, STEMI Center
- Eden Medical Center | Basic Emergency Services, Level II Adult Trauma Center, Primary Stroke Center, Labor and Delivery
- Highland Hospital | Basic Emergency Services, Level I Adult Trauma Center, STEMI Center, Labor and Delivery
- Kaiser Oakland | Basic Emergency Services, Primary Stroke Center, STEMI Center, Labor and Delivery
- Kaiser Fremont | Basic Emergency Services, Primary Stroke Center, STEMI Center
- Kaiser San Leandro | Basic Emergency Services, Primary Stroke Center, Labor and Delivery
- St. Rose Hospital | Basic Emergency Services, STEMI Center, Labor and Delivery
- San Leandro Hospital | Basic Emergency Services
- Stanford ValleyCare Hospital (New Name: Stanford Health Care Tri-Valley) | Basic Emergency Services, STEMI Center, Primary Stroke Center, Labor and Delivery
- John George Psychiatric Hospital | Psychiatric Emergency Services for Adults
- UCSF Benioff Children's Hospital- Oakland | Basic Emergency Services, Level I Trauma Center, and Psychiatric Emergency Services for Children
- Washington Hospital | Basic Emergency Services, Primary Stroke Center, STEMI Center, Labor and Delivery
- Willow Rock Center | Psychiatric Emergency Services for Adolescents and Teens

Refer To Previous Sections and Plans:

- *1.07 (Trauma Planning)*
- *1.27 (Pediatric System Plan)*
- *5.04 Specialty Care Facilities*

"REAL EVENT' RSV/RESP ILLNESS IMPACTING CHILDREN - Pediatric Surge Response (Starting 11/2022)

- Given the National RSV and Respiratory Illness impact on pediatric surge, a weekly ALCO surge pulse check was conducted to determine pediatric capability and capacity for all ALCO Receiving hospitals. Pediatric Surge expansion resources were provided to strengthen the pediatric capacity and capability in real time.
- The ALCO Pediatric Surge Lead and EMS for Children Coordinator facilitated the Surge Group for the Western Regional Alliance for Pediatric Emergency Management. Assessment tools and Resources were provided by CDPH and WRAP-EM to ALCO health system partners

NEED(S): NONE

- Ongoing hospital pediatric surge and readiness assessments to strengthen pediatric capability and capacity

OBJECTIVE:

- Alameda County EMS conducts assessments and reassessments of acute care facilities to increase system-wide pediatric capability.
- Continue ALCO hospital “real event” pediatric surge pulse checks as needed and ED Pediatric Readiness Site Visits in 2023

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☐Long-Range Plan (more than one year)

5.02 TRIAGE & TRANSFER PROTOCOLS

MINIMUM STANDARDS:
The local EMS agency shall establish pre-hospital triage protocols and shall assist hospitals with the establishment of transfer protocols and agreements.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

ALAMEDA COUNTY EMS FIELD PROTOCOLS

- Alameda County EMS has established pre-hospital protocols and assists hospitals with the establishment of transfer protocols and agreements. The 2022 Alameda County EMS Field Manual provides policies include transport guidelines and address specialty care as follows:

    - Assault/Abuse/Domestic Violence
    - Burn Patient Criteria
    - Transport Guidelines
    - Trauma Patient Criteria
    - Acute Stroke
    - Chest Pain – Suspected Cardiac/STEMI
    - Psychiatric Evaluation-5150
    - Psychiatric and Behavioral Emergencies
    - Interfacility Transfer
    - Critical Medical Patient Transfer
    - Multi-Casualty Incident-EMS Response
    - Hazardous Materials
    - Crush Injury

Refer to the Alameda County EMS website:

- **2022 FIELD PROTOCOLS**
- 2022 Alameda County Field Manual

TRAUMA RETRIAGE POLICIES

- Alameda County EMS Administrative Policies include Trauma Retriage procedures for adult and pediatric patients who have arrived at an inappropriate facility considering their injuries and require transport to a trauma center.

Refer to the Alameda County EMS System Plan Sections and Plans:

- 1.07 (Trauma Planning)
- 1.19 (Policies, Procedures, Protocols)
- 1.23 (Inter-Facility Transfer)

- 1.26 (Trauma System Plan)
- 1.27 (Pediatric System Plan)
- 5.01 (Assessment of Capabilities)

- 2022 QI Plan

COMMUNITY ASSESSMENT AND TRANSPORT TEAM (CATT)

- In July of 2020, the Community Assessment and Transport Team (CATT) officially launched in Alameda County. CATT is the synergy of behavioral health and EMS, pairing a licensed clinical social worker with an EMT, in order to respond to behavioral health related incidents in the 9-1-1 system. CATT is staffed by a community-based behavioral health organization, Bonita House, and Falck. These units have the ability to complete advanced mental health assessments, link individuals with resources, and transport to a wide variety of services and facilities that are not available to a 9-1-1 ambulance. CATT is a collaborative program with Alameda County Behavioral Health, Alameda County EMS and the current 9-1-1 Transport Provider (Falck) to provide this assessment and transport service for Behavioral Health Patients in Alameda County. CATT MOUs, Policies, Procedures, and training curriculum are in place.

COORDINATION WITH OTHER EMS AGENCIES:

- Alameda County EMS coordinates with other EMS agencies, MHOACs/RDMHS, hospitals, and transfer centers during hospital surge “load leveling” to facilitate transfer support as needed.

NEED(S): NONE

OBJECTIVE:

- Continue to review and revise trauma triage, transport and transfer, and MCI protocols as needed.
- Monitor for compliance and issues using Unusual Occurrence Reports or issues brought forward during reoccurring meetings with Alameda County Receiving Facilities, 9-1-1 Transport Agencies and Non 9-1-1 Transport Providers.

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

5.03 TRANSFER GUIDELINES

MINIMUM STANDARDS:
The local EMS agency, with participation of acute care hospital administrators, physicians, and nurses, shall establish guidelines to identify patients who should be considered for transfer to facilities of higher capability and shall work with acute care hospitals to establish transfer agreements with such facilities.

RECOMMENDED GUIDELINES:
Refer to California Code of Regulations / Local Policies:

- California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services,

  Chapter 7. Trauma Care Systems

- California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services

  Chapter 7.2 Stroke Critical Care System

- California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services

  Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

CURRENT STATUS: MEETS MINIMUM STANDARDS:

Alameda County EMS Administrative Policies - **Transfer of Care** Focus – Refer to list below:

- Inter-facility Transfer Guidelines
- CCT-Program Standards – Updated 2019
- Emergency Re-Triage to Trauma Centers
  - Alameda County Critical Medical Patient Hospital Transfers for Specialty and/or Higher Level of Care Policy
  - Trauma Re-Triage/Transfer Policy

Alameda County EMS Disaster / Surge Plans

- Completed EMS Surge Plan 2019
- Updated Disaster Preparedness Healthcare Coalition (DPHC) Pediatric Surge Annex to Coalition Plan 2021

Pediatric Transfer Policy Education

- Providing pediatric transfer protocol education at Hospital Pediatric Site visits; aligning and supporting CA EMSC Regulations

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Refer to Alameda County EMS System Plan sections and policies/plans (compliant with current CA State Trauma, Stroke, STEMI Regulations):

- 1.07 (Trauma Planning)
- 1.19 (Policies, Procedures, Protocols)
- 1.23 (Inter-facility Transfer)

- 1.26 (Trauma System Plan)
- 1.27 (Pediatric System Plan)

- Trauma System of Care Plan
- STEMI System of Care Plan
- Stroke System of Care Plan

COORDINATION WITH OTHER EMS AGENCIES:

- Development and implementation of regional Trauma Re-Triage and Transfer policy/plan:
- Coordination/collaboration with Contra Costa County EMS and John Muir Medical Center, (adjacent ACS verified adult level-2 trauma center), through participation in quarterly bi-county Trauma Audit Committee (TAC) meetings.
- Coordination/collaboration with Bay Area Regional LEMSAs (Solano, Contra Costa, San Francisco, San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey, Marin) through participation in bi-monthly (every two months) Regional Trauma Coordinating Committee (RTCC) meetings.

NEED(S): Education on transfer guidelines to ensure patients are identified for transfer to higher capability of acute care.

OBJECTIVE: Continue education on transfer guidelines to ensure patients are identified for transfer to higher capability of acute care.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.04 SPECIALTY CARE FACILITIES

MINIMUM STANDARDS:
The local EMS agency shall designate and monitor receiving hospitals and, when appropriate, specialty care facilities for specified groups of emergency patients.

RECOMMENDED GUIDELINES:
The local EMS agency should designate appropriate facilities and execute agreements with those specialty care facilities in other jurisdictions.

> CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY, DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES, CHAPTER 7. TRAUMA CARE SYSTEMS
>
> California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services
> Chapter 7.2 Stroke Critical Care System
>
> California Code of Regulations Title 22. Social Security, Division 9. Prehospital Emergency Medical Services
> Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

CURRENT STATUS: Meets minimum standards (compliant with current CA State Regulations: Trauma, Stroke, STEMI):

Receiving Hospitals and Designated Specialty Centers:

- Alameda County EMS has 13 designated Receiving Hospitals including Specialty Centers:
    - Receiving Hospitals
    - Trauma Centers
    - Base Hospital
    - Pediatric Critical Care Center
    - 5150 Psychiatric Facilities
    - STEMI / Cardiac Arrest Centers
    - Stroke Centers
    - Pediatric Receiving Centers (PEDRC) *

Pediatric Receiving Centers

- * PEDRC - All Alameda County Receiving hospitals have a pediatric readiness capability and capacity to receive pediatric patients consistent and aligned with CA EMSC Regulations.
- Alameda County EMS has a contract with UCSF Benioff Children's hospital in Oakland and Mission Bay to conduct pediatric readiness site visits and simulation training.

Trauma Receiving Centers

- Alameda County EMS ensures that patients who have experienced traumatic injury are clinically assessed using CDC trauma triage criteria and transported to an EMS designated Trauma Receiving Center for specialty diagnostics and treatment.

- Meets minimum standards through active executed agreements (expire 6/30/24) with three EMS designated American College of Surgeons (ACS) verified (required) Trauma Receiving Centers (compliant with current CA State Trauma Regulations):
    - Alameda Health System-Highland Hospital (Adult level-1)
    - UCSF Benioff Children's Hospital (Pediatric level 1)
    - Sutter Eden Medical Center (Adult level 2)

Stroke Receiving Centers

- Alameda County EMS ensures that patients who are experiencing a possible cerebral vascular accident (Stroke) on scene, detected by clinical assessment (Cincinnati Stroke Scale), are transported to an EMS designated Primary Stroke Receiving Center for specialty diagnostics and treatment: CT / CTA / CTP, and if needed, IV fibrinolytic and or transfer to a thrombectomy capable center for IR services.
- Meets minimum standards through active executed agreements with eight EMS designated Joint Commission (JC) certified (required) Primary Stroke Receiving Centers (compliant with current CA State Stroke Regulations):
    - Alameda Health System-Alameda Hospital
    - Alta Bates Summit Medical Center
    - Eden Medical Center
    - Kaiser-Fremont
    - Kaiser-Oakland
    - Kaiser-San Leandro
    - Stanford Health Care – Tri-Valley
    - Washington Hospital

STEMI / Cardiac Arrest Receiving Centers (CARC)

- Alameda County EMS ensures that patients who are experiencing a possible ST- elevation myocardial infarction (STEMI) receive expedited specialty care. An out-of- hospital STEMI is detected by clinical exam and 12-lead electrocardiogram that is transmitted to the closest appropriate STEMI Receiving Center (SRC). The patient is then transported to that EMS designated SRC for specialty diagnostics and treatment: coronary angiogram and if needed a Primary Percutaneous Coronary Intervention (PCI).
- Alameda County EMS also ensures that patients who experience out-of-hospital cardiac arrest on scene or during transport and received attempted resuscitation with any return of spontaneous circulation (ROSC) or presented with an initial or recurrent shockable rhythm (VF/VT) are transported to the same EMS designated SRC/CARCs. Both STEMI and Cardiac Arrest patients are transported to an SRC/CARC since these patients frequently need common interventions.
- Meets minimum standards through active executed agreements with seven EMS designated STEMI/Cardiac Arrest Receiving Centers (compliant with current CA State STEMI Regulations):
    - Alameda Health System-Highland Hospital

- Alta Bates Summit Medical Center
- Kaiser-Fremont
- Kaiser-Oakland
- St. Rose Hospital
- Stanford Health Care Tri-Valley
- Washington Hospital

COORDINATION WITH OTHER EMS AGENCIES:

- Coordination/collaboration with Contra Costa County EMS regarding
- Coordination/collaboration with Contra Costa County EMS and John Muir Medical Center, (adjacent ACS verified adult level-2 trauma center), through participation in quarterly bi-county Trauma Audit Committee (TAC) meetings.
- Coordination/collaboration with Bay Area Regional LEMSAs (Solano, Contra Costa, San Francisco, San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey, Marin) through participation in bi-monthly (every two months) Regional Trauma Coordinating Committee (RTCC) meetings.

NEED(S):

- Real time bi-directional Healthcare Data Exchange (HDE)

OBJECTIVE(S):

- All specialty care facilities be certified/verified by credible/recognized third-party authority (content experts): Trauma-ACS, Stroke-JC, STEMI-JC/AHA or equivalent.
- Continuous monitoring and evaluation of specialty care system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.
- Continuous pediatric readiness “day to day” and in surge events to ensure pediatric capacity and capability. Ensure pediatric surge assessment, education, and training for all Alameda County Receiving Hospitals

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.05 MASS CASUALTY MANAGEMENT

MINIMUM STANDARDS:
The local EMS agency shall encourage hospitals to prepare for mass casualty management.

RECOMMENDED GUIDELINES:
The local EMS agency should assist hospitals with preparation for mass casualty management, including procedures for coordinating hospital communications and patient flow.

CURRENT STATUS: MEETS MINIMUM STANDARD

MASS CASUALTY MANAGEMENT PLANNING

- Alameda County (ALCO) EMS encourages hospitals and prehospital providers to prepare for mass casualty events. EMS collaborates with and facilitates hospital participation in planning, training, conferences, and exercises throughout the year.
- ALCO EMS developed the Co-Location Framework (EMS Treatment Site at Community Health Center) to mitigate surge at emergency departments to increase acute care capability
- Health Emergency Preparedness & Response (HEPR) within ALCO EMS supports development of mass casualty management plans and exercises that are succinct, actionable, and easily utilized by the ALCO healthcare system (including hospitals and EMS transport providers).
    - HEPR includes the HPP program which developed the Disaster Preparedness Healthcare Coalition (DPHC) Pediatric Surge and Burn Annex to support DPHC Response Plan. Refer to the resource links: https://acphd.org/dphc/; HCC Burn Surge Annex; and HCC Pediatric Surge Annex
    - The HPP program under HEPR provides benchmarks and goals for medical surge and mass casualty planning. The HCC - Disaster Preparedness Health Coalition (DPHC) meets every quarter with monthly training webinars.
    - ReddiNet communications and hospital bi-directional situation awareness is a priority in the DPHC plans and training programs. – Reder to the Alameda County ReddiNet Administrative Policy: https://ems.acgov.org/ems-assets/docs/Disaster/ACEMS_Reddinet%20Utilization%20Policy_September%202018.pdf
- ALCO EMS supports and collaborates with local ALCO emergency departments to prepare for sudden medical surge events
    - The Pediatric Readiness and Surge Project provides ED pediatric education with mass casualty management resources.
- The Alameda County Health Care Services Agency (HCSA) EOP includes the Medical/Health Emergency Operations Manual with the Mass Casualty Incident Response Guide (IRG)
- The 2022 Alameda County EMS Field Manual includes the MCI Policy - https://ems.acgov.org/ems-assets/docs/Clinical/Field%20Protocols/2022%20FM/ACEMS_FM_2022%20-%20FINAL.pdf (p. 147)

MASS CASUALTY DISASTER / SURGE TRAINING

- **MHOCSA Training** - The Region 2 RDMHS developed and conducted CSTI Medical Health Operations Center Support Activities (MHOCSA) Courses in 2021 and 2022
- **EOM Training** – The Region 2 RDMHS conducted several Emergency Operations Manual (EOM) training classes. Hospitals participated in the training.
- **Western Regional Alliance for Pediatric Emergency Management (WRAP-EM) Training** - conducts regional remote table-top exercises (TTX) with mass casualty management scenarios.

- DPHC Coalition members participated in the exercises. The next WRAP-EM TTX with the Alameda County OA is scheduled for 1/26/2022.

Refer to the Alameda County EMS System Plan Sections:

- 4.12 (Disaster Response) Form
- 4.15 (MCI Plans) Form

NEED(S):

OBJECTIVE: Continue hospital mass casualty management and communication outreach, planning, education, and training for hospital partners

.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)

☒Long-Range Plan (more than one year)

5.06 HOSPITAL EVACUATION

MINIMUM STANDARDS:
The local EMS agency shall have a plan for hospital evacuation, including its impact on other EMS system providers.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- All Alameda County receiving hospitals have evacuation plans in accordance with accreditation standards
- During an evacuation, Alameda County OA EMS transport by EMS providers and other agencies is coordinated through the Alameda County OA MHOAC program and the EMS Duty Officer.
- The Alameda County Health Care Services Agency EOP includes the MHOAC Program Manual and Incident Response Guides relevant to hospital evacuations.
- The Health Emergency Preparedness & Response (HEPR) unit within ALCO EMS supports development of hospital evacuations plans and conducts exercises that are operational, actionable, and easily customized by the ALCO healthcare system partners (including hospitals and EMS transport providers).
    - Alameda County EMS - HEPR includes the HPP program which developed the Disaster Preparedness Healthcare Coalition (DPHC) Pediatric Surge and Burn Annex to support the DPHC Response Plan. Refer to the resource links: https://acphd.org/dphc/; HCC Burn Surge Annex; and HCC Pediatric Surge Annex
    - The TRAIN (Triage Resource Allocation for Inpatient) Model is an option for hospital evacuations and included in the Pediatric Surge Annex.
- The HPP program under HEPR provides planning benchmarks and goals for potential hospital evacuations.
    - The HCC - Disaster Preparedness Health Coalition (DPHC) meets every quarter with monthly training webinars including topics relevant to evacuations.
- ReddiNet communications and hospital bi-directional situation awareness is a priority in the DPHC plans and training programs. – Refer to the Alameda County ReddiNet Administrative Policy: https://ems.acgov.org/ems-assets/docs/Disaster/ACEMS_Reddinet%20Utilization%20Policy_September%202018.pdf
- ALCO EMS supports and collaborates with local ALCO emergency departments to prepare for hospital evacuations
    - The Pediatric Readiness and Surge Project provides ED pediatric education with evacuation resources including the TRAIN (Triage Resource Allocation for Inpatient) Model

Refer to the Alameda County EMS System plan sections for additional information below:

- 4.12 (Disaster Response) Form
- 4.14 (Incident Command System) Form
- 5.05 (Mass Casualty Management) Form

NEED(S):

OBJECTIVE: Continue to support hospital and EMS transport provider evacuation planning and exercises to strengthen and test evacuation plans.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.07 BASE HOSPITAL DESIGNATION

MINIMUM STANDARDS:
The local EMS agency shall, using a process which allows all eligible facilities to apply, designate base hospitals or alternative base stations as it determines necessary to provide medical direction of pre-hospital personnel.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***MEETS MINIMUM STANDARD***

- Alameda Health System – Highland Hospital continues to be the base hospital.
- Alameda County EMS continues to have on-line medical direction provided by a base hospital – MOU contract extension with Alameda Health System (Highland Hospital)

- Refer to the Alameda County EMS System Plan - Section 2.07
- Refer to the 2022 QI Plan (Quality Improvement Responsibilities – Base Hospital p. 16)
- Refer to the Alameda County EMS Field Manual: An Overview of Patient Care Policies p. 2; Transfer Guidelines p. 23; Trauma Patient Criteria p. 27; and other policies
    - **2022 FIELD PROTOCOLS**
    - 2022 Alameda County Field Manual

COORDINATION WITH OTHER EMS AGENCIES: Yes

NEED(S): Improve Alameda County OA physician & field provider communications; Improve patient care and outcomes

OBJECTIVE: Continue to monitor Base Hospital and support strengthened capability to improve patient outcomes

TIME FRAME FOR MEETING OBJECTIVE:
☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.08 TRAUMA SYSTEM DESIGN

MINIMUM STANDARDS:
Local EMS agencies that develop trauma care systems shall determine the optimal system (based on community need and available resources) including, but not limited to:

- The number and level of trauma centers (including the use of trauma centers in other counties),
- The design of catchment areas (including areas in other counties, as appropriate), with consideration of workload and patient mix,
- Identification of patients who should be triaged or transferred to a designated center, including consideration of patients who should be triaged to other specialty care centers,
- The role of non-trauma center hospitals, including those that are outside of the primary triage area of the trauma center, and a plan for monitoring and evaluation of the system.

RECOMMENDED GUIDELINES:
CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY, DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES, CHAPTER 7. TRAUMA CARE SYSTEMS

CURRENT STATUS: MEETS MINIMUM STANDARDS

Refer to the Alameda County EMS System Plan Sections and local policies/plans (compliant with current CA State Trauma Regulations):

- 1.07 (Trauma Planning)
- 1.19 (Policies, Procedures, Protocols)
- 1.23 (Inter-facility Transfer)
- 1.26 (Trauma System Plan)
- 1.27 (Pediatric System Plan)
- 5.05 (Specialty Care Facilities)

- 2022 Trauma System Plan
- Alameda County Critical Medical Patient Hospital Transfers for Specialty and/or Higher Level of Care Policy
- Trauma Re-Triage/Transfer Policy

Alameda County EMS Meets minimum standards through active executed agreements with five transporting ALS agencies/departments (compliant with current CA State Trauma Care Systems Regulations):

- Falck Ambulance
- Berkeley FD
- Alameda City FD
- Albany FD
- Piedmont FD

Nine first responder ALS fire departments:

- Berkeley FD
- Alameda City FD
- Alameda County FD
- Albany FD
- Piedmont FD
- Oakland FD
- Hayward FD
- Fremont FD
- Livermore/Pleasanton FD

All ALS agencies/departments, first response and transport, use ALCO EMS trauma triage (CDC criteria) and transport protocols, providers must maintain ITLS, PHTLS, or equivalent trauma education/training certification.

Alameda County EMS ensures that patients who have experienced traumatic injury are clinically assessed using CDC trauma triage criteria and transported to an EMS designated Trauma Receiving Center for specialty diagnostics and treatment.

Alameda County EMS meets minimum standards through active executed agreements (expire 6/30/24) with three EMS designated American College of Surgeons (ACS) verified (required) Trauma Receiving Centers (compliant with current CA State Trauma Regulations):

- Alameda Health System-Highland Hospital-Oakland (Adult level-1)
- UCSF Benioff Children's Hospital-Oakland (Pediatric level 1)
- Sutter Eden Medical Center-Castro Valley (Adult level 2)

In 2020, Stanford Health Care Tri-Valley (previously Stanford ValleyCare Medical Center) and Washington Hospital, notified Alameda County EMS of their desire to pursue adult trauma center designation. To objectively examine the Alameda County existing system and determine the potential need for additional adult trauma centers, Alameda County EMS contracted with Bishop & Associates to conduct an analysis of our trauma system. Bishop & Associates conducted a comprehensive operational, clinical, and financial analysis of the existing system and all of the existing and potential trauma centers. The analysis determined that the existing system was functioning well but there was a potential for capacity issues within the next five years. The consultant recommendations were for no current modifications at this time, the addition of an adult trauma center in 5 years to address capacity concerns, and the need for a second additional adult trauma center would not arise for at least 10 years based on current projections.

On June 14, 2022, Alameda County Emergency Medical Services Agency (ACEMSA) approved Washington Hospital Healthcare System (WHHS) to be designated as the county's next level II Adult Trauma Center Within five years. While this decision follows an extensive year-long evaluation of the county's current trauma system and trauma needs, Washington Hospital has been preparing to become a trauma center for over two decades. The study commissioned by ACEMSA found that Alameda County's trauma system is currently functioning well. The County will need one additional level II trauma center in the next five years based on projected population growth and trauma volume, and to minimize the

number of patients sent to another county for trauma care. WHHS's trauma-ready facilities and decades of preparation to become a trauma center are well-positioned to meet the needs of trauma victims in the South County Area within five years. WHHS will be Alameda County's fourth trauma center, joining Highland Hospital, Eden Medical Center, and UCSF Benioff Children's Hospital Oakland. This new proposed South Alameda County trauma service area covers Hayward south of Industrial Blvd., Union City, Fremont, Newark, Sunol, and the southern portion of the Tri-Valley Area. This change to the countywide trauma system is the first since ACEMSA designated the current trauma centers in 1987.

NEED(S):

- Alameda County EMS Trauma System on-going assessment and support for Washington Hospital transition to a Level II Trauma Center.

OBJECTIVE:

- Continued evaluation of the trauma system design and support for the Washington Hospital transition to a Level II Trauma Center.
- Continuous monitoring and evaluation of trauma care system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.09 PUBLIC INPUT

MINIMUM STANDARDS:
In planning its trauma care system, the local EMS agency shall ensure input from both pre-hospital and hospital providers and consumers.

RECOMMENDED GUIDELINES:

CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS.
ARTICLE 4. QUALITY IMPROVEMENT

CURRENT STATUS: MEETS MINIMUM STANDARDS

Alameda County EMS ensures input from both pre-hospital and hospital providers as follows:

- Meet and confer with Alameda County Trauma Centers (TC) as well as Contra Costa County EMS and John Muir Medical Center (Contra Costa County) through participation in quarterly bi-county Trauma Audit Committee (TAC). These multidisciplinary meetings include EMS, TC and at times, Law Enforcement/Coroner personnel.

- Coordination/collaboration with Bay Area Regional LEMSAs (Solano, Contra Costa, San Francisco, San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey, Marin) through participation in bi-monthly (every two months) Regional Trauma Coordinating Committee (RTCC) meetings. These multidisciplinary meetings include EMS and TC personnel.

- ALCO EMS Trauma Coordinator works closely with the Trauma Program Medical Director, Manager and Process Improvement Nurses and attends monthly internal trauma center multidisciplinary quality oversight/improvement meetings as well as clinical morbidity/mortality meetings at all Alameda County designated trauma centers.

Refer to Alameda County EMS System Plan Sections and plans:

- 1.07 (Trauma Planning)
- 1.19 (Policies, Procedures, Protocols)
- 1.23 (Inter-facility Transfer)
- 1.26 (Trauma System Plan)
- 1.27 (Pediatric System Plan)
- 5.09 (Specialty Care Facilities)
- 2022 Trauma Plan

NEED(S):

- Ongoing monitoring and evaluation of trauma care system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

OBJECTIVE:

- Continuous monitoring and evaluation of trauma care system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)

☒Long-Range Plan (more than one year)

5.10 PEDIATRIC SYSTEM DESIGN

MINIMUM STANDARDS:

Local EMS agencies that develop pediatric emergency medical and critical care systems shall determine the optimal system, including:

- The number and role of system participants, particularly of emergency departments,
- The design of catchment areas (including areas in other counties, as appropriate), with consideration of workload and patient mix,
- Identification of patients who should be primarily triaged or secondarily transferred to a designated center, including consideration of patients who should be triaged to other specialty care centers,
- Identification of providers who are qualified to transport such patients to a designated facility,
- Identification of tertiary care centers for pediatric critical care and pediatric trauma,
- The role of non-pediatric specialty care hospitals including those which are outside of the primary triage area, and
- A plan for monitoring and evaluation of the system.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: ***'MEETS MINIMUM STANDARD'***

Refer to previous sections and plans:

- 1.07 (Trauma Planning) Progress Update Form 2021-22
- 1.19 (Policies, Procedures, Protocols) Progress Update 2021-22
- 1.23 (Inter-facility Transfer) Progress Update 2021-22
- 1.26 (Trauma System Plan) Progress Update 2021-22
- 1.27 (Pediatric System Plan) Progress Update Form 2021-22
- 5.01 (Assessment of Capabilities) Progress Update Form 2021-22

CA EMSC REGULATIONS AND ALAMEDA COUNTY PEDIATRIC SURGE ANNEX

- Shared CA EMSC Regulations EMSA implementation plan with Receiving Hospital partners
- Shared CA EMSA/CDPH Pediatric Surge Annex to Patient Movement Plan 2021. Prepared to implement Pediatric System Design changes to strengthen program once the state implementation plan and surge annex finalized / approved.
- Developed and revised the Alameda County Pediatric Surge Annex 2021

HOSPITAL PEDIATRIC CAPABILITY AND READINESS

- Hospitals – Required to have pediatric receiving center readiness capability (PedRC)
- Pediatric Critical Care Trauma Center – Level 1 – UCSF Benioff Children's Hospital is the designated Trauma Center
- Finalized contract with UCSF Benioff Children's Hospital, Oakland and Mission Bay, San Francisco, for Hospital Site Visits and simulation training.

PEDIATRIC QI - CQI DATA COLLECTION

- CHILDREN INEGRATED IN EMS QI DATA COLLECTION:

- Data update implementation and report dissemination provided as follows:
  - APOT Report
  - Change in Wall time- control chart
  - QI Reports = Pediatric Destinations/Transports (by Primary Impression); Trauma Reports and Psych patients
  - ED Site Visit Reports
- First Watch

ALAMEDA COUNTY EMS POLICIES AND PROCEDURES

– EMSC AUDIT PROCESS INTEGRATED IN EMS QI ACTIVITIES

- Alameda County QI Plan 2021 (EMSC QI integrated in QI Plan)
- PedRC Recommendations consistent with EMSC Regulations
- Hospital Responsibilities
- Policy and Skills Competency
- Trauma Audit Process Policy
- Unusual Occurrence Policy
- National Pediatric Readiness Project (NPRP) Reports and Hospital ED Pediatric Readiness Site Visit Reports

EMS STAFF QI

Activities with focus on children and pediatric transports include:

- Contract compliance monitoring – UCSF Benioff Children's' Hospital Pediatric Readiness Project.
  - Hospital Assessment and QI provided by Pediatric Readiness Project with UCSF Benioff Children's Hospital and Mission Bay Hospital
- Review – Unusual occurrence impacting children process

INVESTIGATIONS

- Contract compliance monitoring – UCSF Benioff Children's' Hospital Pediatric
- Investigation of all incidents reported via the Alameda County Unusual Occurrence reporting process, and coordination with all EMS providers and allied agencies to provide educational follow-up or disciplinary actions (where applicable).
- Tracked, investigated, and managed numerous Unusual Occurrences (real/potential reported threats to health and safety as per State regulation) reported to the EMS Agency
- EMS QI Coordinator Role collaboration with EMS for Children Coordinator
- Monitor hospital bypass and ambulance "wait times" – with consideration for children

PEDIATRIC SURGE ANNEX PLAN

- Revised the Alameda County Pediatric Surge Annex 2021. Utilized Western Regional Alliance for Emergency Management (WRAP-EM) SMEs.
  - EMSC Coordinator leads the WRAP-EM Surge Group meetings every two weeks.
- Completed, disseminated, and tested pediatric medical surge annex components in COVID-19.

PEDIATRIC COMMUNICATIONS - REDDINET

- Developed customized assessment polls with pediatrics
- Conducted remote virtual training with multiple hospital sites during the COVID-19 pandemic. During the COVID response, implemented state Health officer orders for pediatric bed polling and customized assessments.

PEDIATRIC INTEGRATION DURING COVID-19 RESPONSE

- The goals included ALCO EOC to Hospital Command Center coordination, pediatric medical surge, and communications with cross sector healthcare partners.
- EMSC Coordinator facilitated COVID-19 Therapeutic allocation including with UCSF Benioff Children's Hospital, Oakland

PEDIATRIC READINESS PROJECT – ED SITE VISITS

- All receiving hospitals completed the National Pediatric Readiness Project (NPRP) Survey in 2021
- Emergency Department Pediatric Readiness Project – plan to conduct ED Site Visits with UCSF Benioff Children's Hospital and Mission Bay, San Francisco. All hospitals will be scheduled in 2022-23.
- MOU with UCSF Benioff Children's Hospital and Mission Bay started January 2022 for continued Pediatric Readiness Site Visits and simulation training.
- Pediatric Site Visits will provide data on trauma re-triage. Educating all receiving hospitals on Trauma Re-triage policy.

CDPH / EMSA, WRAP-EM, PPN, AND CONFERENCES - PEDIATRIC SURGE PROJECTS

- Supporting EMSA / CDPH Pediatric Medical Surge Projects; aligning with CA Neonatal/Pediatric Surge Annex to Patient Movement Plan
- Developed HCC Pediatric Surge Response Annex for coalition partners
- Surge Group Lead for the Western Regional Alliance for emergency Management (WRAP-EM)
    - UCSF Benioff Children's Hospital was awarded the ASPR Group for the Center of Excellence. WRAP-EM consists of W, OR, CA, NV, AZ, UT, and an advisor from NY
    - Under this grant WRAP-EM has established multiple working Groups which includes the Surge Group
    - EMSC Coordinator selected for the National Pediatric Pandemic Network (PPN) Capacity & Capabilities Domain Steering Committee
- EMSC Coordinator was the lead on a Pediatric Surge Presentation for the National Healthcare Coalition Preparedness Conference (NHCPC) in Orlando, Florida
    - Developed Regional Pediatric Disaster CONOPs PLAYBOOK – Draft Framework
- EMSC Coordinator facilitated the Pediatric Surge Annex Session for the National ASP Speaker series

ALAMEDA COUNTY EMS POLICIES

- 2022 EMS Field Manual – Reviewed and updated pediatric policies as needed
    - https://ems.acgov.org/ems-assets/docs/Clinical/Field%20Protocols/2022%20FM/ACEMS_FM_2022%20-%20FINAL.pdf

TRAIN – TRIAGE RESOURCE ALLOCATION FOR INPATIENT

- **Promoting** the Triage by Resource Allocation for In-patients (TRAIN) project in 2021. Supporting Sutter Hospital TRAIN implementation project in Alameda County

PEDIATRIC INTEGRATION - COMMITTEES

- EMSC, Pediatric Readiness, QI, and Surge Advisory Committee – quarterly meetings with Receiving Hospital Meetings (during COVID-19).
- UCSF Benioff Children's Hospital & Mission Bay, San Francisco Pediatric Readiness Project Contract meeting occurs quarterly
- Updated Pediatric Resources and ensure access with system partners via ED Receiving Hospital Committee, HCC - Disaster Preparedness Coalition (DPHC), QI Meetings, and Hospital Disaster Preparedness Committees)
- Ensure pediatric issues are addressed in all EMS programs and committees: Quality Improvement, Trauma, Disaster, Injury Prevention, IFT, Falck 911, and Region II ABAHO Projects
- On-going participation in multiple WRAP-EM working committees

PEDIATRIC RESOURCES AND SUPPLIES

- EMS and MHOAC Procurement Center established during COVID-19 to include pediatric resources to match needs

NEED(S):

- Implement the new Pediatric Readiness Project Site Visits.
- Facilitate Health Data Exchange (HDE) with UCSF Benioff Children's Hospital, Oakland

OBJECTIVE:

ALAMEDA COUNTY EMS FOR CHILDREN BENCHMARKS:

- Implementation EMSC Regulations with PedRC benchmarks
- Ensure pediatric ALS/BLS equipment and supplies
- Adopt evidence based pediatric policies and protocols
- Leverage hospitals to strengthen pediatric readiness for "day to day" and medical surge readiness
- Ensure pediatric competency
- Strengthen pediatric medical surge and disaster plans including the Pediatric Surge Annex to the HCC Pediatric Response Plan Annex
- Ensure pediatric resources are disseminated to healthcare partners via Alameda County EMS Website; google list serve, and coalitions/committees
- Ensure Pediatric Quality Improvement
- Ensure Injury Prevention and education Projects
- Pediatric Medical Surge capability and system-wide readiness
- Sustain EMSC, Pediatric Readiness, QI, and Surge Advisory Committee

- Strengthen HDE with all hospitals with pediatric benchmarks

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.11 EMERGENCY DEPARTMENTS

MINIMUM STANDARDS:
Local EMS agencies shall identify minimum standards for pediatric capability of emergency departments including:

- Staffing,
- Training,
- Equipment,
- Identification of patients for whom consultation with a pediatric critical care center is appropriate,
- Quality assurance/quality improvement, and
- Data reporting to the local EMS agency.

RECOMMENDED GUIDELINES:
Local EMS agencies should develop methods of identifying emergency departments which meet standards for pediatric care and for pediatric critical care centers and pediatric trauma centers.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County EMS has identified minimum standards for pediatric capability of emergency departments including Staffing; Training; Equipment; Identification of patients for whom consultation with a pediatric critical care center is appropriate; Quality assurance/quality improvement, and data reporting to the local EMS agency. Refer to the projects below:

ALCO ED Pediatric Readiness Project and CA EMS for Children Regulations
Alameda County EMS aligns and supports CA EMSC Regulations to strengthen pediatric capacity and capability as follows:

- The EMS for Children Coordinator is facilitating an EMSC and Pediatric Surge Work Plan with focus on strengthening pediatric capability and capacity in the EDs and compliance with state EMS for Children Standards
- Alameda County (ALCO) is supporting and aligning with the CA EMSA Regulations https://emsa.ca.gov/ems-for-children/
- **Chapter 14. Emergency Medical Services for Children**
  - Article 1. Definitions
  - Article 2. Local EMS Agency EMSC Program Requirements
  - Article 3. Pediatric Receiving Centers
  - Article 4. Data Management, Quality Improvement and Evaluations
- Alameda County EMS has implemented a Pediatric Readiness Contract with UCSF Benioff Children's Hospital Oakland and Mission Bay (Jan. 2021 - June 30, 2023)
  - The contract is titled "Improving Pediatric Acute Care through Simulation ImPACTS / Pediatric Readiness Preparedness, Assessment, Education, and Partnership Project"
  - Per the contract, the UCSF and ALCO EMS assessment team are conducting ED Pediatric Readiness and Surge Site Visits with pediatric simulations for 12 hospitals.

- Each hospital is required to complete the National Pediatric Readiness Project (NPRP) pediatric assessment and have an on-site visit every two years to evaluate and provide training on pediatric staffing; training; equipment; identification of patients for whom consultation with a pediatric critical care center is appropriate; quality assurance/quality improvement, and data reporting.
- Hospital Pediatric Emergency Care Coordinators (PECCs) are invited to the EMSC, Pediatric Readiness, QI, And Surge Advisory Committee Quarterly Meetings. During the COVID-19 pandemic, this meeting was integrated in the ALCO Receiving Hospital Committee Meetings.
- All 12 ALCO Receiving Hospitals are scheduled for the Pediatric Readiness Site Visits in 2022-23. In 2022, Stanford Health Care Tri-Valley, Washington, Eden, St. Rose, and Alta Bates Summit Medical Center Berkeley completed their site visits. The remaining hospitals will have their site visits by June 2024 including Alta Bates Summit Medical Center Oakland, Alameda Health System Hospitals (Highland, Alameda Hospital, and San Leandro), and Kaiser Oakland.

For additional information, refer to the Alameda County EMS System Plan Sections and Plans:

- 1.07 (Trauma Planning)
- 1.19 (Policies, Procedures, Protocols)
- 1.23 (Inter-facility Transfer)
- 1.26 (Trauma System Plan)
- 1.27 (Pediatric System Plan)
- 5.01 (Assessment of Capabilities)
- 5.10 (Pediatric System Design)

- Alameda County Pediatric Surge Annex to support Disaster Preparedness Healthcare Coalition (DPHC)
- 2022 Trauma Plan
- Alameda County Administrative Policies – Hospitals and ReddiNet Utilization
- 2022 Alameda County EMS Field Manual
- 2022 Alameda County QI Plan
- Pediatric Re-Triage Policy

RSV AND RESP ILLNESS SURGE – 11/2022-1/2023

- All Receiving hospitals are expected to share pediatric data (ie via ReddiNet) for situation awareness and “real time” polling metrics. Refer to the Administrative ReddiNet Utilization Policy and the Alameda County DPHC Pediatric Surge Annex

NEED(S):

- **PLAN FOR NEW UCSF BENIOFF CHILDREN’S HOSPITAL PEDIATRIC READINESS CONTRACT STARTING JULY 2023.**

OBJECTIVE:

- To strengthen pediatric capability to care for children for Alameda County Hospitals with Pediatric readiness site visits and compliance with the state EMS for Children regulations

SHORT AND LONG -RANGE GOALS - PEDIATRIC READINESS PROJECT

- To conduct ALCO Receiving Hospital pediatric readiness and surge assessments to strengthen ED pediatric capabilities including: 1) review the site-visit self-assessment tool from the NPRP pediatric readiness project; 2) provide an ED on-site simulation training with expert feedback and a post site visit hospital specific customized reports which includes recommendations on strategies for improvement; and 3) facilitate on-going collaboration and future training with UCSF Benioff Children's Hospital and ALCO EMS.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.12 PUBLIC INPUT

MINIMUM STANDARDS:
In planning its pediatric emergency medical and critical care system, the local EMS agency shall ensure input from both pre-hospital and hospital providers and consumers.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARDS

Alameda County EMS ensures pediatric emergency care and critical care public input with receiving hospitals and EMS provider representation. Ongoing committee collaborations include: Alameda County EMS Quality Council; Emergency Medical Oversight Committee (EMOC); Receiving Hospital Committee; Trauma Audit Committee; Regional Trauma Audit Committee; Data Steering Committee; ePCR Change Committee; EMS Section Chiefs Committee; Alameda County Fire Chiefs Committee; EMSAAC/EMDAAC; CA EMS for Children TAC Committee; LEMSA EMSC, Pediatric Readiness, QI, and Surge Advisory Meeting; Western Regional Pediatric Alliance for Emergency Management (WRAP-EM), and other ad-hoc committees (i.e. ReddiNet and Association of Bay Area Health Officers (ABAHO) Workgroup Committee)

During the COVID-19 pandemic and RSV/Resp Illness Pediatric Surge events, new committees and tasks forces were developed to address the adult and pediatric emergency medical and critical care system needs. These working groups included the COVID-19 Therapeutics Group, COVID Surge Task Force, and other ad hoc groups. Most important, Alameda County EMS identified WRAP-EM Pediatric Subject Matter Experts across the country as advisors to address immediate pediatric EMS and critical surge needs. The Alameda County EMSC and HPP LEMSA Liaison facilitated the multi-state WRAP-EM Surge Group during 2021 and 2022.

NEED(S):

OBJECTIVE:

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

5.13 SPECIALTY SYSTEM DESIGN

MINIMUM STANDARDS:
Local EMS agencies developing specialty care plans for EMS-targeted clinical conditions shall determine the optimal system for the specific condition involved, including:

- The number and role of system participants,
- The design of catchment areas (including inter-county transport, as appropriate) with consideration of workload and patient mix,
- Identification of patients who should be triaged or transferred to a designated center,
- The role of non-designated hospitals including those which are outside of the primary triage area, and
- A plan for monitoring and evaluation of the system.

RECOMMENDED GUIDELINES:

- CALIFORNIA CODE OF REGULATIONS, TITLE 22. SOCIAL SECURITY

DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES, CHAPTER 7. TRAUMA CARE SYSTEMS

- California Code of Regulations, Title 22. Social Security

Division 9. Prehospital Emergency Medical Services, Chapter 7.2 Stroke Critical Care System

- California Code of Regulations, Title 22. Social Security

Division 9. Prehospital Emergency Medical Services, Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

CURRENT STATUS: MEETS MINIMUM STANDARDS:

Refer to Alameda County EMS System Plan sections and local policies/plans (compliant with current CA State Trauma, Stroke, and STEMI Regulations):

• 1.07 (Trauma Planning)	• 1.19 (Policies, Procedures, Protocols)
• 1.23 (Inter-facility Transfer)	• 1.26 (Trauma System Plan)
• 1.27 (Pediatric System Plan)	• 5.01 (Assessment of Capabilities)
• 5.04 (Specialty Care Facilities)	• 5.10 (Pediatric System Design)
• 5.13 (Specialty System Design)	• 2022 Trauma Care System Plan
• 2022 Stroke Critical Care System Plan	• 2022 STEMI Critical Care System Plan

Alameda County EMS meets minimum standards through active executed agreements with five **transporting ALS agencies/departments**:

• Falck Ambulance	• Berkeley FD
• Alameda City FD	• Albany FD
• Piedmont FD	•

Nine first responder **ALS fire departments**:

• Berkeley FD	• Alameda City FD
• Alameda County FD	• Albany FD
• Piedmont FD	• Oakland FD
• Hayward FD	• Fremont FD
• Livermore/Pleasanton FD	

TRAUMA RECEIVING CENTERS

- Alameda County EMS ensures that patients who have experienced traumatic injury are clinically assessed using CDC trauma triage criteria and transported to an EMS designated Trauma Receiving Center for specialty diagnostics and treatment.

Alameda County EMS meets minimum standards through active executed agreements (expire 6/30/24) with three EMS designated American College of Surgeons (ACS) verified (required) **Trauma Receiving Centers** (compliant with current CA State Trauma Regulations):

- Alameda Health System-Highland Hospital (Adult level-1)
- UCSF Benioff Children's Hospital (Pediatric level 1)
- Sutter Eden Medical Center (Adult level 2)

STROKE RECEIVING CENTERS

- Alameda County EMS ensures that patients who are experiencing a possible cerebral vascular accident (Stroke) on scene, detected by clinical assessment (Cincinnati Stroke Scale), are transported to an EMS designated Primary Stroke Receiving Center for specialty diagnostics and treatment: CT / CTA / CTP, and if needed, IV fibrinolytic and or transfer to a thrombectomy capable center for IR services.
- Alameda County EMS meets minimum standards through active executed agreements (expire 12/31/22) with eight EMS designated Joint Commission (JC) certified (required) **Primary Stroke Receiving Centers** (compliant with current CA State Stroke Regulations):

• Alameda Health System-Alameda Hospital	• Alta Bates Summit Medical Center
• Eden Medical Center	• Kaiser-Fremont
• Kaiser-Oakland	• Kaiser-San Leandro
• Stanford Valley Care	• Washington Hospital

STEMI / CARDIAC ARREST RECEIVING CENTERS (CARC)

- Alameda County EMS ensures that patients who are experiencing a possible ST- elevation myocardial infarction (STEMI) receive expedited specialty care. An out-of- hospital STEMI is detected by clinical exam and 12-lead electrocardiogram that is transmitted to the closest appropriate STEMI Receiving Center (SRC). The patient is then transported to that EMS designated SRC for specialty diagnostics and treatment: coronary angiogram and if needed a Primary Percutaneous Coronary Intervention (PCI).
- Alameda County EMS also ensures that patients who experience out-of-hospital cardiac arrest on scene or during transport and received attempted resuscitation with any return of spontaneous circulation (ROSC) or presented with an initial or recurrent shockable rhythm

- (VF/VT) are transported to the same EMS designated SRC/CARCs. Both STEMI and Cardiac Arrest patients are transported to an SRC/CARC since these patients frequently need common interventions.

Alameda County EMS meets minimum standards through active executed agreements (expire 12/31/2022) with seven EMS designated **STEMI/Cardiac Arrest Receiving Centers** (compliant with current CA State STEMI Regulations):

- Alameda Health System-Highland Hospital
- Alta Bates Summit Medical Center
- Kaiser-Fremont
- Kaiser-Oakland
- St. Rose Hospital
- Stanford Health Care Tri-Valley
- Washington Hospital

PEDIATRIC RECEIVING CENTERS

- The ALCO 13 Receiving Hospitals support the CA EMS for Children Regulations and ALCO Pediatric Readiness Surge Workplan
- Alameda County (ALCO) EMS is implementing the ALCO Pediatric Readiness Site Visit assessments with UCSF Benioff Children's Hospital Oakland and SF Mission Bay for all ALCO Receiving hospitals
    - The project design and methodology are aligned with and supporting the CA EMSC Regulations and the National Pediatric Readiness Project (NPRP)
    - All 13 ALCO Receiving hospitals participate in the Pediatric Readiness Site Visit project
    - Each participating hospital receives a comprehensive post site visit report with recommendations for improvement.
- ALCO Receiving hospitals (Trauma centers) are required to have pediatric readiness assessments and site visits every two years
    - Pediatric Critical Care Trauma Center – Level 1 – UCSF Benioff Children's Hospital is the designated Trauma Center

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- ALCO EMS completed the ALCO Pediatric Surge Annex to support the DPHC Coalition response plan consistent with and aligned with the CA Neonatal, OB, Pediatric Surge Annex
- ALCO EMS is implementing Pediatric System Design changes to strengthen the EMS for Children program to support the CA EMSC regulations, the CA Neonatal, OB, Pediatric Surge Annex, and the lessons learned from the 2022-23 RSV/Resp. Illness pediatric surge event.

NEED(S):

- On-going monitoring and evaluation of specialty care systems performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

OBJECTIVE:

- Continuous monitoring and evaluation of specialty care systems performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

5.14 PUBLIC INPUT

MINIMUM STANDARDS:
In planning other specialty care systems, the local EMS agency shall ensure input from both pre-hospital and hospital providers and consumers.

RECOMMENDED GUIDELINES:
California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System
Article 5. Data Management, Quality Improvement and Evaluations

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System
Article 5. Data Management, Quality Improvement and Evaluations

CURRENT STATUS: MEETS MINIMUM STANDARDS:

Refer to previous sections and local policies/plans (compliant with current CA State Trauma, Stroke, STEMI Regulations):

ALCO EMS Specialty Systems of Care Coordinator hosts three multidisciplinary meetings per year, for both STEMI and Stroke Receiving Centers in collaboration with system stakeholders, these include EMS and Specialty Care Facility personnel. (Compliant with current CA State STEMI and Stroke Regulations):

ALCO EMS Specialty Systems of Care Coordinator (STEMI and Stroke) works closely with the STEMI and Stroke Program Medical Director, Manager and Process Improvement (QA/QI) personnel, as well attends scheduled internal multidisciplinary quality oversight/improvement meetings and clinical morbidity/mortality meetings at Alameda County designated STEMI and Stroke Receiving Centers.

NEED(S):

OBJECTIVE:
Continuous monitoring and evaluation of specialty care systems performance with multidisciplinary stakeholder input for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

Table 1F: Data Collection/System Evaluation:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Universal Level					
6.01 QA/QI Program		✓	✓	✓	✓
6.02 Prehospital Records		✓		✓	✓
6.03 Prehospital Care Audits		✓		✓	✓
6.04 Medical Dispatch		✓		✓	
6.05 Data Management System*		✓		✓	✓
6.06 System Design Evaluation		✓		✓	✓
6.07 Provider Participation		✓		✓	✓
6.08 Reporting		✓		✓	✓
Enhanced Level: Advanced Life Support					
6.09 ALS Audit		✓			✓
Enhanced Level: Trauma Care System					
6.10 Trauma System Evaluation		✓			✓
6.11 Trauma System Data		✓	✓	✓	✓

6.01 QA/QI PROGRAM

MINIMUM STANDARDS:

The local EMS agency shall establish an EMS quality assurance/quality improvement (QA/QI) program to evaluate the response to emergency medical incidents and the care provided to specific patients. The programs shall address the total EMS system, including all pre-hospital provider agencies, base hospitals, and receiving hospitals. It shall address compliance with policies, procedures, and protocols, and identification of preventable morbidity and mortality, and shall utilize state standards and guidelines. The program shall use provider-based QA/QI programs and shall coordinate them with other providers.

RECOMMENDED GUIDELINES:

The local EMS agency should have the resources to evaluate response to, and the care provided to, specific patients.

CURRENT STATUS: MEETS MINIMUM STANDARD

NEED(S): Continuous quality improvement

OBJECTIVE: Our purpose is to reduce pain and suffering and improve health of our patients

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

6.02 PREHOSPITAL RECORDS

MINIMUM STANDARDS:
Pre-hospital records for all patient responses shall be completed and forwarded to appropriate agencies as defined by the local EMS agency.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

See:
1.12 (Review and Monitoring)
1.18 (QA/QI)
5.01 (Assessment of Capabilities)
6.01 (QA/QI Program)
6.03 (Prehospital Care Audits)
2022 QI PLAN

DEFINITIVE NETWORKS INCORPORATED

- Zoll legacy data hosting
- Data Analytics
- Agreement till 2024

Pre-hospital records for all patient responses shall be completed and forwarded to appropriate agencies as defined by the local EMS agency

NEED(S): Improve data entry into structured fields and improve data analytics

OBJECTIVE: Through scientific data collection and analysis, measurably assess prehospital impact on reducing pain and suffering

SHORT RANGE PLAN:
Establish various reports that assess the effect of prehospital interventions
Expand analysis of MPDS
Expand Tableau ad hoc reporting capability for EMS
Compliance monitoring
First Watch/First Pass analytics
Epidemiologist hired in 2022

SHORT and LONG RANGE PLAN:
Alameda Health Systems and St. Rose are connected to ESO prehospital data via ESO Health Data Exchange (HDE). HDE will be expanded with other hospitals to assess patient outcomes and the effect of prehospital interventions.
(Refer to 6.01 and 6.03)

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

6.03 PREHOSPITAL CARE AUDITS

MINIMUM STANDARDS:
Audits of pre-hospital care, including both system response and clinical aspects, shall be conducted.

RECOMMENDED GUIDELINES:
The local EMS agency should have a mechanism to link pre-hospital records with dispatch, emergency department, in-patient and discharge records.

CURRENT STATUS: MEETS MINIMUM STANDARD

See:
1.12 (Review and Monitoring)
1.18 (QA/QI)
5.01 (Assessment of Capabilities)
6.01 (QA/QI Program)
6.03 (Prehospital Records)
2022 QI PLAN

All Plans are Short and Long Range
Health Data Exchanges (HDE) established with St. Rose and AHS with plan to expand to other facilities
First Watch/First Pass used to assess critical bundles of care
Tableau, First Watch and ESO analytic tools in place to audit prehospital care
Monthly Base Call Reviews

NEEDS: Utilize call reviews, audits and data analysis to assess provider intervention effectiveness

OBJECTIVE: To assess and improve patient outcomes, maintain the one-stop data source for all clinical system data to better enable Alameda County EMS to conduct detailed research with FRALS and transport data integrated into the same system. This will reduce the time needed to implement queries and will also ensure that clinical data is not under or over counted due to the enhanced ability to match FRALS and transport data to one patient.

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

6.04 MEDICAL DISPATCH

MINIMUM STANDARDS:
The local EMS agency shall have a mechanism to review medical dispatching to ensure that the appropriate level of medical response is sent to each emergency and to monitor the appropriateness of pre-arrival/post dispatch directions.

Refer to previous sections, plans, and website:

• 1.12 (Review and Monitoring) Progress Update Form 2021-22 **

• 1.18 (QA/QI) Progress Update Form 2021-22 **

• 3.04 (Dispatch Center) Progress Update Form 2021-22 **

• 5.01 (Assessment of Capabilities) Progress Update Form 2021-22

• 6.01 (QA/QI Program) Progress Update Form 2021-22

• 6.04 (Prehospital Records) Progress Update Form 2021-22

• 2022 QI PLAN **

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Progress to date:

- Calls are monitored and reviewed for appropriateness.
- Alameda County EMS Agency has established and continues to facilitate the Medical Dispatch Review Committee (MDRC) comprised of representatives from ACRECC and the Oakland Fire Department Dispatch center as well as field personnel, the EMS Director, EMS Medical Director and provider agency and leadership.
- The establishment of this committee has assisted in standardizing the assignment of EMS resources throughout the county.

NEED(S):

Bi-directional computer aided dispatch communications between ACRECC and OFD dispatch centers.

Supplant medical provider at RN level or higher into the dispatch centers to assist with alternative destinations for EMS responses where an ambulance or an ED is required.

OBJECTIVE: ensure ongoing communication between FRALS, ALS, BLS/IFT, LE, and LEMSA partners

TIME FRAME FOR MEETING OBJECTIVE:

☒Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

6.05 DATA MANAGEMENT SYSTEM

MINIMUM STANDARDS:
The local EMS agency shall establish a data management system that supports its system-wide planning and evaluation (including identification of high-risk patient groups) and the QA/QI audit of the care provided to specific patients. It shall be based on state standards.

RECOMMENDED GUIDELINES:
The local EMS agency should establish an integrated data management system which includes system response and clinical (both pre-hospital and hospital) data.

The local EMS agency should use patient registries, tracer studies, and other monitoring systems to evaluate patient care at all stages of the system.

CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

CURRENT STATUS:
Refer to previous sections and local policies/plans (compliant with current CA State Trauma, Stroke, STEMI Regulations):

- 1.12 (Review and Monitoring)
- 1.18 (QA/QI)
- 5.01 (Assessment of Capabilities)
- 6.01 (QA/QI Program)
- 6.05 (Prehospital Records)
- 2022 QI PLAN
- Trauma Care Plan
- Stroke Care Plan
- STEMI Care Plan

Meets minimum standards through active executed agreements with six transporting ALS agencies/departments, ALL use ESO Solutions for ePCR platform:

- Falck Ambulance
- Berkeley FD
- Alameda City FD
- Albany FD
- Piedmont FD

Eleven first responder ALS fire departments, ALL use ESO Solutions EHR platform:

- Berkeley FD
- Alameda City FD
- Alameda County FD
- Albany FD
- Piedmont FD

- Oakland FD
- Hayward FD
- Fremont FD
- Livermore/Pleasanton FD

Trauma Receiving Centers

Meets minimum standards through active executed agreements (expire 6/30/24) with three EMS designated American College of Surgeons (ACS) verified (required) Trauma Receiving Centers (compliant with current CA State Trauma Regulations), ALL use Lancet Trauma-1 database (required for EMS designation):

- Alameda Health System-Highland Hospital (Adult level-1)
- UCSF Benioff Children's Hospital (Pediatric level 1)
- Sutter Eden Medical Center (Adult level 2)

Stroke Receiving Centers

Meets minimum standards through active executed agreements (expire 12/31/22) with eight EMS designated Joint Commission (JC) certified (required) Primary Stroke Receiving Centers (compliant with current CA State Stroke Regulations), ALL use AHA Get With The Guidelines-Stroke registry (required for EMS designation):

- Alameda Health System-Alameda Hospital
- Alta Bates Summit Medical Center
- Eden Medical Center
- Kaiser-Fremont
- Kaiser-Oakland
- Kaiser-San Leandro
- Stanford Valley Care
- Washington Hospital

STEMI / Cardiac Arrest Receiving Centers

Meets minimum standards through active executed agreements (expire 12/31/22) with seven EMS designated STEMI/Cardiac Arrest Receiving Centers (compliant with current CA State STEMI Regulations), ALL use AHA Get With The Guidelines-CAD registry for STEMI and Cardiac Arrest Registry to Enhance Survival for out-of-hospital cardiac arrest (required for EMS designation):

- Alameda Health System-Highland Hospital
- Alta Bates Summit Medical Center
- Kaiser-Fremont
- Kaiser-Oakland
- St. Rose Hospital
- Stanford Health Care Tri-Valley
- Washington Hospital

COORDINATION WITH OTHER EMS AGENCIES:

NEEDS:
Real time bi-directional Healthcare Data Exchange (HDE)

OBJECTIVE:
The purpose of this HDE initiative is to enhance continuity of care between Alameda County Emergency Medical Services (EMS) and system receiving hospitals, provide patient outcomes to EMS providers, and optimize billing practices to reduce insurance claim issues that could financially impact the patient through connecting EMS data with receiving facility data. The platform design is on an encounter specific basis to allow timely bi-directional digital sharing of information pertinent to patient demographics, billing, and clinical care.

Establishment of the HDE would allow EMS patient care reports (PCR) to be digitally transferred in the hospital data systems and subsequently into the patient's Electronic Medical Record (EMR) in either a PDF format or by populating established fields within the system as soon as they are completed by the EMS provider. In addition, patient demographics and insurance information would be shared bi-directionally to help assure that both the EMS provider and the receiving facility both have accurate information.

Clinically, beyond the transferring of information into the hospital data collection system, patient outcome information such as diagnosis, admission/discharge status and interventions can be automatically shared with the EMS care providers involved with that specific patient encounter so that they can compare against their evaluations, assessments, interventions and treatments in order to enhance their skills as a clinical provider.

Furthermore, the bi-directional sharing of information will allow for more timely and efficient collection and reporting of program specific registry data for both EMS and specialty receiving centers. Additionally, this initiative will enhance system oversight as well as future quality and process improvement strategies.

To date, ALCO EMS HDE has been established with Alameda Health System (Highland Hospital, Alameda Hospital, San Leandro Hospital, John George Psychiatric) and St. Rose Hospital, nine remaining acute care facilities to be established.

Continuous monitoring and evaluation of specialty care systems performance data for needed policy/protocol modification, with the intention to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

6.06 SYSTEM DESIGN EVALUATION

MINIMUM STANDARDS:
The local EMS agency shall establish an evaluation program to evaluate EMS system design and operations, including system effectiveness at meeting community needs, appropriateness of guidelines and standards, prevention strategies that are tailored to community needs, and assessment of resources needed to adequately support the system. This shall include structure, process, and outcome evaluations, utilizing state standards and guidelines.

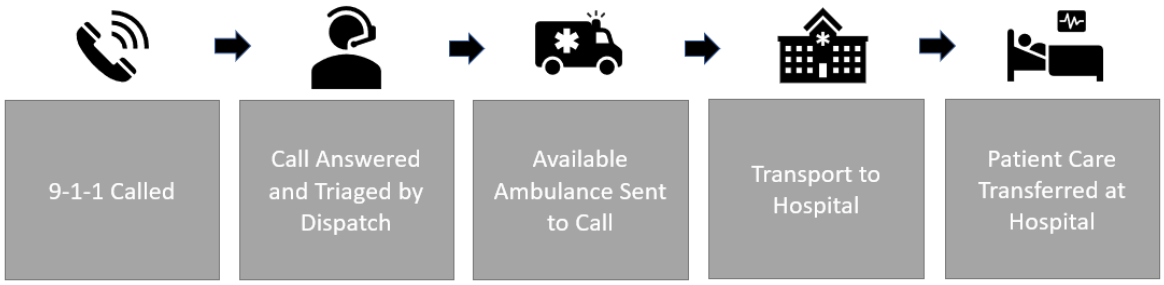
RECOMMENDED GUIDELINES: None.

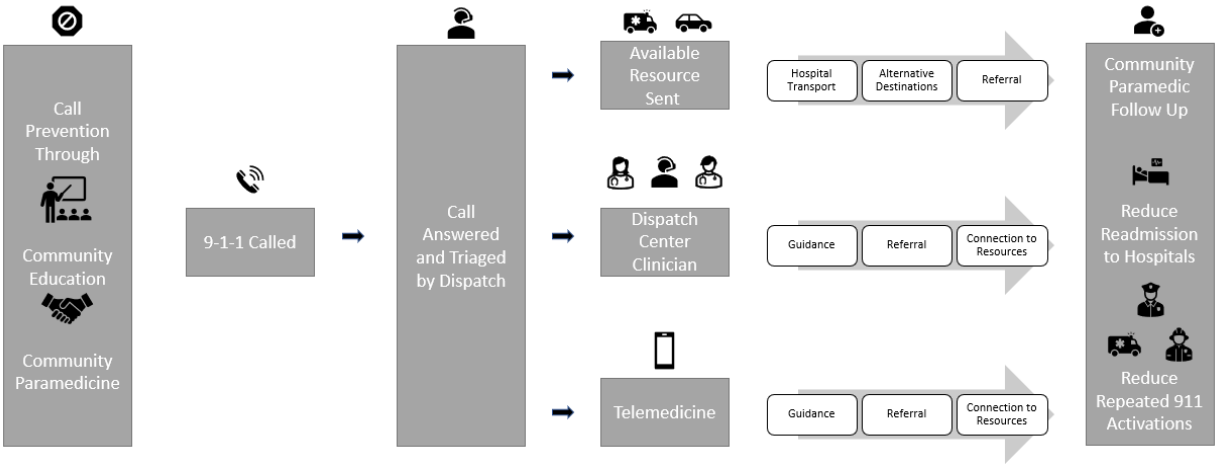
CURRENT STATUS: MEETS MINIMUM STANDARDS

Since 2019 we have been convening stakeholder meetings to inform our next RFP. Organizations have been cross-sectional and inclusive. The original stakeholder group included the LEMSA, fire departments, hospital leadership, city managers, representatives from labor, staff members from the Board of Supervisor districts, ambulance providers, and more. After those stakeholders met, the vision of the group was presented to community groups for feedback including access and functional needs communities, senior care providers, Public Health Commission, Mayors Conference, Board of Supervisors, at-large community meetings, and more.

NEED(S): Continue working with RFP consultant to evaluate system recommendations from the stakeholder group as well as incorporating the feedback from the community listening sessions.

OBJECTIVE: Use evidence-based data to develop an RFP that moves away from the single service delivery model of a call to 911 results to a transport to a hospital. It is clear that design does not deliver the best patient care or perpetuate sustainable use of resources. As the illustrations below show, we would like to move from the first design to the second.





There are many hurdles to overcome to reach this envisioned system including legislation, regulations, and funding, but there are movements in all areas in the EMS efforts that may make this envisioned system a reality in the future.

Further, there needs to be a shift away from response time compliance as many well-regarded studies have found in the majority of cases, code 3 responses do not make a difference in patient outcome and, in fact, needlessly endanger the public and our field health care providers. Clinical metrics should be the performance indicators by which we measure the success of our prehospital care.

Please also see:

- 1.12 Review and Monitoring
- 1.18 QA/QI
- 5.01 Assessment of Capabilities
- 6.01 QA/QI Program
- 2021 QI Plan

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

6.07 PROVIDER PARTICIPATION

MINIMUM STANDARDS:
The local EMS agency shall have the resources and authority to require provider participation in the system-wide evaluation program.

RECOMMENDED GUIDELINES:
CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System

California Code of Regulations Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 14. Emergency Medical Services for Children (EMSC)

CURRENT STATUS:
Refer to previous sections and local policies/plans (compliant with current CA State Trauma, Stroke, STEMI, and EMSC Regulations):

- 2022 QI PLAN
- Trauma Care Plan
- Stroke Care Plan
- STEMI Care Plan
- EMSC Care Plan

NEED(S):
System-wide evaluation of specialty care systems performances

OBJECTIVE:
Continuous monitoring and evaluation of specialty care systems performance for needed policy/protocol modification, with the intention to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

6.08 REPORTING

MINIMUM STANDARDS:
The local EMS agency shall, at least annually, report on the results of its evaluation of EMS system design and operations to the Board(s) of Supervisors, provider agencies, and Emergency Medical Care Committee(s).

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: Meets Minimum Standards

There are many ways in which we keep our stakeholders informed of our system design and operations. Below are examples:

- Publish EOA provider compliance on our EMS website
- Publish APOT data on our EMS website
- Meet regularly with the Board of Supervisors in total as well as the following subcommittees:
    - Health Committee
    - Public Protection Committee
- Meet regularly with EMS partners (monthly or quarterly)
    - Ambulance Providers (BLS and ALS)
    - STEMI Programs
    - Stroke Programs
    - Dispatch Centers
    - Receiving Hospitals
    - APOT Committee
    - EMS Quality Council
    - EMS Section Chiefs
    - Fire Chiefs

We have even engaged our stakeholders in future planning in addition to simply reporting on the current system. After Falck became the EOA ambulance provider for much of the County, the EMS Agency started stakeholder meetings the following month to begin considering our desired direction for the new system. The organizations involved included:

- Board of Supervisor Staff
- Dispatch Centers
- Ambulance Providers
- Hospital Leadership
- City Managers
- Fire Departments
- Labor Representatives for Fire and Ambulance

NEEDS: Continued collaboration with all providers in the EMS system to begin recovery from the COVID-19 pandemic, while keeping the community members and stakeholders informed.

OBJECTIVE: Continue reporting on the EMS system but look to the future collaboratively to design a system that more effectively meets the needs of our communities.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

6.09 ALS AUDIT

MINIMUM STANDARDS:
The process used to audit treatment provided by advanced life support providers shall evaluate both base hospital (or alternative base station) and pre-hospital activities.

RECOMMENDED GUIDELINES:
The local EMS agency's integrated data management system should include pre-hospital, base hospital, and receiving hospital data.

CURRENT STATUS: MEETS MINIMUM STANDARD

Audit process is defined within EMS QI Plan

Unusual Occurrence process established which can trigger an audit if warranted

All 9-1-1 providers utilize a single unified data collection system (ESO)

Routine auditing of Base Hospital use and outcomes

FirstPass being utilized by all 9-1-1 providers

NEED(S): Improve and enhance data integration, data analysis and unusual occurrence reporting processes.

Expand HDE to all receiving facilities.

Complete development and roll out of Patient Centric FirstPass which allows providers to see full continuum of care from fire first response through transport.

OBJECTIVE: Improve patient care and outcomes

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

6.10 TRAUMA SYSTEM EVALUATION

MINIMUM STANDARDS:
The local EMS agency, with participation of acute care providers, shall develop a trauma system evaluation and data collection program, including: a trauma registry, a mechanism to identify patients whose care fell outside of established criteria, and a process for identifying potential improvements to the system design and operation.

RECOMMENDED GUIDELINES:
CALIFORNIA CODE OF REGULATIONS TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS

CURRENT STATUS: MEETS MINIMUM STANDARDS,

Refer to previous sections and local policies/plans (compliant with current CA State Trauma Regulations):

- 1.07 (Trauma Planning) Form
- 1.26 (Trauma System Plan) Form
- 5.01 (Assessment of Capabilities) Form
- 5.04 (Specialty Care Facilities) Form
- 6.10 (Specialty System Design) Form
- 6.11 (Trauma Center Data) Form
- Trauma System Plan **

- Alameda County EMS participates in the scheduled internal Trauma Center (TC) system and clinical oversight committee meetings (ALL). This helps to ensure inclusive representation from the stakeholders involved with care of the trauma patient.

- The Trauma Program Coordinator for Alameda County works closely with all TC Medical Directors, Program Managers and their facilities Trauma Process Improvement Coordinator to facilitate timely case closer regarding any EMS related clinical and or operational issues that may impact patient outcomes.

- Continuous monitoring and evaluation of trauma care system performance with multidisciplinary stakeholder input for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

- Comprehensive review and evaluation of Alameda County Trauma System completed in 2022 by Bishop + Associates. Recommendation of additional trauma center within the next 5 years and earliest need for a second additional trauma center would be in 10 years.

NEED(S):
EMS Agency will work collaboratively with Washington Hospital to ensure successful ACS approval and LEMSA designation as a Level II Trauma Center within the next 5 years.

OBJECTIVES:
Continuous monitoring and evaluation of trauma care system performance with multidisciplinary stakeholder input for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

6.11 TRAUMA CENTER DATA

MINIMUM STANDARDS:
The local EMS Agency shall ensure that designated trauma centers provide required data to the EMS agency, including patient specific information that is required for quality assurance/quality improvement and system evaluation.

RECOMMENDED GUIDELINES:
The local EMS agency should seek data on trauma patients who are treated at non-trauma center hospitals and shall include this information in their QA/QI and system evaluation program.

California Code of Regulations
TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS

CURRENT STATUS: MEETS MINIMUM STANDARDS

Meets minimum standards through active executed agreements (expire 6/30/24) with three EMS designated American College of Surgeons (ACS) verified (required) Trauma Receiving Centers (compliant with current CA State Trauma Regulations), ALL use Lancet Trauma-1 database (required for EMS designation):

- Alameda Health System-Highland Hospital (Adult level-1)
- UCSF Benioff Children's Hospital Oakland (Pediatric level 1)
- Sutter Eden Medical Center (Adult level 2)

- EMS monitors current active contracts and data requirements and participates in quarterly Trauma Audit Committee (TAC) meetings.
- TAC has Implemented the use of the American College of Surgeons Trauma Quality Improvement Program (ACS TQIP®) data for TC PI.
- Ensure appropriate feedback and action taken if / when trauma patients are transported to non-trauma center hospitals.
- Continued enhancement of quality improvement programs including those associated with trauma specialty care systems
- Continue to collaborate with system stakeholders in review and revision of triage, treatment, transport, and transfer protocols regarding trauma patient care.
- Utilize TC specific as well as County and Region aggregated TQIP data to influence system change whenneeded.
- EMS reviews all pediatric trauma activations transported to adult TCs

Refer to previous sections and local policies/plans (compliant with current CA State Trauma Regulations):
- 1.07 (Trauma Planning) Progress Update Form 2018-19
- 1.26 (Trauma System Plan) Progress Update 2018-19
- 5.01 (Assessment of Capabilities) Progress Update Form 2018-19
- 5.04 (Specialty Care Facilities) Progress Update Form 2018-19 **
- 6.10 (Specialty System Design) Progress Update Form 2017-18 **
- 6.11 (Trauma Center Data) Progress Update Form 2018-19 **
- Trauma System Plan **

NEED(S):
Real time bi-directional Healthcare Data Exchange (HDE) (EMS PCR-Hospital EMR including patient outcomes)

OBJECTIVE:
Continuous monitoring and evaluation of trauma care system performance data for needed policy/protocol modification, with the intention to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

Table 1G: Public Information and Education:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Universal Level					
7.01 Public Information Materials		✓	✓		✓
7.02 Injury Control		✓	✓		✓
7.03 Disaster Preparedness		✓	✓		✓
7.04 First Aid & CPR Training		✓			✓

7.01 PUBLIC INFORMATION MATERIALS

MINIMUM STANDARDS

The local EMS agency shall promote the development and dissemination of information materials for the public that addresses: understanding of EMS system design and operation; proper access to the system; self-help (e.g., CPR, first aid, etc.); patient and consumer rights as they relate to the EMS system; health and safety habits as they relate to the prevention and education of health risks in target areas; and appropriate utilization of emergency departments.

RECOMMENDED GUIDELINES: None

CURRENT STATUS: MEETS MINIMUM STANDARDS

Information Dissemination

Alameda County EMS continues to develop and disseminate county-wide EMS information materials at community events and training programs. (Refer to Alameda County EMS Website).

The Alameda County EMS website includes:

- Information about our Agency and our Agency's roles.
- Information about the Alameda County EMS System and its components.
- Resources for providers to establish/maintain certification or licensure.
- Information for the public and current providers to obtain training
- Information on our various clinical care systems
- Stop the Bleed Campaign Page (www.youstopthebleed.org)
- Emergency Preparedness and Response resources
- EMS for Children (Emergency School Guidelines and ED Pediatric Readiness Site Visit Resources)
- Childhood and Senior Injury Prevention Information and resources

Social Media

- Alameda County EMS's Injury Prevention Program utilizes a variety of social media platforms to disseminate Childhood Injury Prevention information and notify the public of regulation changes, product recalls, special community events, and to promote information from community partners.
- In the coming year, IPP staff will collaborate with staff from the Health Care Services Agency's Public Information Office to migrate existing social media accounts into the Public Health accounts. This will provide a greater reach to community members.

Covid-19 Response

- Alameda County EMS, in conjunction with other local governmental agencies and community based organizations, was at the forefront of information dissemination during the COVID-19 Pandemic.
- EMS provided clear and consistent communication with EMS providers, local hospitals, and skilled care facilities on best practices, CDC and local health guidelines
- Many EMS staff were deployed for the County's COVID-19 response. Positions filled by EMS staff were: Resource Request Unit, Personnel Unit, Public Health liaison, Public Health DOC Director, Med/Health Branch Director, and MOHAWK. In addition to these roles, EMS also assisted in staffing the EOC Public Information lines (emails and phone calls)

NEED(S):

OBJECTIVES:

To continue with public education, awareness, and information programs, updating information on issues as they are identified through changes in laws, best practices, community meetings, and input from partner agencies.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

7.02 INJURY CONTROL

MINIMUM STANDARDS

The local EMS agency, in conjunction with other local health education programs, shall work to promote injury control and preventive medicine.

RECOMMENDED GUIDELINES

The local EMS agency should promote the development of special EMS educational programs for targeted groups at high risk of injury or illness.

CURRENT STATUS: MEETS MINIMUM STANDARD

COVID 19 Response

EMSC Coordinator was Medical Health Branch Director and supported the COVID unit, so when issues or questions arose, collaboration was key between EMSC Coordinator and IPP to disseminate information

Community Based AEDs HeartSAFE project

- Implemented new 3-year contract with Via Heart Foundation in January 2021, which replaced ICE Safety Solutions.
- Via Heart Foundation provides oversight and maintain 92 community-based AEDs

Stop the Bleed Campaign

- Continued Stop the Bleed public awareness and information campaign
- Continued work with CBOs who provide services for older adults to identify older adult patients from 911 system who may benefit from fall prevention programs

Alameda County Care Connect

- Assisted by access to Community Health Record, collaborate with community partners to develop strategies to connect high 911 utilizers with appropriate care

Assess and Refer

- Developed and implemented Assess and Refer policy for EMS system providers
- Collaborate with community partners to assist with referrals, develop care plans and standard messaging
- Continue outreach to relative stakeholders
- Continue education and training with EMS providers

Youth Alive Trauma Violence Intervention Preogram

- YOUTH ALIVE Caught in the Crossfire Trauma Violence Intervention Program contract renewed. Provides support to those physically injured by violent crime and treated at trauma centers including intervention to prevent retaliatory violence.

Childhood Injury Prevention Program

Safe Kids Alameda County

- Facilitated by Injury Prevention Program (IPP) staff, Coalition focuses on prevention of unintentional injuries to children/youth;
- Coalition members include: East Oakland Health Center, Brighter Beginnings, Alameda Health Systems (Highland Hospital), Eden-Sutter Hospital, Oakland Police Department, California Highway Patrol, UCSF Benioff Children's' Hospital Oakland, Asian Health Services, Alameda County Lead Program, Safe Routes to School, and numerous non-profit and community-based organizations
- The Coalition meets bi-monthly to share expertise, invite guest speakers and coordinate educational classes, public outreach, and community events

Child Passenger Safety

- Holds monthly Car Seat Inspection Station
- Hosts/participates in car seat check-up events with community partners such as CHP, UCSF Benioff Children's Hospital Oakland, West Oakland Health, Livermore Head Start, and many others.
- Provides training opportunities to professionals utilizing the Nationally Standardized Child Passenger Safety Technician Training Program.
- Provides a minimum of 6 units of Continuing Education to Certified Child Passenger Safety Technicians
- Continues to host Safe Kids Day. With financial support from AAA Northern California, 250 booster seats are distributed at no cost to low-income Alameda County residents.
- EMS IPP staff coordinates with Alameda County Social Services Agency to provide car seat education to newly hired social workers.

Railway Safety

- EMS IPP received grant from Safe Kids Worldwide to provide education to parents/caregivers on railway safety.

Walk to School Day

- Program continues to participate in International Walk to School Day.

Child Care Emergency Plan

- EMS for Children Coordinator is part of the California EMS for Children Technical Advisory Committee.
- Injury Prevention is inserted in the Alameda County Pediatric Surge Annex

Senior Injury Prevention Program

Senior Injury Prevention Partnership (SIPP)

- Senior Injury Prevention Partnership: Facilitated by IPP staff, Partnership focuses on prevention of unintentional injuries to seniors, age 60 plus.

- SIPP Partnership includes: Alameda County Area Agency on Aging, Vital Link, United Seniors Oakland-Alameda County, Alameda Health Systems, Eden-Sutter Hospital, Spectrum, Senior Support Services of the Tri-Valley, Sutter Health Systems; City of Fremont, St. Mary's Health Center, Life Elder Care and other community based and non-profit organizations.
- In addition to their networking and advocacy, SIPP plans and facilitates an annual statewide Senior Injury Prevention Forum.

Community Based Presentations

IPP staff conducts the following sessions for older adults in Alameda County:

- Fall Prevention Presentations were held in a virtual format.
- Emergency Preparedness Presentations were held in a virtual format.

Grant Funded, Evidence Based Falls Prevention Classes

- EMS IPP was awarded a 3-year grant from the Partners in Care Foundation to implement several evidence-based fall prevention programs.
- All classes were led in a virtual format.
    - Matter of Balance Class
    - Tai Chi for Arthritis Courses
    - Bingocize Courses
    - Tai Chi for Arthritis Coach Training
    - Matter of Balance Update Class for Coaches
    - Matter of Balance Coach Training

Community Outreach

- EMS IPP staff assisted in planning and day-of coordination of the Healthy Living Festival, sponsored by the United Seniors of Alameda County and County Supervisor Nate Miley

NEED(S):

OBJECTIVES

- Based upon quantitative and qualitative data, continue outreach to low-income, racially/ethnically diverse populations.
- Educate and advocate for the creation of appropriate legislation improving services for and safety of children and older adults
- Engage in community partnerships facilitating intervention and more comprehensive service delivery to at-risk populations to include Children, seniors, and Functional Needs; connect case managers and mental health teams).
- Work with other public and private agencies on children and older adult injury prevention concerns
- Continue collaborations with public and private agencies on children and older adult injury prevention concerns.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

7.03 DISASTER PREPAREDNESS

MINIMUM STANDARDS:
The local EMS agency, in conjunction with the local office of emergency services, shall promote citizen disaster preparedness activities.

RECOMMENDED GUIDELINES:
The local EMS agency, in conjunction with the local office of emergency services (OES), should produce and disseminate information on disaster medical preparedness.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Stop the Bleed awareness and information campaign
- Community Stop the Bleed training
- Promote volunteer participation for local disaster preparedness activities
- Collaborate with 2-1-1 for disaster messaging and training
- Collaborate with community partners and facilitate disaster preparedness training for special populations
- EMS Coordinator serves as the DHV administrator for Alameda County

NEED(S):

OBJECTIVE: Continue outreach and collaboration with community partners

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

7.04 FIRST AID & CPR TRAINING

MINIMUM STANDARDS:
The local EMS agency shall promote the availability of first aid and CPR training for the general public.

RECOMMENDED GUIDELINES:
The local EMS agency should adopt a goal for training of an appropriate percentage of the general public in first aid and CPR. A higher percentage should be achieved in high risk groups.

CURRENT STATUS: MEETS MINIMUM STANDARD

AED/Pad Program

- A new contract was implemented in October 2021 with **Via Heart Project** to manage 92 Community AEDs across the county.
    - The Via Heart Project contractor deliverables include performs site visits; replaces all community AED pads and batteries; ensure an AED coordinator has been identified at each location; and requires AED inspections tracked at each community site
    - The VIA Heart Project also tracks Alameda County EMS vehicle AEDS with required inspection checks and pad and battery replacement.
    - The VIA Heart Project offers CPR and AED training to the Alameda Community AED locations under their contract if requested. The Alameda County EMS contract with VIA Heart Project does not include the training requirement.
    - Agreement with Via Heart Project has a term of 3 years ending September 30th, 2024, at which point terms, service, and performance will be reviewed. If the VIA Heart project vendor meets the contract deliverable requirements, the contract with Alameda County EMS is anticipated to be renewed.

CPR 9

- State legislation requires ninth graders that take health science be trained in CPR as a graduation requirement. Alameda County EMS has transitioned formerly used resources for CPR 7 to support the ongoing CPR 9 efforts.
    - Select CPR 7 sites decided to keep their programs, which Alameda County EMS continues to support.

Stop the Bleed Program

- Providing training to the general public at community sites such as the Oakland Zoo

NEED(S): Continue to support community outreach and training

OBJECTIVE: Community resiliency particularly among high risk groups

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

Table 1H: Disaster Medical Response:

	Does Not Currently Meet Standard	Meets Minimum Standard	Meets Recommended Guidelines	Short-Range Plan	Long-Range Plan
Universal Level					
8.01 Disaster Medical Planning*		✓			✓
8.02 Response Plans		✓	✓	✓	✓
8.03 HazMat Training		✓			✓
8.04 Incident Command System		✓	✓		✓
8.05 Distribution of Casualties*		✓			✓
8.06 Needs Assessment		✓	✓		✓
8.07 Disaster Communications		✓			✓
8.08 Inventory of Resources		✓	✓		✓
8.09 DMAT Teams		✓	✓		✓
8.10 Mutual Aid Agreements*		✓			✓
8.11 CCP Designations*		✓			✓
8.12 Establishment of CCPs		✓			✓
8.13 Disaster Medical Training		✓	✓		✓
8.14 Hospital Plans		✓	✓	✓	✓
8.15 Interhospital Communications		✓			
8.16 Prehospital Agency Plans		✓	✓	✓	
Enhanced Level: Advanced Life Support					
8.17 ALS Policies		✓			✓
Enhanced Level: Specialty Care Systems					
8.18 Specialty Center Roles		✓		✓	✓
Enhanced Level: Exclusive Operating Areas/Ambulance Regulations					
8.19 Waiving Exclusivity		✓			✓

8.01 DISASTER MEDICAL PLANNING

MINIMUM STANDARDS:
In coordination with the local office of emergency services (OES), the local EMS agency shall participate in the development of medical response plans for catastrophic disasters, including those involving toxic substances.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- RDMHS activities
- Co-Location Project development (refer to 5.05 and 5.06)
- Chempack Program
- Coordination with county EOP
- Maintenance of inventory for all-hazards resources
- Health Emergency Preparedness and Response (HEPR) division of EMS Agency actively involved with disaster medical plan development in coordination with OES and Public Health
- Regular weekly interface with OES emergency coordination staff

NEED(S):

OBJECTIVE: Continue to strengthen and broaden partnerships and collaboration while socializing plans and updating as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.02 RESPONSE PLANS

MINIMUM STANDARDS:
Medical response plans and procedures for catastrophic disasters shall be applicable to incidents caused by a variety of hazards, including toxic substances.

RECOMMENDED GUIDELINES:
The California Office of Emergency Services' multi-hazard functional plan should serve as the model for the development of medical response plans for catastrophic disasters.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County Fire Department has a HazMat response team for any incidents involving toxic substances.

Alameda County Emergency Operations Plan outlines a multitude of different catastrophic disaster types with specific annexes focused on incident specific guidance.

Additionally, refer to the following forms within the System Plan:

- 3.06
- 4.12
- 4.15
- 5.05
- 8.01

NEED(S):

OBJECTIVE: socialize plans and update as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.03 HAZMAT TRAINING

MINIMUM STANDARDS:
All EMS providers shall be properly trained and equipped for response to hazardous materials incidents, as determined by their system role and responsibilities.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- EMS Providers are trained to HAZMAT standards according to their response roles
- Individuals who respond to and function within the Exclusion Zone (Hot Zone) or Contamination Reduction Zone (Warm Zone) must be members of **specialty trained HazMat teams**, trained in the use of self- contained breathing apparatus, selection of appropriate chemical protective suits and how to function in them. Other rescuers should be trained in accordance with Federal OSHA standards in OSHA 29 CFR 190.120 and California OSHA as defined in the California Code of Regulations, Title 8, Section 5192." (Refer to Alameda County EMS Field Manual). Nearly all public safety providers have received HazMat training in at least the **"First Responder Awareness Level."** Many firefighter personnel trained to the first responder level.

NEED(S):

OBJECTIVE: Update plans and training as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.04 INCIDENT COMMAND SYSTEM

MINIMUM STANDARDS:

Medical response plans and procedures for catastrophic disasters shall use the Incident Command System (ICS) as the basis for field management.

RECOMMENDED GUIDELINES:

The local EMS agency should ensure that ICS training is provided for all medical providers.

CURRENT STATUS: MEETS MINIMUM STANDARD

Provider contracts require ICS 100, 200, 700, and 800b for all field level personnel. Leadership is required to have ICS 300 and 400.

ICS and SEMS are leveraged during local, regional, state, and federal disasters.

All disaster plans utilize ICS as the basis for incident management.

NEED(S):

OBJECTIVE: Test and update plans as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.05 DISTRIBUTION OF CASUALTIES

MINIMUM STANDARDS:
The local EMS agency, using state guidelines, shall establish written procedures for distributing disaster casualties to the medically most appropriate facilities in its service area.

RECOMMENDED GUIDELINES:
The local EMS agency, using state guidelines, and in consultation with Regional Poison Centers, should identify hospitals with special facilities and capabilities for receipt and treatment of patients with radiation and chemical contamination and injuries.

CURRENT STATUS: MEETS MINIMUM STANDARD

- The Alameda County EMS Field Manual provides guidance on first round patient distribution for multicausality events.
- ReddiNet is leveraged for facility polling in order to aid in destination decisions.
- Larger scale events would engage the EMS Duty Officer, MHOAC or RDMHSs if broader distribution outside of our county was required.
- Also refer to the following forms within the System Plan:
  - 4.12
  - 4.15
  - 5.05
  - 5.06

NEED(S):

OBJECTIVE: Continue to socialize plans, test and update as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.06 NEEDS ASSESSMENT

MINIMUM STANDARDS:
The local EMS agency, using state guidelines, shall establish written procedures for early assessment of needs and shall establish a means for communicating emergency requests to the state and other jurisdictions.

RECOMMENDED GUIDELINES:
The local EMS agency's procedures for determining necessary outside assistance should be exercised yearly.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Alameda County EMS has a web-based ordering platform for requesting of PPE and other resources. Additionally, an electronic resource request form is available for medical/health partners to communicate their needs.
- Salesforce is leveraged for any requests that cannot be satisfied within our County so that they can be sourced at either the regional, state, or federal level.
- During significant incidents or disasters electronic SitStat forms are requested for situational awareness and to assist in anticipating any needs that my arise.
- ReddiNet is also utilized for facility communications – using either messaging or polling functionality.
- Also refer to the following forms within the System Plan:
    - 3.06
    - 4.12
    - 8.07

NEED(S):

OBJECTIVE: socialize, test, and update plans as needed

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

8.07 DISASTER COMMUNICATIONS

MINIMUM STANDARDS:

A specific frequency (e.g., CALCORD) or frequencies shall be identified for interagency communication and coordination during a disaster.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- East Bay Regional Communication System (EBRCS) and Alameda County Regional Emergency Communication Center (ACRECC) would be utilized for disaster communications.
    - During a large scale incident ACRECC can assign a TAC channel specific to the event or patch multiple channels together so that they can be leveraged across disciplines – Fire, Ambulance, and others.
- CALCORD is leveraged for all air ambulance communications.
- Additionally, communications can occur through ReddiNet as well as Med1@acgov.org which is an email address created for the sole purpose of disaster communications with Alameda County EMS or the Medical/Health Branch of the County EOC which EMS operates when activated.

NEED(S):

OBJECTIVE: regular training, testing and updating communications with partners

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

8.08 INVENTORY OF RESOURCES

MINIMUM STANDARDS:
The local EMS agency, in cooperation with the local OES, shall develop an inventory of appropriate disaster medical resources to respond to multi-casualty incidents and disasters likely to occur in its service area.

RECOMMENDED GUIDELINES:
The local EMS agency should ensure that emergency medical providers and health care facilities have written agreements with anticipated providers of disaster medical resources.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Alameda County EMS maintains open and consistent communication regarding available and deployable disaster resources with OES, Social Services, and other County agencies.
- Alameda County EMS has been operating a PPE warehouse since the onset of the pandemic and maintains meticulous records of inventory utlizing Operative IQ software.
- Alameda County EMS has communicated with state disaster warehousing to share best practices.
- Alameda County EMS is integrating all-hazard disaster supplies into existing PPE cache while transitioning into a larger warehouse space. EMS's warehouse is moving from a 10.000 sq. ft. warehouse in Dublin to a 20,000 sq. ft. warehouse in San Leandro. All equipment and supply inventories, both durable and non-durable, are maintained in the Operative IQ system.
- A second full time employee is being onboarded to assist with inventory and warehouse management.

NEED(S):

OBJECTIVE: Update and maintain inventories of disaster medical resources

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.09 DMAT TEAMS

MINIMUM STANDARDS:
The local EMS agency shall establish and maintain relationships with DMAT teams in its area.

RECOMMENDED GUIDELINES:
The local EMS agency should support the development and maintenance of DMAT teams in its area.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Alameda County supports the Region II DMAT teams with other Bay Area Counties.

- Additionally, two staff members from the EMS Agency, an EMS Coordinator and our Medical Director, are active DMAT team member. They are actively supported to attend trainings and deployments as needed.

NEED(S): None noted

OBJECTIVE: continue outreach, support and partnership building

TIME FRAME FOR MEETING OBJECTIVE:
- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.10 MUTUAL AID AGREEMENTS

MINIMUM STANDARDS:
The local EMS agency shall ensure the existence of medical mutual aid agreements with other counties in its OES region and elsewhere, as needed, that ensure sufficient emergency medical response and transport vehicles, and other relevant resources will be made available during significant medical incidents and during periods of extraordinary system demand.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Alameda County EMS currently serves as the RDMHS for Region II
- RDMHS facilitated signed Mutual Support Agreements with majority of Region II operational areas
- In a disaster and/or mutual aid event, Alameda County EMS supports the Alameda County Emergency Operations Plan and the California Medical/Health Emergency Operations Manual consistent with SEMS.

NEED(S):

OBJECTIVE: Encourage signing of mutual aid (mutual support) agreement with remaining Region II counties

TIME FRAME FOR MEETING OBJECTIVE:

☐ Short-Range Plan (one year or less)
☒ Long-Range Plan (more than one year)

8.11 CCP DESIGNATION

MINIMUM STANDARDS:
The local EMS agency, in coordination with the local OES and county health officer(s), and using state guidelines, shall designate Field Treatment Sites (FTS).

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- Developed Co-Location Framework (refer to 5.05)

COORDINATION WITH OTHER EMS AGENCIES:

- Inclusion of advanced and basic life support transport agencies
- Inclusion of local fire departments

NEED(S):

OBJECTIVE: Continue outreach, planning, education and training with community stakeholders

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.12 ESTABLISHMENT OF CCP

MINIMUM STANDARDS:
The local EMS agency, in coordination with the local OES, shall develop plans for establishing Casualty Collection Points (CCP) and a means for communicating with them.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

- CCP generally are established specific to each incident depending on accessibility, size of incident, any hazards or safety concerns.
- For large scale disaster the Co-Location Framework exists which pairs an EMS resource with a clinic to expand care for low acuity patients. Communication is facilitated through EMS provider radios on EBRCS.
- Also refer to the following forms in the Table 1 section of the EMS System Plan:
  - 3.06
  - 4.12
  - 4.15
  - 5.05
  - 8.07
  - 8.11

NEED(S):

OBJECTIVE: Continue socializing, testing, and updating plans as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.13 DISASTER MEDICAL TRAINING

MINIMUM STANDARDS:
The local EMS agency shall review the disaster medical training of EMS responders in its service area, including the proper management of casualties exposed to and/or contaminated by toxic or radioactive substances.

RECOMMENDED GUIDELINES:
The local EMS agency should ensure that EMS responders are appropriately trained in disaster response, including the proper management of casualties exposed to or contaminated by toxic or radioactive substances.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County EMS regularly conducts exercises in partnership with allied agencies to review and refresh disaster medical training and management of casualties. Additionally, guidance is contained within the MHOAC manual, the Alameda County EOP and the Alameda County EMS Field Manual.

Also refer to the following forms in the EMS System Plan:
- 4.12
- 4.14
- 4.15
- 8.03
- 8.04
- 8.05

NEED(S):

OBJECTIVE: continue to socialize, test, and update plans as needed

TIME FRAME FOR MEETING OBJECTIVE:
- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.14 HOSPITAL PLANS

MINIMUM STANDARDS:
The local EMS agency shall encourage all hospitals to ensure that their plans for internal and external disasters are fully integrated with the county's medical response plan(s).

RECOMMENDED GUIDELINES:
At least one disaster drill per year conducted by each hospital should involve other hospitals, the local EMS agency, and pre-hospital medical care agencies.

CURRENT STATUS: MEETS MINIMUM STANDARD

Alameda County EMS actively involves facilities in exercises, trainings, and drills to ensure continuity of care and mutual understanding between pre-hospital and in-hospital providers.

Example of exercises include:

- WRAP-EM Exercise – Held on 1/26/2023
- Medical Response Surge Exercise (MRSE) – Planned for 3/15/2023

When unusual occurrences arise at facilities, EMS Duty Officers engage with the facility to have situational awareness of mitigation and preventative measures and will facilitate an after action and continuity of operations plan review when appropriate.

Additionally, refer to the following forms in the EMS System Plan:

- 4.15
- 5.05
- 5.06

NEED(S):

OBJECTIVE: Continue reviewing, validating, testing, and updating plans as needed

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.15 INTERHOSPITAL COMMUNICATIONS

MINIMUM STANDARDS:
The local EMS agency shall ensure that there is an emergency system for inter-hospital communications, including operational procedures.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEET MINIMUM STANDARD

- All receiving hospitals and transport providers (9-1-1 and non-9-1-1)have ReddiNet capabilities. ReddiNet is continually monitored.
- All receiving hospitals have portable radios and/or base radios with the current EBRCS programing installed.
- Periodic radio tests are performed
- Med1 – (alameda county EMS disaster email)
- Ac alert - mass notification (Everbridge system customized for alameda county; hosted by alameda county officer of homeland security and emergency services)
- WebEOC and Veoci – ALCO OES
- Ham radios
- CAHAN – Ron Seitz is the primary CAHAN coordinator for EMS
- Cell phones
- Remote HCF Conference Calls via Teams, Zoom, or other similar platform
- Social media

POLICIES/PROCEDURES

- Hospital responsibilities (receiving hospital responsibilities)
- ReddiNet utilization policy

NEED(S):

OBJECTIVE: monitor for compliance with continued radio tests. Continue ReddiNet training. Include ReddiNet use in drills.

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☐ Long-Range Plan (more than one year)

8.16 PREHOSPITAL AGENCY PLANS

MINIMUM STANDARDS:
The local EMS agency shall ensure that all pre-hospital medical response agencies and acute-care hospitals in its service area, in cooperation with other local disaster medical response agencies, have developed guidelines for the management of significant medical incidents and have trained their staffs in their use.

RECOMMENDED GUIDELINES:
The local EMS agency should ensure the availability of training in management of significant medical incidents for all pre-hospital medical response agencies and acute-care hospital staffs in its service area.

CURRENT STATUS: MEETS MINIMUM STANDARD

All providers in the Alameda County EMS System have been trained in ICS, involved in disaster exercises, and are familiar with the MCI Plan as well as all Alameda County EMS Field Protocols.

Additionally, COVID-19, as well as the RSV/Pediatric respiratory illness surge event, has provided ample opportunity to exercise disaster response in many different mediums to include assessing situational status, polling of facilities, testing, vaccination, and emerging infectious disease response.

Also refer to the following forms in the EMS System Plan:

- 3.06
- 4.14
- 4.15
- 5.05
- 5.06
- 8.02
- 8.03
- 8.04
- 8.05
- 8.14

- Promote disaster related training provided by the Urban Area Security Initiative Bay Area Training and Exercise Program (UASI BATEP)

- Promote pediatric training through the Hospital Pediatric Readiness and Surge Project and WRAP-EM.

NEED(S):

OBJECTIVE: Continue promotion and facilitation of disaster related education and training

TIME FRAME FOR MEETING OBJECTIVE:

☒ Short-Range Plan (one year or less)
☐ Long-Range Plan (more than one year)

8.17 ALS POLICIES

MINIMUM STANDARDS:
The local EMS agency shall ensure that policies and procedures allow advanced life support personnel and mutual aid responders from other EMS systems to respond and function during significant medical incidents.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

EMS FIELD MANUAL-

- 2021-2022 updates Implemented as of January 2022
- Refer to Alameda County EMS website.
  - http://ems.acgov.org/ClinicalProcedures/FieldTreatmtProtocols.page?
  - https://ems.acgov.org/ems-assets/docs/Clinical/Field%20Protocols/2022%20FM/ACEMS_FM_2022%20-%20FINAL.pdf

EMERGENCY PLANS
The Alameda County emergency plans that address mutual aid for ALS providers include:

- ALAMEDA COUNTY EMS SURGE PLAN
- ALAMEDA COUNTY EMERGENCY OPERATIONS PLAN
- ALAMEDA COUNTY MHOAC MANUAL
- EMS AND CLINIC FIELD TREATMENT SITE CO-LOCATION Project
- ALCO PEDIATRIC SURGE ANNEX
- CA MEDICAL HEALTH EOM AND PATIENT MOVEMENT PLAN

NEED(S):

OBJECTIVE:

The local EMS agency shall ensure that policies and procedures allow advanced life support personnel and mutual aid responders from other EMS systems to respond and function during significant medical incidents.

- Ensure EMS has policies and procedures to allow advanced life support personnel and mutual aid responders to be sent and received.
- Develop a Mass Gathering Event policy to provide better guidelines for medical personnel called to the scene of these events.
- Develop a Pediatric Response Coalition Plan with patient movement plan and / or policy consistent with California Patient Movement Plan (including the updating the ALCO Pediatric Surge Annex as needed)

TIME FRAME FOR MEETING OBJECTIVE:

- ☐ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.18 SPECIALTY CENTER ROLES

MINIMUM STANDARDS:
Local EMS agencies developing trauma or other specialty care systems shall determine the role of identified specialty centers during a significant medical incident and the impact of such incidents on day-to-day triage procedures.

RECOMMENDED GUIDELINES:
Alameda County EMS will ensure that policies and procedures identify roles and responsibilities for significant MCIs, Surge, and disaster events for specialty centers including disaster communications.

CALIFORNIA CODE OF REGULATIONS
TITLE 22. SOCIAL SECURITY
DIVISION 9. PREHOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 7. TRAUMA CARE SYSTEMS

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 14. Emergency Medical Services for Children (EMSC)

CURRENT STATUS: MEETS MINIMUM STANDARDS:

Refer to previous sections and local policies/plans (compliant with current CA State Trauma, Stroke, STEMI, and EMSC Regulations):
For specialty centers, relevant policies and plans that include disaster provisions are listed below:

- EMS Surge Plan
- EMS Field Manual – MCI Policy; CHEMPACK Deployment
- EMS Administration Policies – Operations: Census Reporting; ReddiNet Utilization
- EMS Administrative Policies - Programs
- EMS Operations Policies
- Alameda County Emergency Operations Plan
- Alameda County MHOAC Manual (Alameda County DMOP and Medical Surge Plan now integrated in MHOAC Manual and Disaster Preparedness Health Coalition Response Plan).
- Alameda County Trauma Plan
- 700/800 Megahertz EBRCSA Radio Policy
- California Medical/Health EOM – New Attachments (MHOAC Program)
- California Patient Movement Plan (Including the CA Perinatal, Neonatal and Pediatric Surge Annex)

<u>Trauma Receiving Centers</u>

- Alameda County EMS ensures that patients who have experienced traumatic injury are clinically assessed using CDC trauma triage criteria and transported to an EMS designated Trauma Receiving Center for specialty diagnostics and treatment.

Meets minimum standards through active executed agreements (expire 6/30/24) with three EMS designated American College of Surgeons (ACS) verified (required) Trauma Receiving Centers (compliant with current CA State Trauma Regulations):

- Alameda Health System-Highland Hospital (Adult level-1)
- UCSF Benioff Children's Hospital Oakland (Pediatric level 1)
- Sutter Eden Medical Center (Adult level 2)

STROKE RECEIVING CENTERS

- Alameda County EMS ensures that patients who are experiencing a possible cerebral vascular accident (Stroke) on scene, detected by clinical assessment (Cincinnati Stroke Scale), are transported to an EMS designated Primary Stroke Receiving Center for specialty diagnostics and treatment: CT / CTA / CTP, and if needed, IV fibrinolytic and or transfer to a thrombectomy capable center for IR services.

Meets minimum standards through active executed agreements (expire 12/31/22) with eight EMS designated Joint Commission (JC) certified (required) Primary Stroke Receiving Centers (compliant with current CA State Stroke Regulations):

- Alameda Health System-Alameda Hospital
- Alta Bates Summit Medical Center
- Eden Medical Center
- Kaiser-Fremont
- Kaiser-Oakland
- Kaiser-San Leandro
- Stanford Health Care Tri-Valley
- Washington Hospital

STEMI / CARDIAC ARREST RECEIVING CENTERS (CARC)

- Alameda County EMS ensures that patients who are experiencing a possible ST- elevation myocardial infarction (STEMI) receive expedited specialty care. An out-of- hospital STEMI is detected by clinical exam and 12-lead electrocardiogram that is transmitted to the closest appropriate STEMI Receiving Center (SRC). The patient is then transported to that EMS designated SRC for specialty diagnostics and treatment: coronary angiogram and if needed a Primary Percutaneous Coronary Intervention (PCI).

- Alameda County EMS also ensures that patients who experience out-of-hospital cardiac arrest on scene or during transport and received attempted resuscitation with any return of spontaneous circulation (ROSC) or presented with an initial or recurrent shockable rhythm (VF/VT) are transported to the same EMS designated SRC/CARCs. Both STEMI and Cardiac Arrest patients are transported to an SRC/CARC since these patients frequently need common interventions.

Meets minimum standards through active executed agreements (expire 12/31/22) with seven EMS designated STEMI/Cardiac Arrest Receiving Centers (compliant with current CA State STEMI Regulations):

- Alameda Health System-Highland Hospital
- Alta Bates Summit Medical Center
- Kaiser-Fremont
- Kaiser-Oakland

- St. Rose Hospital
- Stanford Health Care Tri-Valley
- Washington Hospital

NEED(S):

OBJECTIVE:
Continuous monitoring and evaluation of specialty care system performance for needed policy/protocol modification to improve system operations, quality/continuity of care, and optimize patient outcomes.

TIME FRAME FOR MEETING OBJECTIVE:

- ☒ Short-Range Plan (one year or less)
- ☒ Long-Range Plan (more than one year)

8.19 WAIVING EXCLUSIVITY

MINIMUM STANDARDS:

Local EMS agencies which grant exclusive operating permits shall ensure that a process exists to waive the exclusivity in the event of a significant medical incident.

RECOMMENDED GUIDELINES: None.

CURRENT STATUS: MEETS MINIMUM STANDARD

Pursuant to Section 1797.224 of the California Health and Safety Code, ALCO EMS has established 5 exclusive operating areas (EOAs) for 9-1-1 ambulance transport services.

Four of the EOAs are granted through an exclusive non-competitive process due to grandfathering city fire departments that provided ambulance services prior to The Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act of 1980. The four grandfather EOAs are the city of Alameda, the city of Albany, the city of Berkeley, and the city of Piedmont. The city of Berkeley EOA includes the state property of UC Berkeley and the federal property at Lawrence Berkeley Lab.

The fifth EOA encompasses the remainder of Alameda County and is granted through an exclusive competitive process. This EOA was last competitively bid in 2018 with the winning contractor implementing service in July of 2019. The current contractor has been awarded the EOA for a 5-year term ending in June of 2024.

In the provider agreement for the competitively bid EOA, there are provisions which allow the EMS Director to waive or suspend exclusivity in the event of a disaster or significant medical event. Provisions are in Section 3.5 of the private 9-1-1 ambulance transport agreement. The process and ability to waive or suspend exclusivity in the grandfathered non-competitive process EOAs does not exist.

NEED(S):

Competitively bid EOA has existing process. No need at this time.

OBJECTIVE:

Maintain process in future agreements.

TIME FRAME FOR MEETING OBJECTIVE:

☐Short-Range Plan (one year or less)
☒Long-Range Plan (more than one year)

Table 2: System Organization and Management-Budget - 2021:

Reporting Year: 2021

NOTE: Number (1) below is to be completed for each county. The balance of Table 2 refers to each agency.

1. Percentage of population served by each level of care by county:
(Identify for the maximum level of service offered; the total of a, b, and c should equal 100%.)

County: Alameda County

A. Basic Life Support (BLS)		0%
B. Limited Advanced Life Support (LALS)		0%
C: Advanced Life Support (ALS)		**100%**
	TOTAL	100%

2. Type of agency:

A. Public Health Department
B. County Health Services Agency
C. Other (non-health) County Department
D. Joint Powers Agency
E. Private Non-Profit Entity
F. Other _____

3. The person responsible for day-to-day operations of the EMS agency reports to:

A. Public Health Officer
B. Health Services Agency Director/Administrator
C. Board of Directors
D. Other _____

4. Indicate the non-required functions which are performed by the agency:

Implementation of Exclusive Operating Areas (Ambulance Franchising)	Yes
Designation of Trauma Centers/Trauma Care System Planning	Yes
Designation/Approval of Pediatric Facilities	Yes
Designation of Other Critical Care Centers	Yes
Development of Transfer Agreements	No
Enforcement of Local Ambulance Ordinance	Yes
Enforcement of Ambulance Service Contracts	Yes

Operation of Ambulance Service	No
Continuing Education	Yes
Personnel Training	Yes
Operation or Oversight of EMS Dispatch Center	Yes
Non-medical Disaster Planning	Yes
Administration of Critical Incident Stress Debriefing Team (CISD)	No
Administration of Disaster Medical Assistance Team (DMAT)	No
Administration of EMS Fund [Senate Bill (SB) 12/612]	No
Other:	N/A
Other:	N/A
Other:	N/A

5. EXPENSES

Salaries and Benefits (All but Contracted Personnel)	$	4,534,654
Contract Services (e.g. Medical Director)	$	-
Operations (e.g. copying, postage, facilities)	$	2,198,534
Travel	$	5,000
Fixed Assets	$	-
Indirect Expenses (Overhead)	$	1,579,308
Subsidies (Ambulance & Fire Dept First Responder Pass Thru)	$	-
EMS Fund Payments to Physicians/Hospital	$	9,241,343
Dispatch Center Operations (Non-Staff)	$	3,744,580
Training Program Operations	$	-
Other:	$	-
Other:	$	-
Other:	$	-
TOTAL EXPENSES	$	21,303,419

6. SOURCES OF REVENUE

Special Project Grant(s) [from EMSA]	$	-
Preventative Health and Health Services (PHHS) Block Grant	$	-
Office of Traffic Safety (OTS)	$	-
State General Fund	$	-
County General Fund	$	-
Other Local Tax Funds (e.g. EMS District)	$	21,116,480
County Contracts (e.g. Multi-County Agencies)	$	-
Certification Fees	$	-
Training Program Approval Fees	$	-

Training Program Tuition/Average Daily Attendance Funds	$	-
Job Training Partnership Act (JTPA) Funds/Other Payments	$	-
Base Hospital Application Fees	$	-
Trauma Center Application Fees	$	-
Trauma Center Designation Fees	$	-
Pediatric Facility Approval Fees	$	-
Pediatric Facility Designation Fees	$	-
Other Critical Care Center Application Fees	$	-
Other Critical Care Center Designation Fees	$	-
Ambulance Service/Vehicle Fees	$	-
Contributions	$	-
Other: Ambulance Response Time Penalties	$	-
Other: County Health Tax Subsidy	$	-
Other: Refunds from Prior Overpayment	$	-
Other: Grants/Donations	$	-
Other: Use of Available Fund Balance	$	176,939
Other: Interest	$	10,000
TOTAL REVENUE	$	21,303,419

TOTAL REVENUE SHOULD EQUAL TOTAL EXPENSES. IF THEY DON'T, PLEASE EXPLAIN.

7. Fee Structure

A: We Do Not Charge Any Fees

B: Our Fee Structure is:

First Responder Certification		N/A
EMS Dispatcher Certification		N/A
EMT-I Certification	$	140
EMT-I Recertification	$	102
EMT-Defibrillation Certification		N/A
EMT-Defibrillation Recertification		N/A
AEMT Certification		N/A
AEMT Recertification		N/A
EMT-P Accreditation	$	100
Mobile Intensive Care Nurse/Authorized RN Certification		N/A
MICN/ARN Recertification		N/A
EMT-I Training Program Approval	$	3,000
* By Agencies of Government, Hospitals, Colleges	$	1,500
AEMT Training Program Approval		N/A

EMT-P Training Program Approval	$	4,500
* By Agencies of Government, Hospitals, Colleges	$	2,250
MICN/ARN Training Program Approval		N/A
Base Hospital Application		N/A
Base Hospital Designation		N/A
Trauma Center Application		N/A
Trauma Center Designation		N/A
Pediatric Facility Approval		N/A
Pediatric Facility Designation		N/A
Other Critical Care Center Application		N/A
Other Critical Care Center Designation		N/A
Ambulance Service License (Biennial)	$	3,000
Ambulance Vehicle Permits	$	250
Public Safety First Aid	$	3,000
* By Agencies of Government	$	1,500
Other:		N/A

Table 2: System Organization and Management-Budget - 2022:

Reporting Year: 2022

NOTE: Number (1) below is to be completed for each county. The balance of Table 2 refers to each agency.

1. Percentage of population served by each level of care by county:
(Identify for the maximum level of service offered; the total of a, b, and c should equal 100%.)

County: Alameda County

A. Basic Life Support (BLS)		0%
B. Limited Advanced Life Support (LALS)		0%
C: Advanced Life Support (ALS)		**100%**
	TOTAL	100%

2. Type of agency:

A. Public Health Department
B. County Health Services Agency
C. Other (non-health) County Department
D. Joint Powers Agency
E. Private Non-Profit Entity
F. Other _____

3. The person responsible for day-to-day operations of the EMS agency reports to:

A. Public Health Officer
B. Health Services Agency Director/Administrator
C. Board of Directors
D. Other _____

4. Indicate the non-required functions which are performed by the agency:

Implementation of Exclusive Operating Areas (Ambulance Franchising)	Yes
Designation of Trauma Centers/Trauma Care System Planning	Yes
Designation/Approval of Pediatric Facilities	Yes
Designation of Other Critical Care Centers	Yes
Development of Transfer Agreements	No
Enforcement of Local Ambulance Ordinance	Yes
Enforcement of Ambulance Service Contracts	Yes
Operation of Ambulance Service	No
Continuing Education	Yes

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY **Colleen Chawla**, HCSA Director

Emergency Medical Services Agency
1000 San Leandro Blvd, Suite 200
San Leandro, CA 94577

Lauri McFadden, EMS Director
Zita Konik, MD, Medical Director
Main: (510) 618-2050
Fax: (510) 618-2099

Personnel Training	Yes
Operation or Oversight of EMS Dispatch Center	Yes
Non-medical Disaster Planning	Yes
Administration of Critical Incident Stress Debriefing Team (CISD)	No
Administration of Disaster Medical Assistance Team (DMAT)	No
Administration of EMS Fund [Senate Bill (SB) 12/612]	No
Other: _____	N/A
Other: _____	N/A
Other: _____	N/A

5. EXPENSES

Salaries and Benefits (All but Contracted Personnel)	$	5,326,830
Contract Services (e.g. Medical Director)	$	-
Operations (e.g. copying, postage, facilities)	$	3,288,748
Travel	$	5,000
Fixed Assets	$	-
Indirect Expenses (Overhead)	$	2,381,507
Subsidies (Ambulance & Fire Dept First Responder Pass Thru)	$	-
EMS Fund Payments to Physicians/Hospital	$	9,231,343
Dispatch Center Operations (Non-Staff)	$	3,931,255
Training Program Operations	$	-
Other: _____	$	-
Other: _____	$	-
Other: _____	$	-
TOTAL EXPENSES	$	24,164,683

6. SOURCES OF REVENUE

Special Project Grant(s) [from EMSA]	$	-
Preventative Health and Health Services (PHHS) Block Grant	$	-
Office of Traffic Safety (OTS)	$	-
State General Fund	$	-
County General Fund	$	-
Other Local Tax Funds (e.g. EMS District)	$	24,062,748

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY **Colleen Chawla**, HCSA Director

Emergency Medical Services Agency
1000 San Leandro Blvd, Suite 200
San Leandro, CA 94577

Lauri McFadden, EMS Director
Zita Konik, MD, Medical Director
Main: (510) 618-2050
Fax: (510) 618-2099

County Contracts (e.g. Multi-County Agencies)	$	-
Certification Fees	$	-
Training Program Approval Fees	$	-
Training Program Tuition/Average Daily Attendance Funds	$	-
Job Training Partnership Act (JTPA) Funds/Other Payments	$	-
Base Hospital Application Fees	$	-
Trauma Center Application Fees	$	-
Trauma Center Designation Fees	$	-
Pediatric Facility Approval Fees	$	-
Pediatric Facility Designation Fees	$	-
Other Critical Care Center Application Fees	$	-
Other Critical Care Center Designation Fees	$	-
Ambulance Service/Vehicle Fees	$	-
Contributions	$	-
Other: Ambulance Response Time Penalties	$	-
Other: County Health Tax Subsidy	$	-
Other: Refunds from Prior Overpayment	$	-
Other: Grants/Donations	$	-
Other: Use of Available Fund Balance	$	91,935
Other: Interest	$	10,000
TOTAL REVENUE	$	24,164,683

TOTAL REVENUE SHOULD EQUAL TOTAL EXPENSES. IF THEY DON'T, PLEASE EXPLAIN.

7. Fee Structure

A: We Do Not Charge Any Fees

B: Our Fee Structure is:

First Responder Certification		N/A
EMS Dispatcher Certification		N/A
EMT-I Certification	$	140
EMT-I Recertification	$	102
EMT-Defibrillation Certification		N/A
EMT-Defibrillation Recertification		N/A

AEMT Certification	N/A
AEMT Recertification	N/A
EMT-P Accreditation	$ 100
Mobile Intensive Care Nurse/Authorized RN Certification	N/A
MICN/ARN Recertification	N/A
EMT-I Training Program Approval	$ 3,000
* By Agencies of Government, Hospitals, Colleges	$ 1,500
AEMT Training Program Approval	N/A
EMT-P Training Program Approval	$ 4,500
* By Agencies of Government, Hospitals, Colleges	$ 2,250
MICN/ARN Training Program Approval	N/A
Base Hospital Application	N/A
Base Hospital Designation	N/A
Trauma Center Application	N/A
Trauma Center Designation	N/A
Pediatric Facility Approval	N/A
Pediatric Facility Designation	N/A
Other Critical Care Center Application	N/A
Other Critical Care Center Designation	N/A
Ambulance Service License (Biennial)	$ 3,000
Ambulance Vehicle Permits	$ 250
Public Safety First Aid	$ 3,000
* By Agencies of Government	$ 1,500
Other:	N/A

Table 2: System Organization and Management-Positions – 2021/2022:

CATEGORY	ACTUAL TITLE	FTE (EMS ONLY)	TOP SALARY (HRLY EQ)	BENEFITS (% Salary)	COMMENTS
EMS Admin./ Coord./Director	EMS Director	1	$89.01	N/A	
Asst. Admin./ Admin. Asst ./ Admin. Mgr.	EMS Deputy Director	1	$77.11		
Asst. Admin./ Admin. Asst ./ Admin. Mgr.	Retired Annuitant II	1	TBD		Vacant (1)
Operations & Regulatory Compliance	EMS Coordinator	5	$69.22		
Clinical Systems of Care	Physician IV	2	$142.34		Medical Director & Deputy Medical Director
Clinical Systems of Care	EMS Coordinator	2	$69.22		
Clinical Systems of Care	Epidemiologist II	1	$54.00		
Strategic & Specialized Response	Supervising Prehospital Care Coordinator	1	$73.34		MHOAC
Strategic & Specialized Response	EMS Coordinator	4	$69.22		RDMHS (2) EMSC (1)
Strategic & Specialized Response	Program Services Coordinator	1	$54.36		Warehouse Operations
Strategic & Specialized Response	Supply Clerk II	1	$30.36		Vacant (1)
Administrative & Financial Support	Administrative Specialist II	1	$46.50		
Administrative & Financial Support	Secretary II	1	$40.20		
Administrative & Financial Support	Specialist Clerk I	4	$30.45		Vacant (1)
Administrative & Financial Support	Specialist Clerk II	1	$32.62		
Information Systems	Information Systems Manager	1	$69.90		
Information Systems	Information Systems Analyst	1	$62.46		

CATEGORY	ACTUAL TITLE	FTE (EMS ONLY)	TOP SALARY (HRLY EQ)	BENEFITS (% Salary)	COMMENTS
Information Systems	Information Systems Specialist	1	$46.50		
Injury Prevention	Supervising Program Specialist	1	$58.83		
Injury Prevention	Program Specialist	3	$52.79		Vacant (1)
Injury Prevention	Community Outreach Worker II	1	$34.68		
Health Emergency Preparedness & Response	Healthcare Program Administrator II	1	$62.93		Vacant (1)
Health Emergency Preparedness & Response	Supervising Program Specialist	1	$58.83		
Health Emergency Preparedness & Response	Administrative Assistant	1	$37.60		Vacant (1)
Health Emergency Preparedness & Response	Finance Services Specialist II	1	$46.50		
Health Emergency Preparedness & Response	Specialist Clerk II	1	$32.62		
Health Emergency Preparedness & Response	Program Specialist	3	$52.79		Vacant (1)

Table 2: System Organization and Management-Org Chart – 2021/2022:

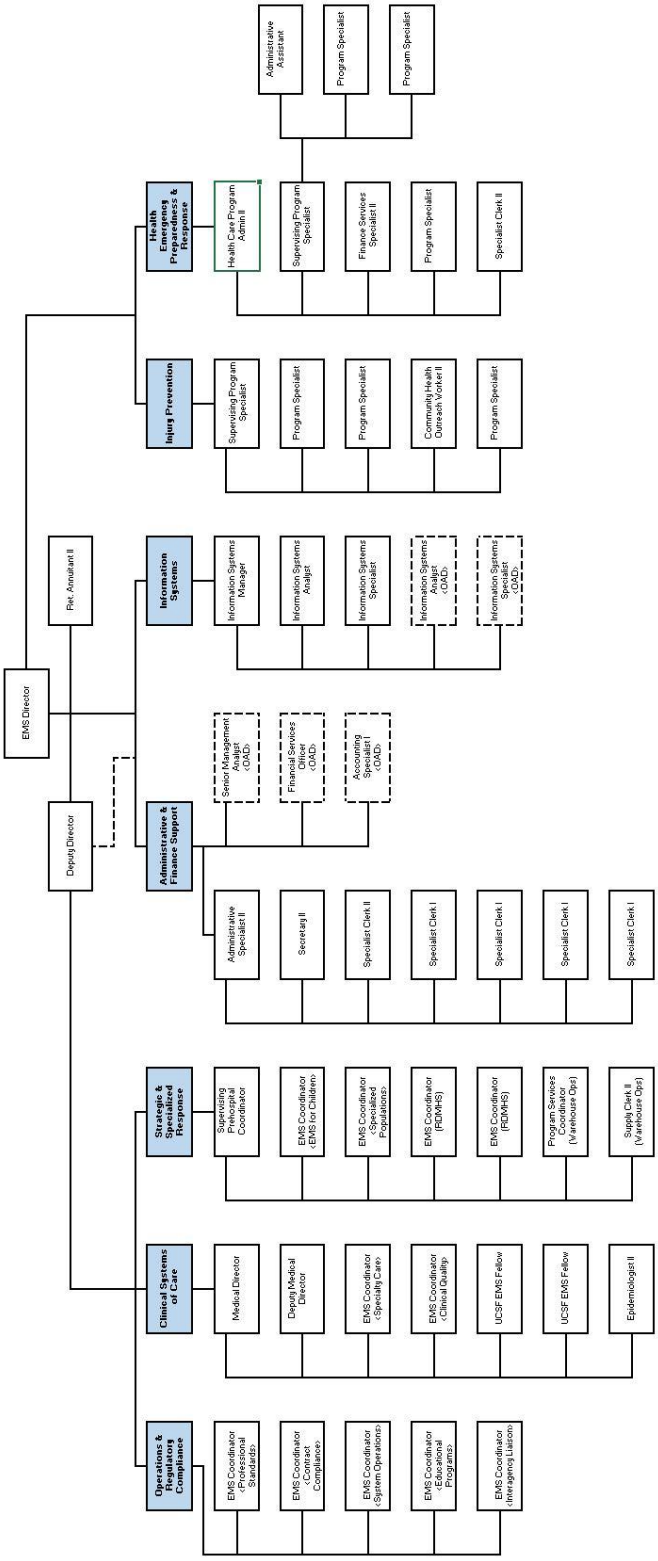


Table 3: Staffing/Training - 2021:

Reporting Year: 2021

NOTE: Table 3 is to be reported by agency.

	EMT-Is	EMT-IIs	EMT-Ps	MICNs
Total Certified	929			
Number Newly Certified This Year	388			
Number Recertified This Year	541			
Total Number of Accredited Personnel (On July 1 of Reporting Year)			63	
Number of Certification Reviews Resulting In:				
A) Formal Investigations	18*			
B) Probation	2			
C) Suspensions	1			
D) Revocations	1			
E) Denials	2			
F) Denials or Renewal	0			
G) No Action Taken	1*			

1. Early Defibrillation:
   - A: Number of EMT-I (Defib) Authorized to Use AEDs _____
   - B: Number of Public Safety (Defib) Certified (Non-EMT-I) _____

2. Do you have an EMR Training Program? Yes, Los Positas College

Table 3: Staffing/Training - 2022:

Reporting Year: 2022

NOTE: Table 3 is to be reported by agency.

	EMT-Is	EMT-IIs	EMT-Ps	MICNs
Total Certified	903			
Number Newly Certified This Year	391			
Number Recertified This Year	512			
Total Number of Accredited Personnel (On July 1 of Reporting Year)			84	
Number of Certification Reviews Resulting In:				
A) Formal Investigations	23			
B) Probation	1			
C) Suspensions	2			
D) Revocations	0			
E) Denials	0			
F) Denials or Renewal	0			
G) No Action Taken	6			

1. Early Defibrillation:
   - A: Number of EMT-I (Defib) Authorized to Use AEDs _____
   - B: Number of Public Safety (Defib) Certified (Non-EMT-I) _____

2. Do you have an EMR Training Program? Yes, Los Positas College

Table 4: Communications – 2021/2022:

County: Alameda County
Reporting Year: 2021-2022

1. Number of primary Public Service Answering Points (PSAP)	18
2. Number of secondary PSAPs	2
3. Number of dispatch centers directly dispatching ambulances	4
4. Number of EMS dispatch agencies utilizing EMD guidelines	2
5. Number of designated dispatch centers for EMS aircraft	1

6. Who is your primary dispatch center for day-to-day emergencies?

Alameda County Regional Emergency Communications Center (ACRECC)

7. Who is your primary dispatch agency for a disaster?

Alameda County Regional Emergency Communications Center (ACRECC)

8. Do you have an operational area disaster communication system (DCS)?	Yes
A: Radio Primary Frequency	700 MHz Trunked
B. Other Methods	800 MHz Trunked VHF
C: Call all medical response units communicate on the same DCS?	Yes
D: Do you participate in the Operational Area Satellite Information System (OASIS)?	Yes
E. Do you have a plan to utilize the Radio Amateur Civil Emergency Services (RACES) as a backup communication system?	Yes
1) Within the Operational Area (OA)?	Yes
2) Between OA and the region and/or state?	Yes

Table 5: Response/Transportation – 2021/2022:

Reporting Year: 2021-2022

Note: Table 5 is to be reported by agency.

Early Defibrillation Providers

All Providers are required to have EMT-Is who have had an AHA (or equivalent) BCLS course that includes defibrillation with AED.

1.Number of EMT-Defibrillation providers: 11

- American Medical Response
- Arcadia Ambulance
- Bay Medic Transportation
- Eagle Ambulance
- Falck Northern California
- Falcon Critical Care Transport
- Norcal Ambulance
- Pro Transport-1
- Royal Ambulance
- United Ambulance
- Westmed Ambulance

SYSTEM STANDARD RESPONSE TIMES (90TH PERCENTILE)
Enter the response times in the appropriate boxes:

Falck Northern California			
MPDS Category	**Metro**	**Suburban**	**Rural/Open Space**
Priority 1	10:00 min.	14:00 min.	16:00 min.
Priority 2	12:00 min.	16:00 min.	20:00 min.
Priority 3	14:00 min	18:00 min.	20:00 min.
Priority 4	20:00 min.	30:00 min.	40:00 min.
Non-Medical 5150	40:00 min.	50:00 min.	60:00 min.

Fire Department Advanced Life Support						
	Metro		**Suburban**		**Rural/Open Space**	
MPDS CATEGORY:	**First Responders**	**Transport**	**First Responders**	**Transport**	**First Responders**	**Transport**
Priority 1	08:30 min.	10:00 min.	08:30 min.	14:00 min.	08:30 min.	16:00 min.
Priority 2	08:30 min.	12:00 min.	08:30 min.	16:00 min.	08:30 min.	20:00 min.
Priority 3	08:30 min.	14:00 min	08:30 min.	18:00 min.	08:30 min.	20:00 min.
Priority 4	N/A	20:00 min.	N/A	30:00 min.	N/A	40:00 min.
Non-Medical	N/A	40:00 min.	N/A	50:00 min.	N/A	60:00 min.

Table 6: Facilities/Critical Care New - 2021:

Reporting Year: 2021

NOTE: Table 6 is to be reported by agency

Trauma

Trauma Patients:

1. Number of patients meeting trauma triage criteria 6945

2. Number of major trauma victims transported directly to a trauma center by ambulance 5295

Total # Trauma Activations by Facility	
Facility Name	**#**
UCSF Benioff Children's Hospital Oakland	851
Sutter Eden Medical Center	1581
Alameda Health System - Highland Hospital	2863
TOTAL	**5295**

3. Number of major trauma patients transferred to a trauma center 736

4. Number of patients meeting trauma criteria who weren't treated at a trauma center N/A

Emergency Departments

Total number of emergency departments 13

1. Number of Referral Emergency Services 0
2. Number of Standby Emergency Services 0
3. Number of Basic Emergency Services 13
4. Number of Comprehensive Emergency Services 0

Receiving Hospitals

1. Number of Receiving Hospitals with Written Agreements 11

2. Number of Base Hospitals with Written Agreements 1

NOTE: 2022 numbers to be submitted with 2023 System Plan

Table 7: Disaster Medical 2021/2022:

Reporting Year: 2021-2022

County: Alameda County

NOTE: Table 7 is to be answered for each county.

SYSTEM RESOURCES

1. Casualty Collection Points (CCP)

A: Where are your CCPs located? Incident Specific as Needed

B: How are they staffed? Agency and Provider Staff as Needed

C: Do you have a supply system for supporting them for 72 hours? Yes

2. Critical Incident Stress Debriefing (CISD)

Do you have a CISD provider with 24-hour capability? Yes

3. Medical Response Team

A: Do you have any team medical response capability? Yes

B. For each team, are they incorporated into your local response plan? Yes

C: Are they available for statewide response? Yes

D: Are they part of a formal out-of-state response system? No

4. Hazardous Materials

A: Do you have any HazMat trained medical response teams? Yes

B. At what level are they trained?

Individuals who respond to and function within the Exclusion Zone (Hot Zone) or Contamination Reduction Zone (Warm Zone) must be members of **specialty trained HazMat teams**, trained in the use of self- contained breathing apparatus, selection of appropriate chemical protective suits and how to function in them. Other rescuers should be trained in accordance with Federal OSHA standards in OSHA 29 CFR 190.120 and California OSHA as defined in the California Code of Regulations, Title 8, Section 5192." (Refer to Alameda County EMS Field Manual). Nearly all public safety providers have received HazMat training in at least the **"First Responder Awareness Level."** Many firefighter personnel trained to the first responder level.

C: Do you have the ability to do decontamination in an emergency room? Yes

D: Do you have the ability to do decontamination in the field? Yes

OPERATIONS

1. Are you using a Standardized Emergency Management System (SEMS) that incorporates a form of Incident Command System (ICS) structure? Yes

2. What is the maximum number of jurisdiction EOCs you will need to interact with in a disaster? 13 (Cities)

3. Have you tested your MCI Plan this year in a:

A: Real Event? Yes

B: Exercise? Yes

4. List all counties with which you have a written medical mutual aid agreement:

All counties within California Mutual Aid Compact Region II

5. Do you have formal agreements with hospitals in your operational area to participate in disaster planning and response? Yes

6. Do you have formal agreements with community clinics in your operational areas to participate in disaster planning and response? Yes

7. Are you part of a multi-county EMS system for disaster response? Yes

8. Are you a separate department or agency? No

9. If not, to whom do you report? Alameda County Health Care Services Agency

10. If your agency is not in the Health Department, do you have a plan to coordinate public health and environmental health issues with the Health Department? Yes

Table 8: Response/Transportation Providers – Alameda County Fire Department - 2021:

County: Alameda County Response Zone: Alameda County

Provider: **Alameda County Fire Department**

Address: 6363 Clark Ave., Dublin, CA 94568

Phone #: 510-632-3473 # of Ambulances in Fleet: 4

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City		Rotary		ALS Rescue	
Law		County	●	Fixed Wing		BLS Rescue	
Other:		Fire District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	30124	# of Emergency Transports	2
# of Non-Emergency Response	860	# of Non-Emergency Transports	29
Total Number of Responses	**30984**	**Total Number of Transports**	**31**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Alameda County Fire Department - 2022:

County: Alameda County Response Zone: Alameda County

Provider: **Alameda County Fire Department**

Address: 6363 Clark Ave., Dublin, CA 94568

Phone #: 510-632-3473 # of Ambulances in Fleet: 4

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City		Rotary		ALS Rescue	
Law		County	●	Fixed Wing		BLS Rescue	
Other:		Fire District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	33326	# of Emergency Transports	143
# of Non-Emergency Response	623	# of Non-Emergency Transports	462
Total Number of Responses	**33949**	**Total Number of Transports**	**605**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Alameda (City) Fire Department - 2021:

County: Alameda County Response Zone: City of Alameda

Provider: **Alameda Fire Department**

Address: 1300 Park St., Alameda, CA 94501

Phone #: 510-337-2100 # of Ambulances in Fleet: 4

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 3

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	4752	# of Emergency Transports	433
# of Non-Emergency Response	71	# of Non-Emergency Transports	3715
Total Number of Responses	**4823**	**Total Number of Transports**	**4148**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Alameda (City) Fire Department - 2022:

County: Alameda County Response Zone: City of Alameda

Provider: **Alameda Fire Department**

Address: 1300 Park St., Alameda, CA 94501

Phone #: 510-337-2100 # of Ambulances in Fleet: 4

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 3

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	5361	# of Emergency Transports	513
# of Non-Emergency Response	53	# of Non-Emergency Transports	4046
Total Number of Responses	**5414**	**Total Number of Transports**	**4559**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Albany Fire Department - 2021:

County: Alameda County Response Zone: City of Albany

Provider: **Albany Fire Department**

Address: 1000 San Pablo Ave., Albany, CA 94706

Phone #: 510-528-5770 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES – 2021			
# of Emergency Responses	1092	# of Emergency Transports	43
# of Non-Emergency Response	21	# of Non-Emergency Transports	770
Total Number of Responses	**1113**	**Total Number of Transports**	**813**
AIR AMBULANCE SERVICES – 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Albany Fire Department - 2022:

County: Alameda County Response Zone: City of Albany

Provider: **Albany Fire Department**

Address: 1000 San Pablo Ave., Albany, CA 94706

Phone #: 510-528-5770 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	1218	# of Emergency Transports	49
# of Non-Emergency Response	16	# of Non-Emergency Transports	837
Total Number of Responses	**1234**	**Total Number of Transports**	**886**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Berkeley Fire Department – 2021:

County: Alameda County Response Zone: City of Berkeley

Provider: **Berkeley Fire Department**

Address: 2100 Martin Luther King Jr Way, Berkeley, CA 94704

Phone #: 510-981-3473 # of Ambulances in Fleet: 7

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 4

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	8278	# of Emergency Transports	518
# of Non-Emergency Response	104	# of Non-Emergency Transports	4035
Total Number of Responses	**8382**	**Total Number of Transports**	**4553**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Berkeley Fire Department – 2022:

County: Alameda County Response Zone: City of Berkeley

Provider: **Berkeley Fire Department**

Address: 2100 Martin Luther King Jr Way, Berkeley, CA 94704

Phone #: 510-981-3473 # of Ambulances in Fleet: 7

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 4

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		Fire District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	8150	# of Emergency Transports	578
# of Non-Emergency Response	85	# of Non-Emergency Transports	5009
Total Number of Responses	**8235**	**Total Number of Transports**	**5587**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – East Bay Regional Park District - 2021:

County: Alameda County Response Zone: N/A

Provider: **East Bay Regional Park District**

Address: 17930 Lake Chabot Road, Castro Valley, CA 94546

Phone #: 510-690-6607 # of Ambulances in Fleet: N/A

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: N/A

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS		9-1-1	●	Ground	●
No	●	BLS	●	7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City		Rotary		ALS Rescue	
Law	●	County		Fixed Wing		BLS Rescue	
Other:		District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	527	# of Emergency Transports	0
# of Non-Emergency Response	696	# of Non-Emergency Transports	0
Total Number of Responses	**1223**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES – 2021			
# of Emergency Responses	0	# of Emergency Transports	0
# of Non-Emergency Response	0	# of Non-Emergency Transports	0
Total Number of Responses	**0**	**Total Number of Transports**	**0**

*** NOTE: Currently East Bay Regional Parks does not have transport, ALS, or air ambulance services**

Table 8: Response/Transportation Providers – East Bay Regional Park District - 2022:

County: Alameda County Response Zone: N/A

Provider: **East Bay Regional Park District**

Address: 17930 Lake Chabot Road, Castro Valley, CA 94546

Phone #: 510-690-6607 # of Ambulances in Fleet: 2(Air)

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: N/A

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS		9-1-1	●	Ground	●
No	●	BLS	●	7-Digit		Air	●
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City		Rotary		ALS Rescue	
Law	●	County		Fixed Wing		BLS Rescue	
Other:		District	●	Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	599	# of Emergency Transports	0
# of Non-Emergency Response	653	# of Non-Emergency Transports	0
Total Number of Responses	**1252**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses	1	# of Emergency Transports	1
# of Non-Emergency Response	3	# of Non-Emergency Transports	3
Total Number of Responses	**4**	**Total Number of Transports**	**4**

Table 8: Response/Transportation Providers – Falck Alameda County - 2021:

County: Alameda County Response Zone: Alameda County

Provider: **Falck Alameda County**

Address: 2833 Industrial Blvd., Hayward, CA 94545

Phone #: 510-876-8747 # of Ambulances in Fleet: 70

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 45

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	
No		No		No		Private	●

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS	●	7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire		City		Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	72354	# of Emergency Transports	7416
# of Non-Emergency Response	60981	# of Non-Emergency Transports	86017
Total Number of Responses	**133335**	**Total Number of Transports**	**93433**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Falck Alameda County - 2022:

County: Alameda County Response Zone: Alameda County

Provider: **Falck Alameda County**

Address: 2833 Industrial Blvd., Hayward, CA 94545

Phone #: 510-876-8747 # of Ambulances in Fleet: 70

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 45

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	
No		No		No		Private	●

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No		BLS	●	7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire		City		Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	13263	# of Emergency Transports	7622
# of Non-Emergency Response	134445	# of Non-Emergency Transports	92082
Total Number of Responses	**147708**	**Total Number of Transports**	**99704**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Fremont Fire Department - 2021:

County: Alameda County Response Zone: City of Fremont

Provider: **Fremont Fire Department**

Address: 3300 Capital Ave., Fremont, CA 94538

Phone #: 510-494-4200 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	11143	# of Emergency Transports	
# of Non-Emergency Response	370	# of Non-Emergency Transports	
Total Number of Responses	**11513**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Fremont Fire Department - 2022:

County: Alameda County Response Zone: City of Fremont

Provider: **Fremont Fire Department**

Address: 3300 Capital Ave., Fremont, CA 94538

Phone #: 510-494-4200 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	12765	# of Emergency Transports	
# of Non-Emergency Response	254	# of Non-Emergency Transports	
Total Number of Responses	**13019**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Hayward Fire Department - 2021:

County: Alameda County Response Zone: City of Hayward

Provider: **Hayward Fire Department**

Address: 777 B St., Hayward, CA 94541

Phone #: 510-583-4900 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	13261	# of Emergency Transports	
# of Non-Emergency Response	531	# of Non-Emergency Transports	
Total Number of Responses	**13792**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Hayward Fire Department - 2022:

County: Alameda County Response Zone: City of Hayward

Provider: **Hayward Fire Department**

Address: 777 B St., Hayward, CA 94541

Phone #: 510-583-4900 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	14689	# of Emergency Transports	
# of Non-Emergency Response	298	# of Non-Emergency Transports	
Total Number of Responses	**14987**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Livermore-Pleasanton Fire Department - 2021:

County: Alameda County Response Zone: Livermore/Pleasanton

Provider: **Livermore-Pleasanton Fire Department**

Address: 3560 Nevada St., Pleasanton, CA 94566

Phone #: 925-454-2361 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	9046	# of Emergency Transports	
# of Non-Emergency Response	604	# of Non-Emergency Transports	
Total Number of Responses	**9650**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Livermore-Pleasanton Fire Department - 2022:

County: Alameda County Response Zone: Livermore/Pleasanton

Provider: **Livermore-Pleasanton Fire Department**

Address: 3560 Nevada St., Pleasanton, CA 94566

Phone #: 925-454-2361 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	10493	# of Emergency Transports	
# of Non-Emergency Response	522	# of Non-Emergency Transports	
Total Number of Responses	**11015**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Oakland Fire Department - 2021:

County: Alameda County Response Zone: City of Oakland

Provider: **Oakland Fire Department**

Address: 150 Frank H Ogawa Plaza, Oakland, CA 94612

Phone #: 510-238-3856 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	●
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	51799	# of Emergency Transports	
# of Non-Emergency Response	1098	# of Non-Emergency Transports	
Total Number of Responses	**52897**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Oakland Fire Department - 2022:

County: Alameda County Response Zone: City of Oakland

Provider: **Oakland Fire Department**

Address: 150 Frank H Ogawa Plaza, Oakland, CA 94612

Phone #: 510-238-3856 # of Ambulances in Fleet: 0

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 0

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes	●	Yes	●	Public	●
No		No		No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes		ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	54067	# of Emergency Transports	
# of Non-Emergency Response	1104	# of Non-Emergency Transports	
Total Number of Responses	**55171**	**Total Number of Transports**	**0**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Piedmont Fire Department - 2021:

County: Alameda County Response Zone: City of Piedmont

Provider: **Piedmont Fire Department**

Address: 120 Vista Ave., Piedmont, CA 94611

Phone #: 510-420-3030 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2021			
# of Emergency Responses	412	# of Emergency Transports	22
# of Non-Emergency Response	16	# of Non-Emergency Transports	286
Total Number of Responses	**428**	**Total Number of Transports**	**308**
AIR AMBULANCE SERVICES - 2021			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 8: Response/Transportation Providers – Piedmont Fire Department - 2022:

County: Alameda County Response Zone: City of Piedmont

Provider: **Piedmont Fire Department**

Address: 120 Vista Ave., Piedmont, CA 94611

Phone #: 510-420-3030 # of Ambulances in Fleet: 2

Average Number of Ambulances on Duty at 12:00PM (Noon) on Any Given Day: 1

Written Contract		Medical Director		System Available 24hrs		Ownership	
Yes	●	Yes		Yes	●	Public	●
No		No	●	No		Private	

Level of Service							
Transport		Level of Care		Type of Service		Mode of Response	
Yes	●	ALS	●	9-1-1	●	Ground	●
No	●	BLS		7-Digit		Air	
				CCT		Water	
				IFT			

If Public:				If Air:			
Fire	●	City	●	Rotary		ALS Rescue	
Law		County		Fixed Wing		BLS Rescue	
Other:		District		Auxiliary Rescue			
		State		Air Ambulance			
		Federal					

TRANSPORTING AGENCIES - 2022			
# of Emergency Responses	445	# of Emergency Transports	34
# of Non-Emergency Response	7	# of Non-Emergency Transports	305
Total Number of Responses	**452**	**Total Number of Transports**	**339**
AIR AMBULANCE SERVICES - 2022			
# of Emergency Responses		# of Emergency Transports	
# of Non-Emergency Response		# of Non-Emergency Transports	
Total Number of Responses	**0**	**Total Number of Transports**	**0**

Table 9: Facilities – Alameda Hospital:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Alameda Hospital (Alameda Health System)**

Address: 2070 Clinton Ave., Alameda, CA 94501

Phone #: 510-522-3700

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes		Yes	●
No	●	No	●	No	●	No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Alta Bates Summit Medical Center - Berkeley:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Alta Bates Summit Medical Center - Berkeley**

Address: 2450 Ashby Ave., Berkeley, CA 94705

Phone #: 510-204-4444

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes		Yes	
No	●	No	●	No	●	No	●

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Alta Bates Summit Medical Center - Oakland:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Alta Bates Summit Medical Center - Oakland**

Address: 350 Hawthorne Ave., Oakland, CA 94609

Phone #: 510-655-4000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes	●	Yes	●
No	●	No	●	No		No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Highland Hospital:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Highland Hospital (Alameda Health System)**

Address: 1411 E31st St., Oakland, CA 94602

Phone #: 510-437-4800

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes	●	Yes		Yes	●	Yes	
No		No	●	No		No	●

Trauma Center		If Trauma Center, what level?			
Yes	●	Level I	●	Level II	
No		Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Kaiser Permanente San Leandro Medical Center:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Kaiser Permanente San Leandro Medical Center**

Address: 2500 Merced St., San Leandro, CA 94538

Phone #: 510-454-1000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes		Yes	●
No	●	No	●	No	●	No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Kaiser Permanente Oakland Medical Center:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Kaiser Permanente Oakland Medical Center**

Address: 3801 Howe St., Oakland, CA 94611

Phone #: 510-752-1000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes	●	Yes	●
No	●	No	●	No		No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes	●	No	

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Kaiser Permanente Fremont Medical Center:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Kaiser Permanente Fremont Medical Center**

Address: 39400 Paseo Padre Parkway, Fremont, CA 94538

Phone #: 510-248-3000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes	●	Yes	●
No	●	No	●	No		No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – San Leandro Hospital:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **San Leandro Hospital (Alameda Health System)**

Address: 13855 E 14th St., San Leandro, CA 94578

Phone #: 510-357-6500

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes		Yes	
No	●	No	●	No	●	No	●

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – St. Rose Hospital:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **St. Rose Hospital**

Address: 27200 Calaroga Ve., Hayward, CA 94545

Phone #: 510-264-4000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes	●	Yes	
No	●	No	●	No		No	●

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Eden Medical Center:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Sutter Eden Medical Center**

Address: 20103 Lake Chabot Rd., Castro Valley, CA 94546

Phone #: 510-537-1234

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes		Yes	●
No	●	No	●	No	●	No	

Trauma Center		If Trauma Center, what level?			
Yes	●	Level I		Level II	●
No		Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – UCSF Benioff Children's Hospital Oakland:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **UCSF Benioff's Children's Hospital Oakland**

Address: 747 51st St., Oakland, CA 94609

Phone #: 510-428-3000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes		Yes	●
No	●	No	●	No	●	No	

Trauma Center		If Trauma Center, what level?			
Yes	●	Level I	●	Level II	
No		Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes	●	No	
EDAP[2]	Yes	●	No	
PICU[3]	Yes	●	No	

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Stanford Health Care Tri-Valley :

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Stanford Health Care Tri-Valley**

Address: 5555 West Las Positas Blvd., Pleasanton, CA 94588

Phone #: 925-847-3000

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes	●	Yes	●
No	●	No	●	No		No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 9: Facilities – Washington Hospital:

County: Alameda County

Note: *Complete information for each facility by county. Make copies as needed.*

Facility: **Washington Hospital Healthcare System**

Address: 2000 Mowry Ave., Fremont, CA 94538

Phone #: 510-797-1111

Written Contract		Service			
Yes	●	Referral Emergency		Standby Emergency	
No		Basic Emergency	●	Comprehensive Emergency	

Base Hospital		Burn Center		STEMI Center		Stroke Center	
Yes		Yes		Yes	●	Yes	●
No	●	No	●	No		No	

Trauma Center		If Trauma Center, what level?			
Yes		Level I		Level II	
No	●	Level III		Level IV	

Pediatric Capabilities				
Pediatric Critical Care Center[1]	Yes		No	●
EDAP[2]	Yes		No	●
PICU[3]	Yes		No	●

[1] Meets EMSA *Pediatric Critical Care Center (PCCC) Standards*

[2] Meets EMS Emergency Departments Approved for Pediatrics (EDAP) Standards

[3] Meets California Children Services (CCS) Pediatric Intensive Care Unit (PICU) Standards

Table 10: Approved Training Programs:

County: Alameda County Reporting Year: 2021/2022

Training Institution Name:	American Health Education
Address:	3174 Constitution Dr., Livermore, CA 94551
Phone Number:	800-483-3615
Student Eligibility:	General Public

Program Level: EMT-B

Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 2,950.00	Initial Training	283	13
Refresher	$ 395.00	Refresher	123	13
EXPIRES	**10/31/2023**	Continuing Education	436	81

Training Institution Name:	Chabot College
Address:	25555 Hesperian Blvd., Hayward, CA 94545
Phone Number:	510-723-7090
Student Eligibility:	General Public

Program Level: EMT-B

Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 345.00	Initial Training	46	2
Refresher	$ 92.00	Refresher	37	2
EXPIRES	**4/30/2024**	Continuing Education	N/A	N/A

Training Institution Name:		Las Positas College		
Address:		3000 Campus Hill Dr., Livermore, CA 94551		
Phone Number:		925-424-1257		
Student Eligibility:		General Public		
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 600.00	Initial Training	48	2
Refresher	$ 38.00	Refresher	5	1
EXPIRES	**3/31/2024**	Continuing Education	N/A	N/A
Program Level: EMT-P				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 3,000.00	Initial Training	24	1
Refresher	N/A	Refresher	0	0
EXPIRES	**3/31/2024**	Continuing Education	N/A	N/A

Training Institution Name:		Project Heartbeat		
Address:		333 Hegenberger Rd., Suite 855, Oakland, CA 94621		
Phone Number:		510-291-2342		
Student Eligibility:		General Public		
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 1,600.00	Initial Training	201	8
Refresher	$ 350.00	Refresher	0	0
EXPIRES	**10/31/2025**	Continuing Education	N/A	N/A

Training Institution Name:	Alameda County Fire Department			
Address:	6363 Clark Ave., Dublin, CA 94568			
Phone Number:	510-833-3473			
Student Eligibility:	Restricted			
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	N/A	N/A
Refresher	N/A	Refresher	N/A	N/A
EXPIRES	**6/30/2024**	Continuing Education	700+	50+

Training Institution Name:	Alameda (City) Fire Department			
Address:	1300 Park St., Alameda, CA 94501			
Phone Number:	510-755-4302			
Student Eligibility:	Restricted			
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	N/A	N/A
Refresher	N/A	Refresher	6	2
EXPIRES	**5/31/2024**	Continuing Education	104	16

Training Institution Name:		Berkeley Fire Department		
Address:		2100 Martin Luther King Jr. Way, 2nd Floor, Berkeley, CA 94704		
Phone Number:		925-875-4902		
Student Eligibility:		Restricted		
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	N/A	N/A
Refresher	N/A	Refresher	N/A	N/A
EXPIRES	**10/31/2024**	Continuing Education	117	32

Training Institution Name:		EMS Corps. EMT Training Program		
Address:		1000 San Leandro Blvd., San Leandro, CA 94577		
Phone Number:		510-481-4197		
Student Eligibility:		Restricted		
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	36	2
Refresher	N/A	Refresher	N/A	N/A
EXPIRES	**3/31/2024**	Continuing Education	N/A	N/A

Training Institution Name:	Fremont Fire Department			
Address:	3300 Capital Ave., Building B, Fremont, CA 94537			
Phone Number:	510-484-4233			
Student Eligibility:	Restricted			
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	N/A	N/A
Refresher	N/A	Refresher	N/A	N/A
EXPIRES	**5/31/2023**	Continuing Education	130	12

Training Institution Name:	Albany Fire Department			
Address:	1000 San Pablo Ave., Albany, CA 94706			
Phone Number:	510-528-5770			
Student Eligibility:	Restricted			
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	N/A	N/A
Refresher	N/A	Refresher	1	1
EXPIRES	**9/30/2023**	Continuing Education	90	6

Training Institution Name:	Defib This Emergency Response Training			
Address:	1534 Pacific Ave., Suite 104, Santa Cruz, CA 95060			
Phone Number:	831-426-9111			
Student Eligibility:	General Public			
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 2,250.00	Initial Training	216	13
Refresher	$ 385.00	Refresher	47	4
EXPIRES	**1/31/2024**	Continuing Education	N/A	N/A

Training Institution Name:	NCTI - Livermore			
Address:	7575 Southfront Rd., Livermore, CA 94551			
Phone Number:	925-454-6184			
Student Eligibility:	General Public			
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 1,875.00	Initial Training	60	4
Refresher	$ 325.00	Refresher	9	1
EXPIRES	**5/31/2023**	Continuing Education	N/A	N/A
Program Level: EMT-P				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 9,750.00	Initial Training	74	3
Refresher	N/A	Refresher	N/A	0
EXPIRES	**5/31/2023**	Continuing Education	N/A	N/A

Training Institution Name:	Bay Area Training Academy			
Address:	14275 Wick Blvd., San Leandro, CA 94577			
Phone Number:	925-528-9180			
Student Eligibility:	General Public			
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 2,285.00	Initial Training	220	11
Refresher	$ 334.00	Refresher	10	2
EXPIRES	**7/31/2023**	Continuing Education	N/A	N/A

Training Institution Name:	Merritt College			
Address:	12500 Campus Drive., Oakland, CA 94619			
Phone Number:	510-436-2409			
Student Eligibility:	General Public			
Program Level: EMT-B				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 195.00	Initial Training	75	3
Refresher	$ 52.00	Refresher	0	0
EXPIRES	**6/30/2023**	Continuing Education	N/A	N/A

Training Institution Name:		Oakland Fire Department		
Address:		1605 Martin Luther King Jr. Way, Oakland, CA 94612		
Phone Number:		510-238-6957		
Student Eligibility:		Restricted		
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	0	0
Refresher	N/A	Refresher	0	33
EXPIRES	**3/31/2024**	Continuing Education	350	4165

Training Institution Name:		Livermore Pleasanton Fire Department		
Address:		3560 Nevada St., Pleasanton, CA 94566		
Phone Number:		925-998-1087		
Student Eligibility:		Restricted		
Program Level: EMT				
Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	N/A	Initial Training	N/A	N/A
Refresher	N/A	Refresher	0	6
EXPIRES	**1/31/2025**	Continuing Education	112	N/A

Training Institution Name:	Berkeley STEP
Address:	1701 San Pablo Ave., Berkeley, CA 94702
Phone Number:	510-644-6130
Student Eligibility:	Restricted

Program Level: EMT-B

Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 1,250.00	Initial Training	25	1
Refresher	N/A	Refresher	N/A	N/A
EXPIRES	**9/30/2024**	Continuing Education	N/A	N/A

Training Institution Name:	Quest Nursing
Address:	917 Harrison St., Oakland, CA 94612
Phone Number:	510-452-1444
Student Eligibility:	General Public

Program Level: EMT-B

Program Cost		Type of Training	# of Students Completing Training Per Year	# of Courses
Basic	$ 1,250.00	Initial Training	0	0
Refresher	N/A	Refresher	0	0
EXPIRES	**4/30/2023**	Continuing Education	0	0

APPROVED CE PROVIDERS

ALCO CE Providers	Expiration
Alameda County EMS	3/31/2024
Alameda County Fire Dept	6/30/2024
Alameda Fire Dept	4/30/2026
Albany Fire Dept	9/30/2023
American Health Education	10/31/2023
American Medical Response	11/30/2025
Bay Area Training Academy	7/31/2023
Bay Youth EMT Program	1/31/2025
Berkeley Fire Department	10/31/2024
Berkeley STEP	9/30/2026
Chabot College	4/30/2024
City of Fremont Fire Department	5/31/2023
EMS Corps EMT Training Program	3/31/2024
Falck Northern California	5/31/2023
Hayward Fire Dept.	12/31/2023
Las Positas College	5/31/2024
Livermore/Pleasanton Fire Dept.	1/31/2023
Merritt College	6/30/2025
Norcal Ambulance Service	9/30/2023
Oakland Fire Department	3/31/2024
Piedmont Fire Department	2/28/2024
Project Heartbeat	4/30/2026
Quest Nursing Education Center	4/30/2025
Royal Ambulance	10/31/2024
United Ambulance	9/30/2025

Table 11: Dispatch Agency - ACRECC:

County: Alameda County Reporting Year: 2021/2022

NOTE: Make copies to add pages as needed. Complete information for each provider by county.

Name: Alameda County Regional Emergency Communications Center (ACRECC)

Address: 7000 East Ave., L-338, Livermore, CA 94551

Phone #: 925-423-1803

Primary Contact: Rosa Ramos, Dispatch Manager

Written Contract		Medical Director		Availability		Ownership	
Yes	●	Yes	●	Day-to-Day	●	Public	●
No		No		Disaster	●	Private	

If Public:				Number of Personnel Providing Services	
Fire	●	City		EMD Training	34
Law	●	County	●	EMT-D	0
Other: *Ambulance*	●	District		ALS	0
		State		BLS	0
		Federal		LALS	0
				Other:	N/A

Table 11: Dispatch Agency – Oakland Fire Department:

County: Alameda County Reporting Year: 2021/2022

NOTE: Make copies to add pages as needed. Complete information for each provider by county.

Name: Oakland Fire Department Dispatch

Address: 1603 Martin Luther King Jr. Way, Oakland, CA 94612

Phone #: 510-238-6725

Primary Contact: Vena Sword-Ratliff, EMS Program Manager

Written Contract		Medical Director		Availability		Ownership	
Yes	●	Yes	●	Day-to-Day	●	Public	●
No		No		Disaster	●	Private	

If Public:				Number of Personnel Providing Services	
Fire	●	City	●	EMD Training	25
Law		County		EMT-D	0
Other:		District		ALS	0
		State		BLS	0
		Federal		LALS	0
				Other:	N/A

Table 12: Ambulance Zone Summary – Competitively Bid EOA:

AMBULANCE ZONE SUMMARY FORM

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name
Alameda County EMS Agency
Area or Subarea (Zone) Name or Title
Alameda County Competitively Bid Ambulance Exclusive Operating Area (EOA)
Name of Current Provider(s):
Include company name(s) and length of operation (uninterrupted) in specific area or subarea.
Falck Alameda County (Contracted 7/1/2019 to 6/30/2024)
Area or Subarea (Zone) Geographic Description
The EOA includes all geographic areas of Alameda County, except for the incorporated cities of Alameda, Albany, Berkeley, and Piedmont, for which 911 ambulance services are provided through those cities' fire departments, and Lawrence Livermore National Laboratory, which contracts with the Alameda County Fire Department for ambulance services.
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6):
Include intent of local EMS agency and Board action.
Exclusive See attached ambulance provider agreement 'RECITALS OF AUTHORITY'
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85):
Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Emergency Ambulance, 9-1-1 Emergency Response
Method to achieve Exclusivity, if applicable (HS 1797.224):
If grandfathered, pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If competitively determined, method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.
Method of Competition: Competitively Bid Request for Proposal (RFP) Process Intervals: Five years, with potential 2-year extension. Selection process. Request for Proposal (RFP).

Table 12: Ambulance Zone Summary – LLNL – Federal Contract:

AMBULANCE ZONE SUMMARY FORM

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name
Alameda County EMS Agency
Area or Subarea (Zone) Name or Title
Lawrence Livermore National Lab
Name of Current Provider(s):
Include company name(s) and length of operation (uninterrupted) in specific area or subarea.
Alameda County Fire Department
Area or Subarea (Zone) Geographic Description
Federal property known as Lawrence Livermore National Lab located south/east of the city of Livermore.
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6):
Include intent of local EMS agency and Board action.
Not applicable, Federal property
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85):
Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Not applicable, Federal property
Method to achieve Exclusivity, if applicable (HS 1797.224):
If grandfathered, pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If competitively-determined, method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.
Not applicable, Federal property

Table 12: Ambulance Zone Summary – City of Piedmont – Grandfathered EOA:

AMBULANCE ZONE SUMMARY FORM

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name
Alameda County EMS Agency
Area or Subarea (Zone) Name or Title
City of Piedmont
Name of Current Provider(s):
Include company name(s) and length of operation (uninterrupted) in specific area or subarea.
Piedmont Fire Department
Area or Subarea (Zone) Geographic Description
City of Piedmont
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6):
Include intent of local EMS agency and Board action.
Exclusive
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85):
Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Emergency Ambulance, 9-1-1 Emergency Response
Method to achieve Exclusivity, if applicable (HS 1797.224):
If grandfathered, pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If competitively-determined, method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.
Uninterrupted service in the same manner and scope prior to 1/1/1981

Table 12: Ambulance Zone Summary – City of Alameda – Grandfathered EOA:

AMBULANCE ZONE SUMMARY FORM

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name
Alameda County EMS Agency
Area or Subarea (Zone) Name or Title
City of Alameda
Name of Current Provider(s):
Include company name(s) and length of operation (uninterrupted) in specific area or subarea.
Alameda Fire Department
Area or Subarea (Zone) Geographic Description
City of Alameda
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6):
Include intent of local EMS agency and Board action.
Exclusive
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85):
Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Emergency Ambulance, 9-1-1 Emergency Response
Method to achieve Exclusivity, if applicable (HS 1797.224):
If grandfathered, pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If competitively-determined, method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.
Uninterrupted service in the same manner and scope prior to 1/1/1981

Table 12: Ambulance Zone Summary – City of Albany – Grandfathered EOA:

AMBULANCE ZONE SUMMARY FORM

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name
Alameda County EMS Agency
Area or Subarea (Zone) Name or Title
City of Albany
Name of Current Provider(s):
Include company name(s) and length of operation (uninterrupted) in specific area or subarea.
Albany Fire Department
Area or Subarea (Zone) Geographic Description
City of Albany
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6):
Include intent of local EMS agency and Board action.
Exclusive
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85):
Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Emergency Ambulance, 9-1-1 Emergency Response
Method to achieve Exclusivity, if applicable (HS 1797.224):
If grandfathered, pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If competitively-determined, method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.
Uninterrupted service in the same manner and scope prior to 1/1/1981

Table 12: Ambulance Zone Summary – City of Berkeley – Grandfathered EOA:

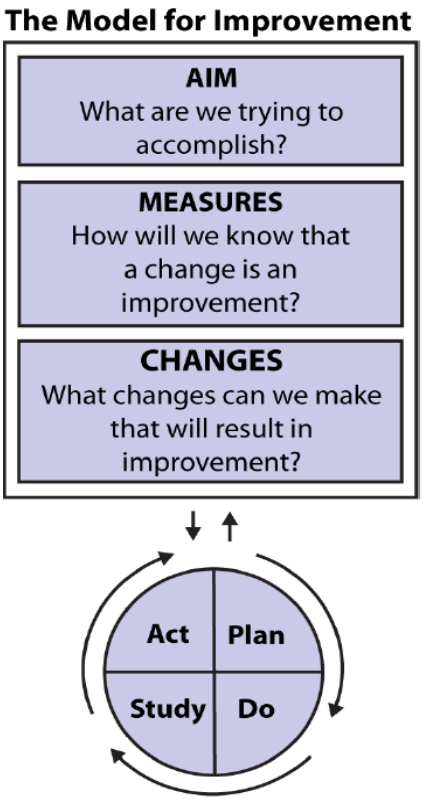
AMBULANCE ZONE SUMMARY FORM

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name
Alameda County EMS Agency
Area or Subarea (Zone) Name or Title
City of Berkeley
Name of Current Provider(s):
Include company name(s) and length of operation (uninterrupted) in specific area or subarea.
Berkeley Fire Department
Area or Subarea (Zone) Geographic Description
City of Berkeley
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6):
Include intent of local EMS agency and Board action.
Exclusive
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85):
Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Emergency Ambulance, 9-1-1 Emergency Response
Method to achieve Exclusivity, if applicable (HS 1797.224):
If grandfathered, pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If competitively-determined, method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.
Uninterrupted service in the same manner and scope prior to 1/1/1981

APPENDIX

- Alameda County EMS Quality Improvement (QI) Plan
- Alameda County EMS Trauma Plan
- Alameda County EMS STEMI Plan
- Alameda County EMS Stroke Plan
- Alameda County EMS Communications Plan



Alameda County Emergency Medical Services Quality Improvement Plan

04/15/2022

[Health and Safety Code, Div. 2.5, Ch. 4]

[California Code of Regulations, Title 22, Div. 9, Ch. 12]

[Emergency Medical Services System Quality Improvement Program Model Guidelines]

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Introduction

The Alameda County EMS Agency is a patient centered Local Emergency Medical Services Agency. With this patient centered perspective, Alameda County EMS understands that the practice of medicine is dynamic. We are committed to adapting the service we provide to our continually changing community. We believe in continuous education and Quality Improvement for ourselves, our providers and our community. Input from field providers and the public we serve is essential in developing and improving this plan.

From ***The Institute of Medicine***, Alameda County EMS has adopted a shared vision of six specific aims for Quality Improvement. These aims are built around the core need for health care to be:

***Safe*:** Avoiding injuries to patients from the care that is intended to help them

***Effective*:** Providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit

***Patient-centered*:** Providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions

***Timely*:** Reducing waits and sometimes harmful delays for both those who receive and those who give care

***Efficient*:** Avoiding waste, including waste of equipment, supplies, ideas, and energy

Equitable: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status

About This Plan

This plan is a guideline for each Alameda County EMS provider's Quality Improvement (QI) Plan. Each EMS provider is required to submit its QI Plan to the EMS Agency for review and approval.

All pragmatic improvement plans, and each improvement activity within the plan, work best when they are simple and focused.

The Alameda County EMS Quality Improvement Plan integrates Quality Improvement models from a wide variety of sources including Results Based Accountability, Baldrige, Deming and Six Sigma. While these Quality Improvement models, on the surface, seem to vary in their methodologies, they all focus on answering fundamental questions.

This Quality Improvement Plan is structured to answer 5 fundamental questions:

"Why do we do what we do?"

"How do we see ourselves in the future?"

"What governs our day-to-day decisions?"

"How are we doing?"

"What are we doing to make things better?"

I. Alameda County EMS Mission – Vision – Values

Mission *"Why do we do what we do?"*

Alameda County EMS ensures the provision of quality emergency medical response services and prevention programs to improve health and safety in Alameda County.

"Our purpose is to reduce pain and suffering and improve the health of our patients."

Vision *"How do we see ourselves in the future?"*

Helping people live healthy and fulfilling lives through training, preparedness, prevention, and medical response.

*"We look to **measurably** reduce pain and suffering and improve the health of our patients."*

Values *"What governs our day to day decisions?"*

Alameda County EMS values a caring environment sustained by empowerment, honesty, integrity, and mutual respect. We embrace excellence through innovation, teamwork, and community capacity building.

STARCARE is a values-based checklist developed by paramedic author/EMS educator ***Thom Dick***. It has been adopted by the current largest ground transport provider in Alameda County, Falck. STARCARE promotes a patient centered; values-based culture as a guide for providers for decision making.

- ***Safe -- Were my actions safe for me, for my colleagues, for other professionals and for the public?***
- ***Team-based -- Were my actions taken with due regard for the opinions and feelings of my co-workers, even those from other agencies?***
- ***Attentive to human needs -- Did I treat my patient as a person? Did I keep him or her warm? Was I gentle? Did I use his or her name throughout the call? Did I tell him or her what to expect in advance? Did I treat his or her family and / or relatives with respect?***
- ***Respectful -- Did I act toward my patient, my colleagues, my first responders, the hospital staff and the public with the kind of respect that I would have wanted to receive myself?***
- ***Customer accountable -- If I were face-to-face right now with the customers I dealt with on this response, could I look them in the eye and say, "I did my very best for you."***
- ***Appropriate -- Was my care appropriate - medically, professionally, legally and practically, considering the circumstances I faced?***
- ***Reasonable -- Did my actions make sense? Would a reasonable colleague of my experience have acted similarly under the same circumstances?***
- ***Ethical -- Were my actions fair and honest in every way? Are my answers to these questions honest with integrity?***

II. Structure, Organizational Description, Responsibilities

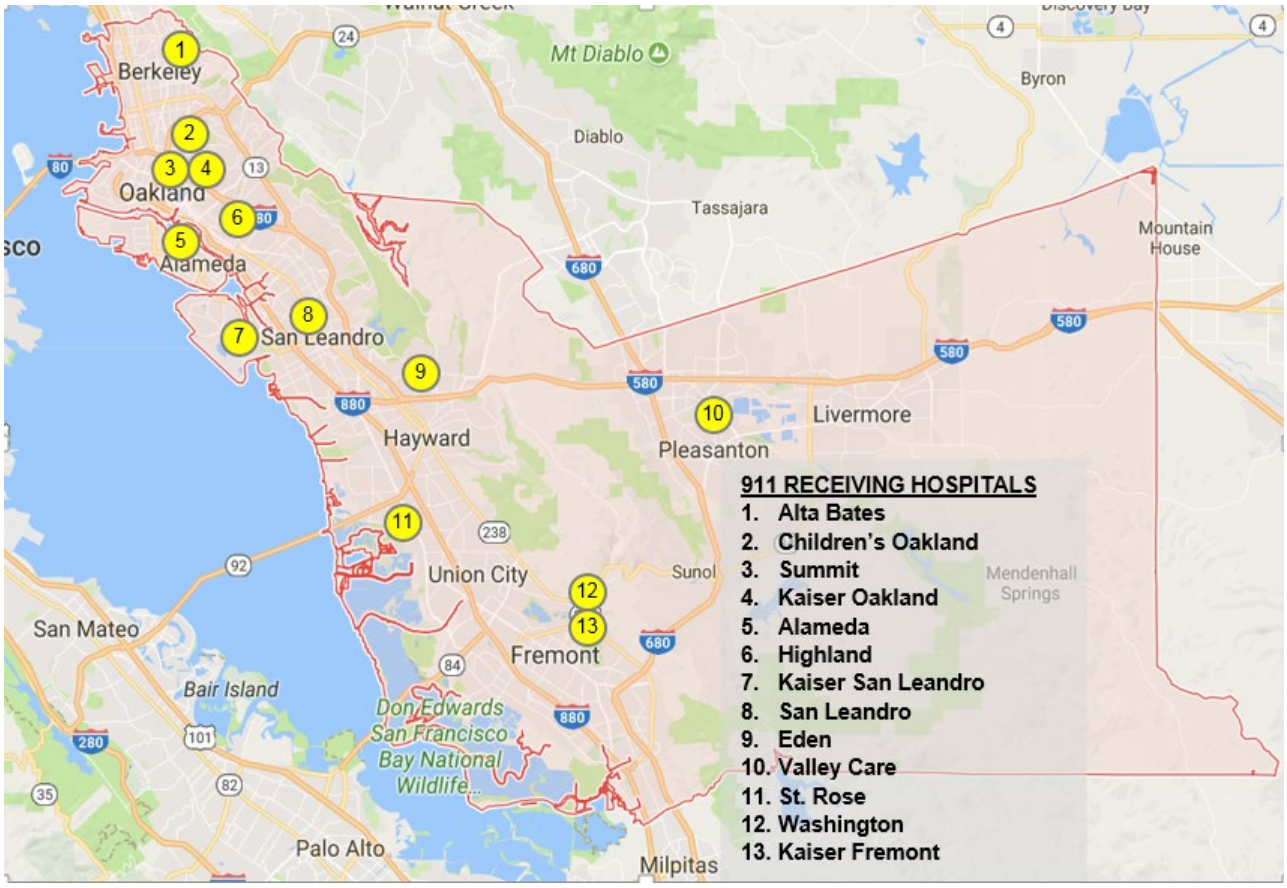
"Why do we do what we do?"

"What are we doing to make things better?"

Alameda County Demographics

Alameda County is both geographically and demographically diverse. The entire county covers 739 square miles and includes highly dense urban areas; the shoreline of San Francisco Bay is on the western border, low- and high-density residential areas, and a high concentration of industrial sites, and rural, wilderness and parks areas that stretch to the east. More than 1.6 million people live in Alameda County.

The City of Oakland, in the north part of the County, is the largest city with a population of 412,000+. Other large cities include Fremont in the south (210,000+), the City of Hayward in the mid-part of the County (146,000+), and the City of Berkeley in the northern sector of the County (105,000+). Approximately 160,000+ people reside in the cities of Livermore, Dublin and Pleasanton that are located in eastern Alameda County.



EMS Overview

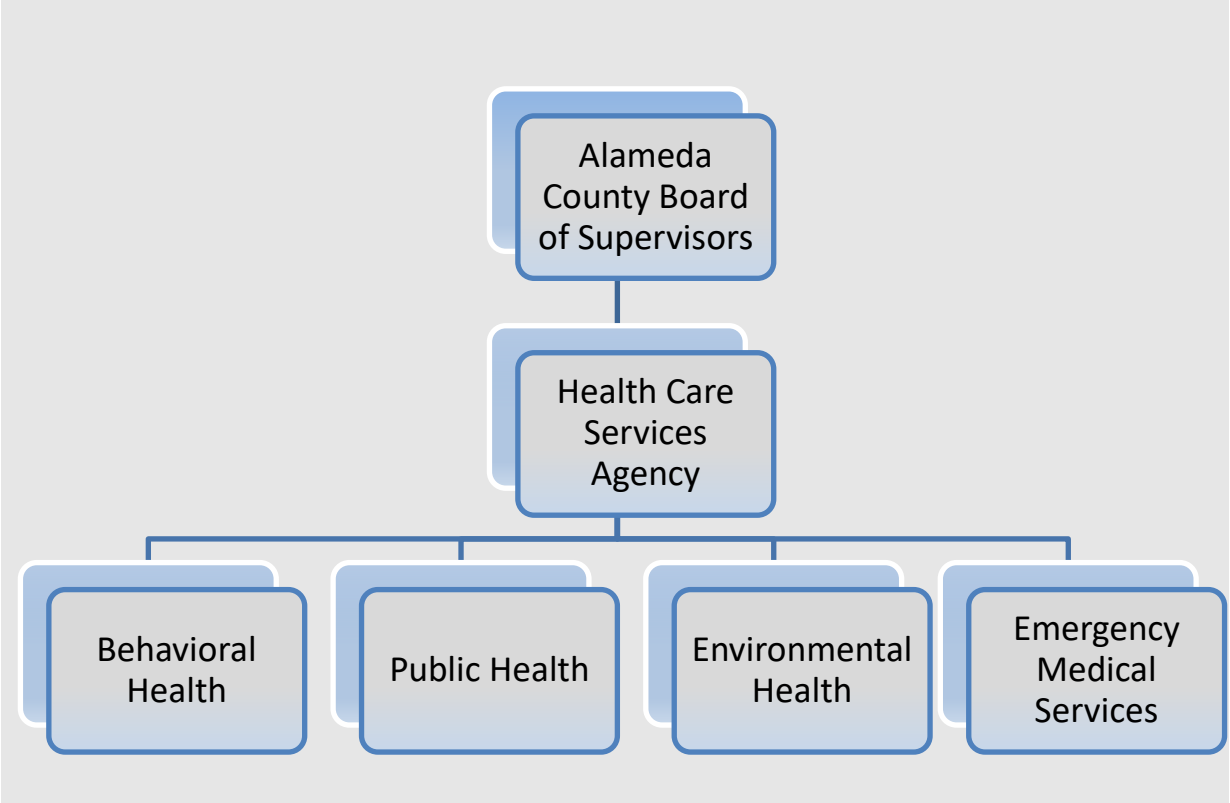
The Alameda County EMS system responds to approximately 160,000 calls annually for medical emergencies. Generally, a fire department first responder unit and a Falck ambulance respond to emergency medical calls. Alameda, Albany, Berkeley and Piedmont fire departments provide ambulance transport services in addition to first response. In the remaining areas of the county, fire departments respond with ALS fire first response units and Falck provides emergency transport services under contract with the County. Below is a list of the EMS providers in Alameda County.

<table>
<tr><th>EMS System Providers</th><th>EMS System Partners</th></tr>
<tr><td><u>ALS Ground Transport Providers</u>
Alameda City Fire Department
Albany Fire Department
Berkeley Fire Department
Falck Ambulance
Piedmont Fire Department
<u>Fire First Responders</u>
Alameda County Fire Department
Albany Fire Department
Camp Parks Fire Department
Berkeley Fire Department
Piedmont Fire Department
Fremont Fire Department
Hayward Fire Department
Livermore-Pleasanton Fire Department
Oakland Fire Department
East Bay Regional Parks Fire Department
<u>Air Transport Providers</u>
REACH
CALSTAR
Lifeflight
East Bay Regional Parks
<u>Interfacility Transport (IFT) Providers</u>
AMR
Arcadia
Bay Medic
Eagle
Falck
Falcon
Norcal
Pro Transport-1
Royal
United
Westmed
<u>Receiving Facilities</u>
Alta Bates Hospital
Summit Hospital
Childrens Hospital Oakland
Kaiser Oakland Hospital
Alameda Hospital
Alameda County Medical Center (Base Hospital)
San Leandro Hospital
John George Pavilion
Willow Rock
Eden Hospital
Valley Care Hospital
Kaiser San Leandro Hospital
Kaiser Fremont Hospital
Washington Hospital</td><td>Patients
Patient Families
The Community
All Providers
All Receiving Facilities
County Board of Supervisors and City Councils
Insurance companies and other third-party payers
Vendors
Education/Training Organizations
Other Regulatory Agencies</td></tr>
</table>

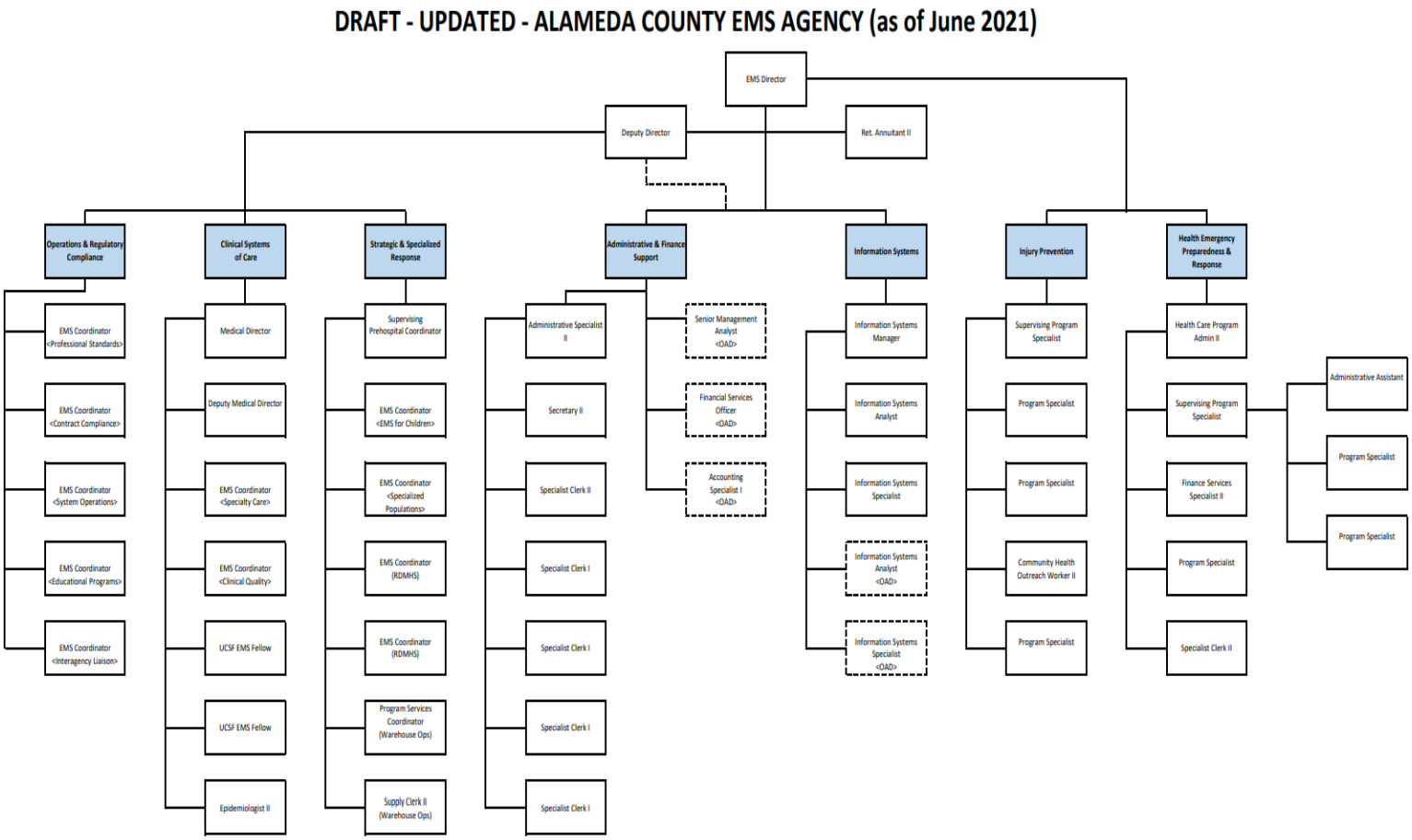
ORGANIZATIONAL STRUCTURE

The EMS Agency is a division of the Alameda County Health Care Services Agency.

The EMS Agency coordinates EMS activities in Alameda County. The Board of Supervisors (five members) makes general policy decisions affecting health care. The Director of the Health Care Services Agency reports to the Board of Supervisors. The EMS Director reports to the Health Care Services Agency Director. Medical control of the prehospital medical care within the system is the responsibility of the EMS Medical Director who reports to the EMS Director.



EMERGENCY MEDICAL SERVICES



QUALITY IMPROVEMENT RESPONSIBILITIES - GENERAL GUIDELINES

1. The EMS Agency shall establish and facilitate a system wide quality improvement program to monitor, review, evaluate and improve the delivery of prehospital care services.

   1.1 The program shall involve all system participants and shall include, but not be limited to the following activities:

      1.2.1 **Prospective** - designed to prevent potential problems.

      1.2.2 **Concurrent** - designed to identify problems or potential problems during the course of patient care.

      1.2.3 **Retrospective** - designed to identify potential or known problems and prevent their recurrence.

      1.2.4 **Reporting/Feedback** - all quality improvement activities will be reported to the EMS Agency in a manner to be jointly determined. As a result of Q.I./Q.A. activities, changes in system design may be made.

2. Each agency shall submit a Quality Improvement Plan, based on the appropriate policy to the EMS Agency for approval. The time frame for submission will be determined by the EMS Agency.

3. Appropriate revisions shall be made as requested by the EMS Agency.

4. Each agency shall conduct an annual review of their Q.I. Plan.

5. The EMS Agency will evaluate the implementation of each agency's Q.I Plan.

QUALITY IMPROVEMENT RESPONSIBILITIES - EMS

1. **Prospective**

   1.1 Comply with all pertinent rules, regulations, laws and codes of Federal, State and County applicable to emergency medical services.
   1.2 Coordinate prehospital quality improvement committees.
   1.3 Plan, implement and evaluate the emergency medical services system including public and private agreements and operational procedures.
   1.4 Implement advanced life support systems and limited advanced life support systems
   1.5 Approve and monitor prehospital training programs.
   1.6 Certify/authorize prehospital personnel.
   1.7 Establish policies and procedures to assure medical control and oversight, which may include dispatch, basic life support, advanced life support, patient destination, patient care guidelines and quality improvement requirements.
   1.8 Facilitate implementation by system participants of required Quality Improvement plans.
   1.9 Design reports for monitoring identified problems and/or trends analysis.
   1.10 Approve standardized corrective action plan for identified deficiencies in prehospital and base hospital personnel.

2. **Concurrent**

   2.1 Site visits to monitor and evaluate system components.
   2.2 On call availability for unusual occurrences, including but not limited to:
      2.2.1 Multicasualty Incidents (MCI)
      2.2.2 Ambulance Rerouting and Hospital Bypass

3. **Retrospective**

   3.1 Evaluate the process developed by system participants for retrospective analysis of prehospital care.
   3.2 Evaluate identified trends in the quality of prehospital care delivered in the system.
   3.3 Establish procedures for implementing the Certificate Review Process for prehospital emergency medical personnel.
   3.4 Monitor and evaluate the Incident Review Process.

4. **Reporting/Feedback**

   4.1 Evaluate submitted reports from system participants and make changes in system design as necessary.
   4.2 Provide feedback to system participants when applicable or when requested on Quality Improvement issues.
   4.3 Design prehospital research and efficacy studies regarding the prehospital use of any drug, device or treatment procedure where applicable.

QUALITY IMPROVEMENT RESPONSIBILITIES - DISPATCH

1. **Prospective**
   - 1.1 Participation on committees as specified by the EMS Agency.
   - 1.2 Education
     - 1.2.1 Orientation to the EMS system
     - 1.2.2 Continuing education activities to further the knowledge base of the dispatcher, to include but not limited to:
       - 1.2.2.1 Recording review
       - 1.2.2.2 Educational programs based on problem identification and trend analysis
       - 1.2.2.3 Discussion of selected calls
     - 1.2.3 Participation in certification and training of the EMD
     - 1.2.4 Establish procedure for informing all EMDs of system changes
   - 1.3 Evaluation - Develop criteria for evaluation of individual EMDs to include, but not limited to:
     - 1.3.1 Recording review or other documentation as available
     - 1.3.2 Evaluation of new employees
     - 1.3.3 Routine
     - 1.3.4 Problem oriented
     - 1.3.5 Design standardized corrective action plans for individual EMD deficiencies.
   - 1.4 Certification
     - 1.4.1 Initial certification
     - 1.4.2 Recertification

2. **Concurrent Activities**
   - 2.1 Establish a procedure for evaluation of EMDs utilizing performance standards through direct observation

3. **Retrospective Analysis**
   - 3.1 Develop a process for retrospective analysis of dispatched calls, utilizing audio recording and dispatcher report form, to include but not limited to:
     - 3.1.1 High-risk
     - 3.1.2 High-volume
     - 3.1.3 Problem oriented calls
     - 3.1.4 Any call requested to be reviewed by EMS or other appropriate agency.
     - 3.1.5 Specific audit topics established through the Quality Improvement Committee.
   - 3.2 Develop performance standards for evaluating the quality of care delivered by the EMD through retrospective analysis.
   - 3.3 Participation in the incident review process
   - 3.4 Comply with reporting and other quality improvement requirements as specified by the EMS Agency.
   - 3.5 Participation in prehospital research and efficacy studies requested by the EMS Agency and/or the Quality Improvement Committee.

4. **Reporting/Feedback**
   - 4.1 Develop a process for identifying trends in the quality of dispatch care
     - 4.1.1 Report as specified by the EMS Agency
     - 4.1.2 Design and participate in educational offerings based on problem identification and trend analysis
     - 4.1.3 Make approved changes in internal policies and procedures based on trend analysis

PSAP and Dispatch Call Handling Structure in Alameda County				
Call Location	**Primary PSAP Receive 9-1-1 Call**	**Fire 1st Response Dispatch**	**Ambulance Dispatch**	**EMD* Provided By**
Alameda City	Alameda Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units/ambulances	ACRECC dispatches city ambulances	ACRECC
Alameda County (and areas served by County Fire)	County Sherriff (unincorporated and Dublin); San Leandro Police PSAP; Livermore Lab PSAP	Calls transferred from various PD PSAPs to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Albany	Albany Police PSAP	Albany PD dispatches fire units	Albany PD dispatches city ambulances	None
Berkeley	Berkeley PD PSAP (dual police and fire)	Berkeley PD dispatches fire units	Berkeley PD dispatches city ambulances	ACRECC
Camp Parks	City of Dublin Police PSAP	Call transferred from Dublin PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Emeryville	Emeryville Police PSAP	Call transferred from Emeryville PD to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Fremont	Fremont Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Hayward	Hayward Police PSAP	Hayward PD PSAP dispatches fire units and transfers call to ACRECC	ACRECC dispatches Falck ambulances	ACRECC
Livermore	Livermore Police PSAP	Call transferred from Livermore PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Paramedic Plus ambulances	ACRECC
Pleasanton	Pleasanton Police PSAP	Call transferred from Pleasanton PD to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Newark	Newark Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Oakland	Oakland Police PSAP	Call transferred from PD PSAP to Oakland Fire Dispatch who dispatches fire units	Oakland Fire Dispatch transfers call to ACCREC who dispatches Falck ambulances	Oakland Fire Dispatch
Piedmont	Piedmont Police/Fire (Joint PSAP)	Piedmont PD/Fire dispatches fire and city ambulances	Piedmont PD/Fire PSAP	None
East Bay Regional Parks	EBRP PSAP and dispatch	EBRP dispatches Parks units and transfers call to ACRECC or to the transport city PSAPs	ACRECC dispatches Falck ambulances; local PSAPs dispatch fire units/ambulances	ACRECC
Union City	Union City Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Falck ambulances	ACRECC
Cellular Calls	CA Highway Patrol	Per response jurisdiction	Varies by jurisdiction	Varies by jurisdiction

QUALITY IMPROVEMENT RESPONSIBILITIES - ALS Provider Agencies

1. **Prospective**
   - 1.1 Participation on committees as specified by the EMS Agency.
   - 1.2 Education
     - 1.2.1 Orientation to EMS system
     - 1.2.2 Continuing Education
     - 1.2.3 Participate in certification courses and the training of prehospital care providers.
     - 1.2.4 Offer educational programs based on problem identification and trend analysis.
     - 1.2.5 Establish procedure for informing all field personnel of system changes
   - 1.3 Evaluation - Develop criteria for evaluation of individual paramedics to include, but not limited to:
     - 1.3.1 PCR review/Recording review or other documentation as available
     - 1.3.2 Ride-along
     - 1.3.3 Evaluation of new employees
     - 1.3.4 Routine
     - 1.3.5 Problem-oriented
     - 1.3.6 Design standardized corrective action plans for individual paramedic deficiencies
   - 1.4 Certification/Accreditation - establish procedures, Based on Alameda County policies, regarding:
     - 1.4.1 Initial certification/accreditation
     - 1.4.2 Recertification/Continuing Accreditation
     - 1.4.3 ITLS or PHTLS certification
     - 1.4.4 ACLS certification
     - 1.4.5 PALS or PEPP
     - 1.4.6 Preceptor authorization
     - 1.4.7 Other training as specified by the EMS Agency.

2. **Concurrent Activities**
   - 2.1 Ride-along - Establish a procedure for evaluation of paramedics utilizing performance standards through direct observation
   - 2.2 Provide availability of Field Supervisors and/or Quality Improvement Liaison personnel for consultation/assistance.
   - 2.3 Provide patient information to the base hospital to facilitate obtaining patient follow-up information from receiving hospitals.

3. **Retrospective Analysis**
   - 3.1 Develop a process for retrospective analysis of field care, utilizing PCRs and audio recording (if applicable), to include but not limited to:
     - 3.1.1 High-risk
     - 3.1.2 High-volume
     - 3.1.3 Problem-oriented calls
     - 3.1.4 Any call requested to be reviewed by EMS or other appropriate agency.
     - 3.1.5 Specific audit topics established through the Quality Council.
   - 3.2 Develop performance standards for evaluating the quality of care delivered by field personnel through retrospective analysis.
   - 3.3 Participate in the Incident Review Process
   - 3.4 Comply with reporting and other quality improvement requirements as specified by the EMS Agency.
   - 3.5 Participate in prehospital research and efficacy studies requested by the EMS Agency and/or the Quality Improvement Committee

QUALITY IMPROVEMENT RESPONSIBILITIES - ALS Provider Agencies

4. **Reporting/Feedback**

   4.1 Develop a process for identifying trends in the quality of field care.
   - 4.1.1 Report as specified by the EMS Agency.
   - 4.1.2 Design and participate in educational offering based on problem identification and trend analysis.
   - 4.1.3 Make approved changes in internal policies and procedures based on trend analysis.

QUALITY IMPROVEMENT RESPONSIBILITIES - EMS Aircraft Provider Agencies

1. Assign a liaison to interact with other EMS provider agencies, base hospital(s), and EMS Agency

2. Assure Agency's EMS personnel and pilots are currently and appropriately credentialed at all times

3. Assure Agency's personnel are fully oriented to EMS system prior to assigning to EMS response duties

   3.1 Orientation to include pertinent policies, protocols, hospital locations, map reading, documentation requirements, etc.
   3.2 Establish procedure for informing agency personnel of EMS system changes and updates

4. Provide the EMS Agency with clinical and response time data necessary for monitoring and evaluating the EMS system, particularly for trauma patients as part of the EMS trauma audit process

5. Participate in EMS Agency Quality Improvement activities

HOSPITAL RESPONSIBILITIES

1. A Receiving Hospital is a hospital designated as such by the Alameda County Health Officer and is licensed as a Basic Emergency Service or has in-house physician coverage 24 hours per day

2. A Receiving Hospital shall:

   2.1 Accept all emergency patients transported by EMS system units unless ambulance diversion has been initiated in accordance with Alameda County Ambulance Diversion Policy and the facility's approved internal diversion protocol.

   2.2 Admit emergency patients to the Hospital if appropriate, the patient accepts admission, and the Hospital has space available. If transfer to another hospital is appropriate, the patient shall be transferred according to Alameda County Interfacility Transfer Guidelines.

   2.3 Procure and maintain an operational radio for two-way voice communication on the County MEDNET, meeting County specifications, and place this equipment in the emergency department.

   2.4 Cooperate with the Alameda County Emergency Medical Services Agency and the Alameda County Health Care Services Agency in gathering and providing statistics and information needed for monitoring and evaluating prehospital programs.

   2.5 Cooperate with designated Alameda County Base Hospitals and ALS Provider Agencies in providing follow-up information regarding patient diagnosis, disposition and outcome.

   2.6 Follow and abide by the standards established for ALS programs and for Receiving Hospitals, including those standards pertaining to professional staffing.

   2.7 Ensure that the emergency department staff, and other appropriate hospital personnel possess sufficient skill and knowledge in field procedures that are continued within the emergency department.

   2.8 Participate in the Receiving Hospital Committee and Trauma Audit Committee (TAC) meetings as requested.

   2.9 Participate in training of prehospital personnel, in cooperation with and as coordinated by the EMS Agency Medical Director or designee.

   2.10 Provide hospital census and bed availability information to the EMS agency through the “Reddinet” system daily by 7:00 a.m.

   2.11 Participate in “HAvBED” drills/exercises as directed by the Alameda County EMS Agency.

QUALITY IMPROVEMENT RESPONSIBILITIES – Base Hospital

1. **An ALS Base Hospital** is a hospital designated by the Alameda County Emergency Medical Services Agency and has:

   1.1 A written contractual agreement with Alameda County
   1.2 Primary responsibility for the direct, online medical control of calls received from the field.

2. **The Hospital shall agree to:**

   2.1 Utilize voice communications and be available to field personnel through a consistent channel, frequency, or telephone number twenty-four (24) hours a day, three hundred sixty-five (365) days a year.

   2.2 Provide physician response within sixty (60) seconds of receipt of call. Physician orders and consultation shall be provided directly by the physician.

   2.3 Initiate a Base Hospital Report Form completed by the Base Coordinator each time that the Base Hospital is contacted by an ALS unit with patient data.

      2.3.1 The document is a medical record, and as such, should meet criteria for all medical records, (e.g., must be in ink, be retained for seven (7) years, etc.).

   2.4 The form must list all communications in chronological order by time and include a brief description of all communications received or transmitted. Each form shall include:

      2.4.1 Patient's run number
      2.4.2 Patient's chief complaint/problem
      2.4.3 Unit number
      2.4.4 The Base Hospital Physician
      2.4.5 Patient destination
      2.4.6 Pertinent comments

   2.5 Record all communications between Base Hospital and ALS units.

      2.5.1 Recording are considered to be part of the patient's medical record and will be retained for a minimum of 100 days.
      2.5.2 Recordings may be copied (in writing or by duplicating the recording) for teaching purposes. The patient's name should be omitted.
      2.5.3 The Base Hospital shall provide a copy of any recording requested by the EMS Agency.

   2.6 Abide by all standards, protocols, policies, procedures and contracts established by the County relating to prehospital ALS guidelines.

EMS Leadership/Quality Council (QC)

The EMS Agency Director works with the EMS Medical Director, EMS QI Coordinator and the Quality Council to oversee the Alameda County EMS QI program.

Quality Council Purpose:

- Serves as the Technical Advisory Group (TAG) for Alameda County EMS
- Identifies Quality Improvement needs
- Charter (and/or serve as) Quality Task Force(s) to improve system-wide processes (also known as Process Improvement Teams)
- Provides input for the EMS System Quality Improvement Plan
- Develops Quality Indicators
- Contributes to the development of a consistent approach to developing quality indicators and gathering and analyzing data
- Contributes to the development of a consistent approach to research
- Monitors and evaluates system data reports to identify opportunities for improvement and training needs

Quality Council Membership:

- EMS Medical Director (Chair)
- EMS Director
- EMS Quality Improvement Coordinator
- EMS Quality Improvement Coordinators from each fire department
- Private 911 ambulance transport provider Quality Manager
- Base Hospital Paramedic Liaison Nurse
- One Paramedic and one EMT representing fire department in each of the North, South and East zones of Alameda County (6 total members)
- One Paramedic and one EMT from the 911 private medical transport provider agency
- One representative from an air transport provider
- Two representatives from Receiving Hospitals
- One representative each from OFD dispatch and ACRECC
- One representative from a permitted IFT provider

Quality Council Chairperson: EMS Medical Director

Meetings:

- Monthly
- Two hours with a planned agenda

Committees

Various committee collaborations are set up in specific areas of Quality Improvement focus. These committees have at least one EMS agency representative attending and preferably the EMS medical director in attendance

- EMS Quality Council - (See previous page)
- Emergency Medical Oversight Committee EMOC -The committee shall serve in an advisory capacity to, and report to, the Alameda County EMS Medical Director. The meetings are public and chaired by the EMS Medical Director. The committee is responsible for assisting in the development and/or implementation of:
  - Medical policies or procedures
  - Medical standards for prehospital care providers
  - Quality Improvement standards
- Receiving Hospital Committee
- STEMI Committee
- Stroke Committee
- EMSC, QI, and Surge Advisory Meeting
- Trauma Audit Committee
- Regional Trauma Committee
- Equipment QI Committee - http://ems.acgov.org/ems-assets/docs/Documents-Forms/Equipment-Supplies%20Quality%20Improvement%20Policy%2018-05-07%20Final%20%20.pdf The committee reviews and makes recommendations for changes to the standardized supply list found in the field manual. The committee serves in an advisory capacity to, and reports to, the EMS Medical Director. The Procedures/Objectives of the Committee are:
  - To only evaluate new equipment after study
  - To evaluate for adoption new equipment after significant field input
  - To evaluate new equipment using an objective format.
- Data Steering Committee
- EHR Change Committee
- Preceptor Committee
- EMS Section Chiefs Committee
- Alameda County Fire Chiefs Association
- EMSAAC/EMDAAC
- LEMSA Coordinators Committee
- ALCO EMS IFT (non-911 permitted providers) Committee
- Medical Dispatch Review Committee
- Various other ad-hoc committees

III. Data Collection, Evaluation of Indicators and Reporting

"How are we doing?"

"MEASURE – IMPROVE, MEASURE – IMPROVE, MEASURE – IMPROVE ….."

Various components of the Alameda County EMS system, including CAD, ESO EHR, ReddiNet, and First Watch, contain and are used to analyze relevant data. ESO Electronic Health Record (EHR) data elements are NEMSIS 3.4 compliant and uploaded real-time to CEMSIS/NEMSIS. The implementation of all these data systems into user friendly data entry and reporting formats is essential to ensure that clean usable data is obtained. Integration of these data systems between dispatch, EMS providers, receiving facilities and state/national data systems is essential in opening up communication necessary to facilitate Clinical and Operational Quality Improvement.

These data systems are used to:

- Prospectively identify areas for improvement and enable data driven decisions
- Monitor system changes after QI interventions have been implemented
- Monitor individual and group performance in the EMS system
- Support research
- Provide benchmarks with other EMS systems

Data Quality Improvement activities include:

- User friendly ESO EHR data collection program for all 911 providers
- Data analytics: ESO Analytics, Tableau Analytics, First Watch Analytics, First Watch-First Pass automated monitoring of clinical bundles of care
- Integration and continuing maintenance of various data systems
- Health data exchanges with St. Rose and Alameda Health System have been established and will expand to include other receiving facilities. All specialty receiving facility MOUs include language requiring participation in a bi-directional data exchange.

EMS Provider Quality Indicators and Activities

Alameda County EMS has developed Quality Indicators and Activities Recommendations to assist EMS provider agencies in developing their Quality Improvement plans and processes.

While the EMS Agency is responsible for creating and coordinating the overall Quality Improvement Plan for the EMS system, each EMS provider agency involved is responsible for developing their own EMS QI plan to monitor internal quality indicators and perform quality improvement activities. While quality improvement procedures for clinical aspects of the organization are important, they are not exclusive. The EMS agency should also include quality improvement activities and measures for all aspects of the organization as it relates to EMS.

It would be overwhelming to attempt to list each activity and quality indicator that each system provider was responsible for accomplishing to maintain its ability to provide quality service to the EMS system users. The next table lists core quality activities and quality indicators for PSAPs, Dispatch, First Responders, Transport Agencies and Receiving Hospitals. These core activities and quality indicators are to be used as guidelines for specific EMS providers. Input from EMS providers comes to EMS through the Quality Council and other forums in determining the specific indicators and activities necessary in assessing, monitoring and improving the quality of the EMS system.

It is important to note that the purpose of Quality Indicators and Activities is to "turn up the volume" on the things the EMS system is doing well as well as identify processes that require improvement. ***The focus of EMS performance improvement is non-punitive.***

Summary of Recommended Provider Quality Indicators and Activities

PSAPs	Dispatch Centers	First Responders	Ambulance Services	Receiving Hospitals
Personnel/Resource Management				
Activities • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare **Indicators** • Workload Management • Employee Satisfaction • Employee Turnover Rate	**Activities** • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare **Indicators** • Workload Management • Employee Satisfaction • Employee Turnover Rate	**Activities** • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare **Indicators** • Workload Management • Employee Satisfaction • Employee Turnover Rate	**Activities** • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare **Indicators** • Workload Management • Employee Satisfaction • Employee Turnover Rate	**Activities** • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare **Indicators** • Workload Management • Employee Satisfaction • Employee Turnover Rate
Equipment/Supplies				
Activities • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources **Indicators** • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures	**Activities** • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources **Indicators** • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures	**Activities** • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources **Indicators** • The effect of the equipment on patient pain/suffering and outcome • Patient surveys/feedback • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures	**Activities** • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources **Indicators** • The effect of the equipment on patient pain/suffering and outcome • Patient surveys/feedback • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures	**Activities** • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources **Indicators** • The effect of the equipment on patient pain/suffering and outcome • Patient surveys/feedback • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures
Documentation				
Activities • Integration of Data Systems and Reporting **Indicators**	**Activities** • Integration of Data Systems and Reporting **Indicators**	**Activities** • Integration of Data Systems and Reporting • Documentation reviews (especially non-transports, critical patients, under-triages) **Indicators** • PCR data field compliance • PCR Printing compliance	**Activities** • Integration of Data Systems and Reporting • Documentation reviews (especially non-transports, critical patients, under-triages) **Indicators** • PCR data field compliance • PCR Printing compliance	**Activities** • Integration of Data Systems and Reporting • Documentation reviews (especially non-transports, critical patients, under-triages) **Indicators** • PCR data field compliance • PCR Printing compliance

PSAPs	Dispatch Centers	First Responders	Ambulance Services	Receiving Hospitals
Operations/Clinical Care/Patient Outcome				

Activities
• Training link to QI
• Unusual occurrence investigations
• Error Management
  • Error reporting system (including self-reporting)
• Correct assignment of resources
• Call Reviews
• Peer Reviews
	Activities
	• Training link to QI
	• Unusual occurrence investigations
	• Error Management
	  • Error reporting system (including self-reporting)
	• Correct assignment of resources
	• Call Reviews
	• Peer Reviews
		Activities
		• Training link to QI
		• Unusual occurrence investigations
		• Error Management
		  • Error reporting system (including self-reporting)
		• Correct assignment of resources
		• Call Reviews
		• Peer Reviews
			Activities
			• Training link to QI
			• Unusual occurrence investigations
			• Error Management
			  • Error reporting system (including self-reporting)
			• Correct assignment of resources
			• Call Reviews
			• Peer Reviews
				Activities
				• Training link to QI
				• Unusual occurrence investigations
				• Error Management
				  • Error reporting system (including self-reporting)
				• Correct assignment of resources
				• Call Reviews
				• Peer Reviews

Indicators • Time increments • Call volume • Calls per call taker • Correct prioritization • Accuracy of location identification • Correct provision of prearrival instructions • Correct transfer • Time of day distribution • Equipment failures • Unusual occurrence tracking • Complaint and Commendation tracking	**Indicators** • Time increments • Call volume • Calls per call taker • Correct prioritization • Categorization accuracy • Correct patient condition code • Accuracy of location identification • Correct provision of prearrival instructions • EMD compliance • Correct transfer • Time of day distribution • Equipment failures • Unusual occurrence tracking • Complaint and Commendation tracking	**Indicators** • Tracking critical procedures • Pain reduction Indicators • Patient centered outcomes and changes • Patient satisfaction surveys • Verifiable and accurate data collection • Over triage/Undertriage • Unusual occurrence tracking • Complaint and Commendation tracking	**Indicators** • Tracking critical procedures • Pain reduction Indicators • Patient centered outcomes and changes • Patient satisfaction surveys • Verifiable and accurate data collection • Over triage/Undertriage • Unusual occurrences • Complaints and Commendations	**Indicators** • Patient diagnosis • Pain reduction Indicators • Time to definitive treatment • Pt length of stay • Pt morbidity/mortality • Verifiable and accurate data collection • Over triage/Undertriage • Unusual occurrence tracking • Complaints and Commendations
Education and Skills Competency				
Activities • Training link to QI • Continuing education • Skills competencies • New procedures and technology • Emergency Medical Dispatch training and continuing ed. • Field Training/Evaluations • Mass casualty/disaster drills • Research Studies	**Activities** • Training link to QI • Continuing education • Skills competencies • New procedures and technology • Emergency Medical Dispatch training and continuing ed. • Field Training/Evaluations • Mass casualty/disaster drills • Research Studies	**Activities** • Training linked to Quality Improvement findings • Continuing education • New procedures and technology • Skill competencies • Recertification • Driver training • Mass casualty/disaster drills • Annual EMS training requirements • Protocol Development • Field Training/Evaluations • Research Studies • Establish patient outcome feedback loop to field providers	**Activities** • Training linked to Quality Improvement findings • Continuing education • New procedures and technology • Skill competencies • Recertification • Driver training • Mass casualty/disaster drills • Annual EMS training requirements • Protocol Development • Field Training/Evaluations • Research Studies • Establish patient outcome feedback loop to field providers	**Activities** • Training linked to Quality Improvement findings • Continuing education • New procedures and technology • Skill competencies • Recertification • Mass casualty/disaster drills • Protocol Development • Field Training/Evaluations • Research Studies • Establish patient outcome feedback loop to field providers
Indicators • Skills performance measures	**Indicators** • Skills performance measures	**Indicators** • Skills performance measures	**Indicators** • Skills performance measures	**Indicators** • Skills performance measures

PSAPs	Dispatch Centers	First Responders	Ambulance Services	Receiving Hospitals
Transport/Facilities				
Activities • Facility management • Disaster Resources/Caches	**Activities** • Facility management • Disaster Resources/Caches	**Activities** • Fleet management • Facility management • Resource deployment practices • Disaster Resources/Caches **Indicators** • Response times • Call time increments • Time on task • Call volume • Mutual aid requests • Accident rates • Vehicle/equipment failure rates • Simultaneous demand	**Activities** • Fleet management • Facility management • Resource deployment practices • Disaster Resources/Caches **Indicators** • Response times • Call time increments • Time on task • Call volume • Mutual aid requests • Accident rates • Vehicle/equipment failure rates • Simultaneous demand	**Activities** • Facility management • Disaster Resources/Caches • Reddinet Updates **Indicators** • Number and distribution of base contacts • Time to answer communications from field • Quantity of patients received • Frequency and duration of diversion • Number of patients received at wrong facility • Quantity of secondary transfers • Wait Times (drop times)
Public Education and Prevention				
• Community CPR • AED Programs • Bay Area Journal Club • Disaster Preparedness • Injury Prevention		• First Aid • When to call 911 • Vials of Life type programs • Referrals to other social and health care services (211)		• End of Life Care., POLST, Hospice • Neighborhood Safety • Violence Prevention • Illness Prevention • Stroke/Cardiac
Risk Management				
Activities • Specialized safety and risk training • CAL OSHA training and policy compliance • Unusual Occurrence investigations • Patient/Customer complaint Investigations **Indicators** • Illness/Injury rates and their severity • Unusual Occurrence tracking including “near misses”	**Activities** • Specialized safety and risk training • CAL OSHA training and policy compliance • Unusual Occurrence investigations • Patient/Customer complaint investigations **Indicators** • Illness/Injury rates and their severity • Unusual Occurrence tracking including “near misses”	**Activities** • Specialized safety and risk training • CAL OSHA training and policy compliance • Unusual Occurrence investigations • Patient/Customer complaint investigations **Indicators** • Illness/Injury/Exposure rates and their severity • Vehicle accident rate • “Near misses” • Unusual Occurrence tracking including “near misses” • Patient/Customer complaint tracking • Medication/Treatment error identification and tracking	**Activities** • Specialized safety and risk training • CAL OSHA training and policy compliance • Unusual Occurrence investigations • Patient/Customer complaint investigations **Indicators** • Illness/Injury/Exposure rates and their severity • Vehicle accident rate • Unusual Occurrence tracking including “near misses” • Patient/Customer complaint tracking • Medication/Treatment error identification and tracking	**Activities** • Specialized safety and risk training • CAL OSHA training and policy compliance • Unusual Occurrence investigations • Patient/Customer complaint investigations **Indicators** • Illness/Injury/Exposure rates and their severity • Unusual Occurrence tracking including “near misses” • Patient/Customer complaint tracking • Medication/Treatment error identification and tracking
Transparency				
Activities • Periodic and consistent reporting to policy-makers and governing entity • Timely, accurate, and complete data and information delivered to County EMS Agency • Open Communication • Development of a Non-Punitive Error Reporting Process	**Activities** • Periodic and consistent reporting to policy-makers and governing entity • Timely, accurate, and complete data and information delivered to County EMS Agency • Open Communication • Development of a Non-Punitive Error Reporting Process	**Activities** • Periodic and consistent reporting to policy-makers and governing entity • Timely, accurate, and complete data and information delivered to County EMS Agency • Open Communication • Development of a Non-Punitive Error Reporting Process	**Activities** • Periodic and consistent reporting to policy-makers and governing entity • Timely, accurate, and complete data and information delivered to County EMS Agency • Open Communication • Development of a Non-Punitive Error Reporting Process	**Activities** • Periodic and consistent reporting to policy-makers and governing entity • Timely, accurate, and complete data and information delivered to County EMS Agency • Open Communication • Development of a Non-Punitive Error Reporting Process

Quality Indicator Development → *Structure + Process + Outcome*

"If you don't measure, you don't know."

Quality Indicator Attributes:

Structure – "Things" in the system (# of paramedics per population, # of ambulances, resources)
Process – "Activities" or procedures (Response times, % of pts with pain > 7 receiving pain management)
Outcome – "Effects" (% of cardiac arrest patients that survive to hospital discharge)

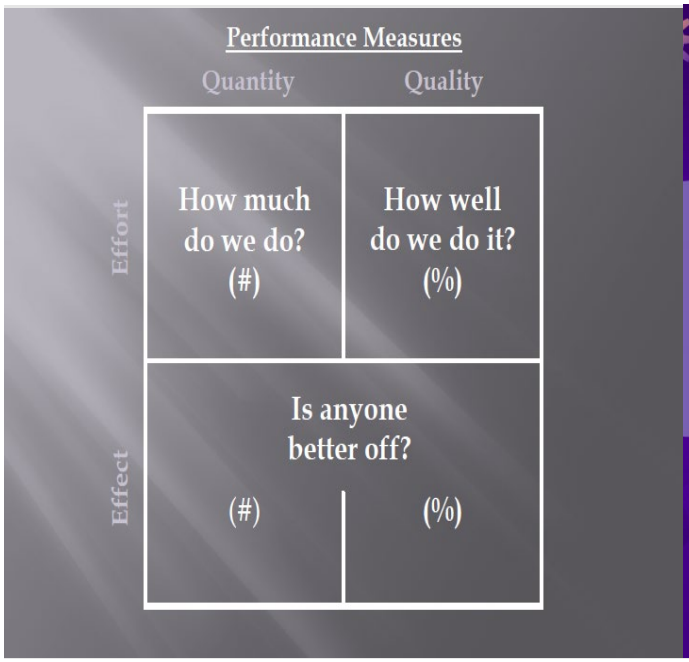
RESULTS BASED ACCOUNTABILITY (RBA) MODEL

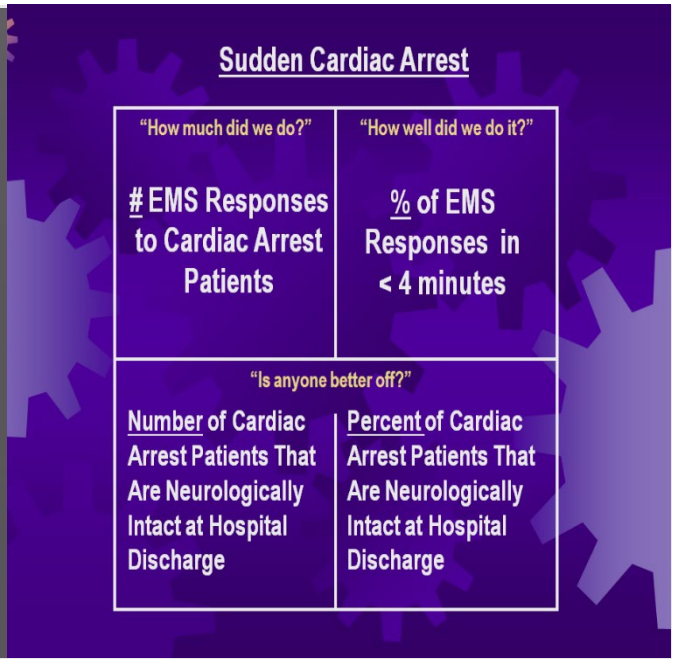
RBA uses a practical model for developing meaningful performance measures (quality indicators) by asking 3 simple questions:

"How much do we do?" Input resource components (such as leadership, workforce, suppliers, equipment, etc.) are measured. These are the least important performance measures but the easiest to obtain. These performance measures assess the quantity of effort we put in.

"How well do we do it?" The efficiency of design and delivery of work processes, productivity and operational performance are measured. These performance measures assess the quality of effort we put in.

"Is anyone better off?" The result or outcome of patient care, support services, and fulfillment of public responsibilities are measured. These are the most important performance measures and the most difficult to obtain. These performance measures assess the quality effect of our efforts.





THREE STEP PERFORMANCE INDICATOR DEVELOPMENT PROCESS:

1. Engage stakeholders and subject experts for consensus on where and how to get the data.
2. Identify the data sources and elements and then query the data.
3. Review the report and validate results. Determine best data display format.

Bi-Variable Indicator Specification Sheet

Performance Measure (Indicator) ID		
Performance Measure (Indicator) Name		
Description		
Type of Measure		
Reporting Value Units		
Denominator Statement (population)		
Denominator Inclusion Criteria	Criteria	Data Elements
Numerator Statement (sub-population)		
Numerator Inclusion Criteria	Criteria	Data Elements
Exclusion Criteria	Criteria	Data Elements
Indicator Formula Numeric Expression		
Example of Final Reporting Value (number and units)		
Benchmarks		
References		

2021 CALIFORNIA EMS SYSTEM CORE MEASURES

The purpose of the EMS system core measures project is to increase the accessibility and accuracy of Alameda County EMS reports core measures yearly to state the Emergency Medical Services Authority. Each Alameda County EMS provider can track core measure data real time using Tableau Reporting and ESO Analytics.

Measure ID #	Measure Name	Numerator Value (Subpopulation)	Denominator Value (Population)	Reported Value (%)	Notes and Comments
TRA-2	Transport of Trauma Patients to a Trauma Center	2825	3004	94%	All core measures were collected in ESO.
HYP-1	Treatment Administered for Hypoglycemia	1108	1523	73%	
STR-1	Prehospital Screening for Suspected Stroke Patients	1984	2012	99%	
PED-3	Respiratory Assessment for Pediatric Patients	167	176	95%	
RST-4	911 Requests for Services That Included a Lights and/or Sirens Response	219550	292776	75%	Falck uses MPDS priority codes to determine RLS response. Other agencies identify a much higher proportion of responses as emergent
RST-5	911 Requests for Services That Included a Lights and/or Sirens Transport	8508	104318	8%	

Alameda County Local Quality Indicators and Activities

In any data analysis (including for the quality indicators below), **all** of these factors must be considered.

- Data collection/measurement quality
- Random variation
- Population dynamics (What are THEY doing?)
- Provider dynamics (What are WE doing?)

AIRWAY, BREATHING, CIRCULATION					
Clinical Area	**Element**	**Quality Indicators / Performance Measures**	**QI Indicator Status**	**Key Findings / Indicator Values**	**Improvement Activities (planned or in progress)**
Airway	ETT/SGA I-Gel	Advanced Airway Success Rate	Active	2021 ETT - 535 Attempts 62% Success I-Gel - 822 Attempts 93% Success Success rates have not essentially changed over time	January 2020 - I-Gel implemented March 2020 - In the COVID pandemic, "if an advanced airway is required, it is suggested that the I-Gel be used preferentially over an endotracheal tube". See Addendum 2 for process change over time.
Airway	ETCO2	% Pts with all advanced airways receiving ETCO2 monitoring	Active (Retired Core Measure)	2021 94%	Focused education ESO EMS Index First Watch- First Pass monitoring
Breathing Pulmonary Edema	NTG/CPAP	% Receiving NTG, CPAP CPAP	Ad Hoc	June 2019-November 2021 Pulmonary Edema Analysis 69.8% received NTG 1.86 doses per patient given NTG 47.6% received CPAP	TBD, in progress
Cardiac Arrest	ROSC / Survival to Discharge	Bystander CPR Rate Sustained Return of Spontaneous Circulation (ROSC) % Survival to Hospital Discharge	Active	Bystander CPR Rate 2018 –38% 2019 – 27% 2020 – 33% 2021 – 33% Sustained ROSC 2021 – 20% Witnessed VF/VT (non-trauma) Survival to Hospital Discharge Utstein 1 2018 - 40% 2019 – 31% 2020 – 29% 2021 – 37% Utstein 2 2018 - 48% 2019 – 43% 2020 – 27% 2021 – 39% All Rhythms Survival to Hospital Discharge 2017 - 10% 2018 - 11% 2019 – 10% 2020 – 7% 2021 – 10%	Improved Cardiac Receiving Facility Data Collection CARES ECMO program implementation ongoing First Watch- First Pass Cardiac Arrest Automated Monitoring
Cardiac Arrest	Time to Defib	On scene to first Defib by EMS	Active	2019 – 8:45 2020 – 7:58	
Cardiac Arrest	CPR	Cardiac Compression Fraction (CCF) CC Rate Vent Rate Peri-Shock Pauses	Limited -Code Stat Active, BFD-ESO CPR Analytics	Limited data available	Expand Code Stat 2019 - BFD implemented ESO CPR Performance Reviews
Cardiac Arrest	Res-Q-Pod	% Of Pts receiving Res-Q-Pod (ITD) Mean time to Res-Q-Pod	Active Proposed	2021 – 82%	EHR data collection improvements

Cardiac Arrest	Death in Field	Cardiac Arrest Transport Rate	Active	2017 – 66.8% 2018 - 62.3% 2019 – 49.4% 2020 – 51.4%	See 2019 Policy Updates
Cardiac STEMI/ACS	Aspirin (ASA)	% Of Pts with CP-Suspected ACS Impression receiving ASA	Active (Retired Core Measure)	2017 - 89% 2021 – 93%	
	Scene Times	Scene time for STEMI patients (90th percentile)	Active (Retired Core Measure)	2017 - 24 min. 2018 - 27 min (estimate) 2020 - 26 min 2021 – 26 min	First Watch- First Pass ACS Automated Monitoring
Cardiac STEMI	Intervention Times	Avg. D2D (Door to Device) time (All STEMI Centers)	Active	2016 - 56 mins 2017 - 66 mins 2018 - 66 mins 2020 – 72 mins	
		% Of D2D < 90 minutes	Active	2014 - 98% 2016 - 97% 2017 - 86% 2018 - 87%	
	STEMI Alerts	STEMI ALERTS #		2020 – 449 2021 - 559	Expand CPR Analytics Improved STEMI Center Data Collection Upload all ECGs into ESO EMSA STEMI Center Regulations HDE
		E2D (EMS to Device) Time	Proposed		Develop E2D time measure
CVA	CVA Screening	Prehospital screening for suspected stroke patients, STR-1 Core Measure	Active	<u>STR-1</u> 2017 - 94.8% 2021 – 99%	
	Stroke Alerts			<u>STROKE ALERTS</u> 2018 – 1518 2021 - 2012	<u>2020 Field Policy Update</u> Expanding Time of Onset for initiating a Stroke Alert from 4 to 24 hours First Watch- First Pass Automated Monitoring
CVA	Blood Glucose	% Of suspected stroke patients with documented glucose testing	Retired Core Measure	2016- 95% 2017- 90% 2019 – 92% 2020 – 87%	Monitoring
CVA	Times	Avg. D2D time (All Stroke Centers)	Active	2014 - 39 mins 2016 - 41 mins 2017 - 38 mins 2018 - 42 mins 2019 – 41 mins 2020 – 43 mins	
		% Of D2D $\leq$ 60 mins.	Active	2014 - 71% 2016 - 87% 2017 - 83% 2018 - 86% 2019 – 93% 2020 – 90%	
		EMS On Scene Time (Median)	Active	2019 – 15:34 2020 – 15:47	
		E2D (Emergency to Device) Time	Proposed		Improved Stroke Center Data Collection EMSA Stroke regulations

PAIN MANAGEMENT					
Clinical Area	**Element**	**Quality Indicators / Performance Measures**	**QI Indicator Status**	**Key Findings / Indicator Values**	**Improvement Activities (planned or in progress)**
Pain Management	Pain Management	% Of pts receiving any medication when pain >= 7	(PAI-1 Core Measure Retired) Pain Reduction	See Addendum 2 Proposed	2014 Fentanyl added, Morphine removed 2014 Pain Scale documentation required 2020 Ketorolac added 2022 Ketamine added 2022 Opiate Withdrawal Policy added Highland, San Leandro recognized as a Opiate Withdrawal Receiving Centers
BURNS, TRAUMA					
Clinical Area	**Element**	**Quality Indicators / Performance Measures**	**QI Indicator Status**	**Key Findings / Indicator Values**	**Improvement Activities (planned or in progress)**
Trauma	Spinal Motion Restriction	#/% of Pts receiving spine motion restriction interventions # Of patients receiving vacuum mattress	Proposed	Long Backboard intervention continues to significantly decline since 2013 SMR policy implementation Sep-2012 - 662 July-2017 - 129 May 2018 - 120 May 2019 - 135 2022 - Requires Data	2013 - Spine Motion Restriction Policy Implemented 2016- Vacuum Mattresses required on all first responder apparatus and transport provider ambulances 2022 – SMR report to be established
Trauma	IV Fluid TXA	% Of pts/volume of IV fluid received when BP < 90 TXA Administrations	Proposed Active	2016 - 24 admins 2017 – 38 admins 2018 – 38 admins 2020 – 111 admins 2021 – 112 admins	2016 - TXA Trauma Pt Trial Study 2016- TXA re-education 2017 - Trail study ended 2018 - Local optional scope - TXA indicated for trauma patients 2020 - Expanded TXA Indications to include post-partum hemorrhage and GI bleed patients 2022 - Removed GI bleed indication
Trauma		Time intervals, Start with total time, time of incident to trauma center arrival	Proposed		
Trauma	Pts > 65 with ISS > 21 to trauma center	Proposed	Proposed		Proposed
Trauma	Trauma	Pts with ISS > 15 to trauma center	Proposed		Proposed
Trauma	Trauma	On Scene Time 90th%	Active (Core Measure Retired)	2016 - 26.3 min. 2017 – 24.9 min. 2018 – 26.3 min. 2020 – 38 min 2021 – 31 min	Reassess data collection methodology
Trauma	Trauma	Direct transport to trauma center, TRA-2 Core Measure	Active	2016 - 95%, 2017 - 98% 2018 - 99% 2019 - 97% 2020 - 91% 2021 - 94%	
OTHER MEDICAL EMERGENCIES					
Clinical Area	**Element**	**Quality Indicators / Performance Measures**	**QI Indicator Status**	**Key Findings / Indicator Values**	**Improvement Activities (planned or in progress)**
Status Seizure	EEG	In Progress	Active	In Progress	Since EEG is the gold standard to detect seizures, Prehospital Impact of Rapid EEG (PHIRE) study in progress to determine feasibility of using rapid-EEG technology in prehospital setting

Status Seizure	Midazolam	% Of pts with status seizures receiving Midazolam Midazolam administration routes		2013 – 2018 62% received Midazolam No evidence of respiratory harm 2018 IM: 18.70% IN: 40.75% IO: 0.39% IV: 40.16% 2022 Will remeasure	2020 - Prehospital midazolam use and outcomes among patients with out-of-hospital status epilepticus - Guterman 2020 Policy Update: Midazolam Administration for Status Seizure Patients MODIFY Adult IM/IN dose to 10 mg MODIFY Adult preferred route to IM MODIFY Pediatric IM dose to 0.2 mg/kg MAINTAIN Pediatric preferred route of IN (0.2 mg/kg) First Watch- First Pass Status Seizure Automated Monitoring
PROCEDURES					
Clinical Area	**Element**	**Quality Indicators / Performance Measures**	**QI Indicator Status**	**Key Findings / Indicator Values**	**Improvement Activities (planned or in progress)**
IO Therapy	IO	Humeral IO % GCS > or < =3	Proposed	Proposed	Review appropriateness of IO administrations
IV Therapy	IV	% Success Per Attempt IV Fluid vs. SL use	Proposed	Proposed	Review appropriateness of IV administrations
Sedation	Midazolam			"Out-of-hospital midazolam for sedation in acute behavioral emergencies appear to not be associated with the respiratory events of stridor, hypoventilation, apnea, or intubation. Transient episodes of desaturation resolved with supplemental oxygen alone."	2017 - Safety of Out-of-Hospital Midazolam in Behavioral Emergencies - Hern Will re-evaluate
OPERATIONS					
Clinical Area	**Element**	**Quality Indicators / Performance Measures**	**QI Indicator Status**	**Key Findings / Indicator Values**	**Improvement Activities (planned or in progress)**
Aircraft	Launches Transports	#	Active	See Addendum 2	Monitor Review Dispatch and Field Policies
Call Response	Response Times	Response Time Compliance (TCR to On Scene Arrival) Call/Transport Volume	Active	Responses 2018 - 159,289 2021 – 144,719 See Addendum 2 for transports	FALCK has ongoing ambulance deployment analysis Reassess data collection methodology Proposed measure from first ring time at PSAP
Continuity of Patient Care	Ambulance Patient Offload Time (APOT)	APOT → Ambulance Destination Arrival to Turnover of Care	Active	90th Percentile APOT 2019-- 35 min 2020 – 38 min 2021 – 44 min See Addendum 2 for Ambulance clear times	APOT Data analysis IAW EMSA guidelines Monthly data website posting Reporting to EMSA Improvement engagement with hospital leadership and provider agency care providers First Watch Hospital Status Dashboard Real-time monitoring of ambulance destination arrivals including hospital clear times All 911 Provider CAD data integrated into First Watch
Data Compliance	ECG Monitor data uploads to EHR	% Of 12 lead, all ECG and CPR uploads from LP-15 to ESO EHR and Code Stat	Proposed	Measure pending Current upload process using cables is cumbersome	Upload trial of cardiac arrest pt data to CodeStat in progress Investigating wireless uploads FALCK implementing monitor uploads
Dispatch	MPDS	Time response analysis Critical intervention analysis for determinants	Active	Ongoing MPDS Steering Committee analysis of MPDS dispatch priorities and	Time Sensitive Intervention analysis tied to MPDS determinants to determine dispatch priority

		EMD compliance/correct categorization		determinants compared with Time Sensitive Interventions and Transport Rates	27B response priority changed to post intervention analysis 6E analysis and MPDS Guideline changes July 1, 2019, the dispatch of calls shifted from an ALPHA to ECHO based system to a priority-based system BLS responses have increased MPDS Steering Committee to meet in 2022 FW MPDS Public Dashboard in progress
Dispatch	Dispatch Time Increments	Time response analysis	Proposed	PSAP data is unavailable	Develop QI indicator for PSAP first ring time to first EMS response time ACRECC time interval analysis in progress
Dispatch	Pre-Arrival Instructions	% of callers receiving proper pre-arrival instructions (ASA, CPR etc…..)	Proposed	PSAP data is unavailable	Develop QI indicator for PSAP first ring time to first EMS response time Audit pre-arrival instructions
Patient Satisfaction	Time Pain Discomfort		Active		Falck and ACFD are surveying patients
Transport	Transport Rate	Transport Rate Refusal of Care Rate Assess and Refer Rate	Active Proposed Proposed	(See Addendum 2)	Assess and Refer Policy See 2019 Policy Updates Falck BLS Refusal of Care Trial Refusal of Care and Assess and Refer data collection requires improvement

Process, Data and Quality Indicator Analysis

Data Communication

The use of charts is essential in the analysis of processes, data and quality indicators. While many different types of charts exist, the following charts provide the best process analysis. These charts are also easy to create and use.

Control Charts measure process improvement. **Process Improvement = Quality Improvement**

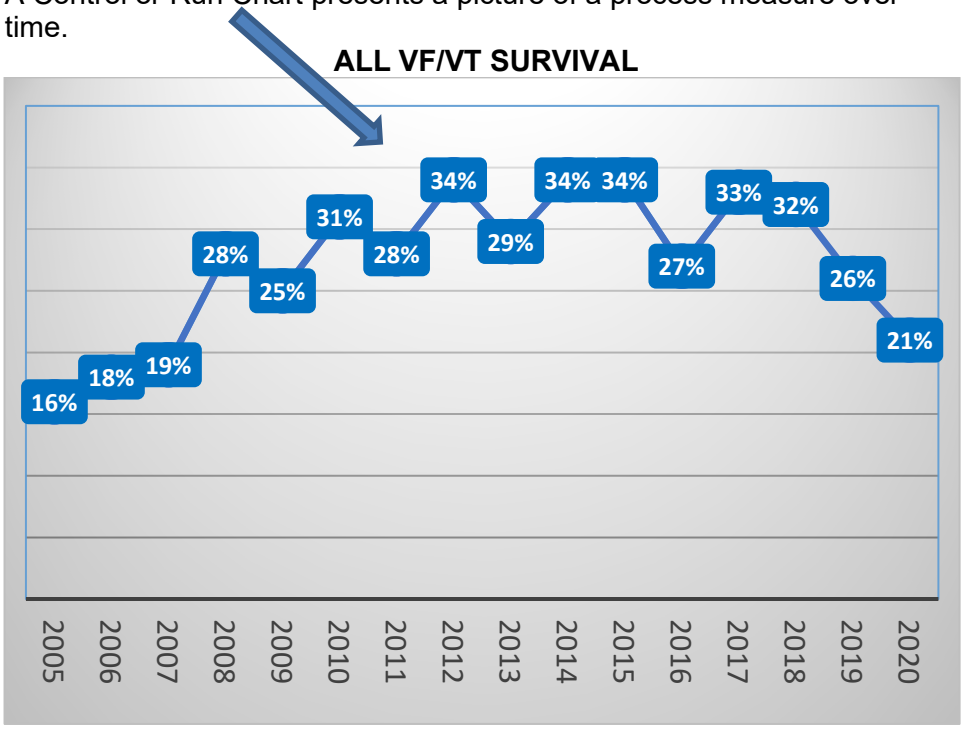
Our current processes are perfectly designed to produce the results we are getting.

If given two different numbers, one will be bigger than the other. However, if given a series of numbers over a period of time and then "plotting the dots", a picture of a process starts to emerge.

All data has a time component of some sort. While many charts analyze process improvements, Control charts provide the best illustrations of process improvement over time. These charts are simple to create and easy to understand. Control charts are a necessary tool all organizations **must** use to determine whether a process is improving or merely operating within some variation.

A chart of numbers is just a chart of numbers.

A Control or Run Chart presents a picture of a process measure over time.

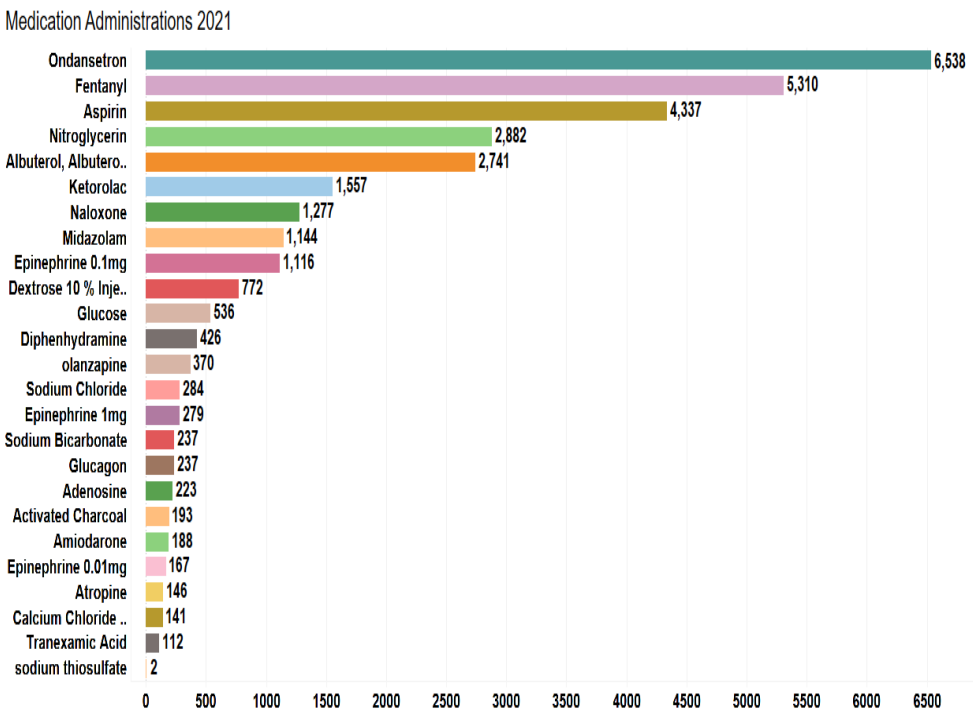


Year	ALL VF/VT SURVIVAL
2005	16%
2006	18%
2007	19%
2008	28%
2009	25%
2010	31%
2011	28%
2012	34%
2013	29%
2014	34%
2015	34%
2016	27%
2017	33%
2018	32%
2019	26%
2020	21%

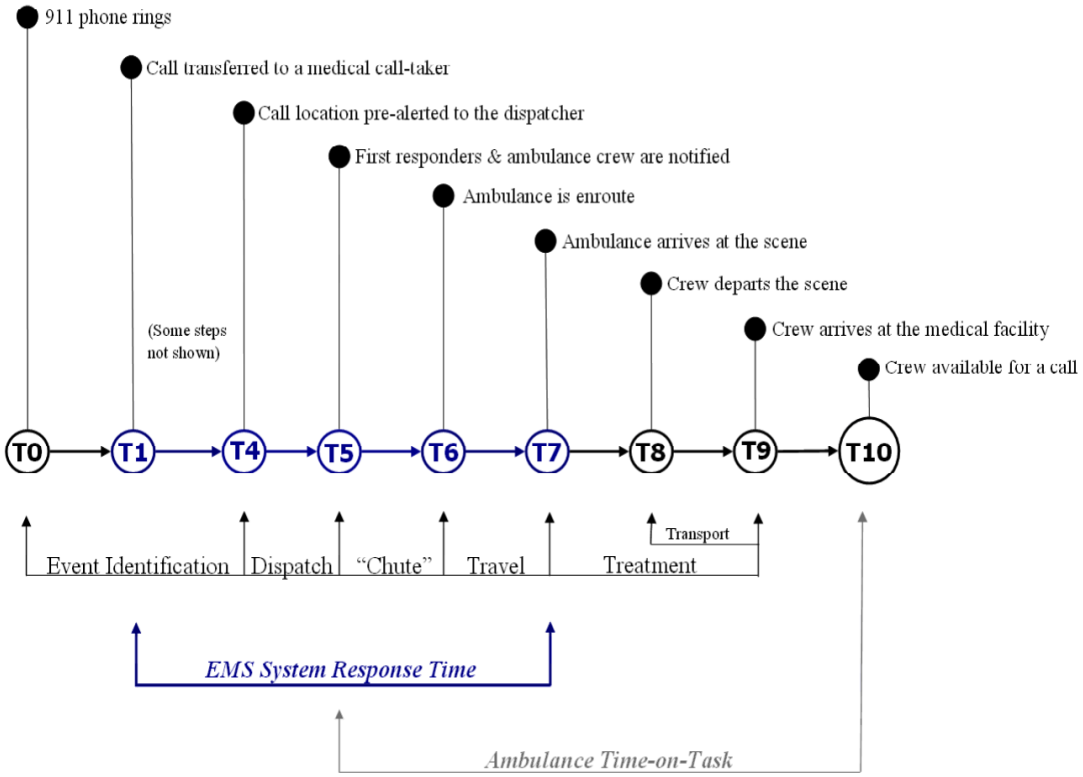
HORIZONTAL BAR CHARTS identify ranked process contributing factors and/or characteristics.

Medication Administrations 2021

Ondansetron	6,538
Fentanyl	5,310
Aspirin	4,337
Nitroglycerin	2,882
Albuterol, Albutero..	2,741
Ketorolac	1,557
Naloxone	1,277
Midazolam	1,144
Epinephrine 0.1mg	1,116
Dextrose 10 % Inje..	772
Glucose	536
Diphenhydramine	426
olanzapine	370
Sodium Chloride	284
Epinephrine 1mg	279
Sodium Bicarbona..	237
Glucagon	237
Adenosine	223
Activated Charcoal	193
Amiodarone	188
Epinephrine 0.01mg	167
Atropine	146
Calcium Chloride ..	141
Tranexamic Acid	112
sodium thiosulfate	2



FLOW CHARTS provide a picture of the structure of an organization or the workflow of a process over time.



IV. Action To Improve

"What are we doing to make things better?"

The EMS Agency shall establish and facilitate a system wide quality improvement program to monitor, review, evaluate and improve the delivery of prehospital care services.

The program shall involve all system participants and shall include, but not be limited to the following activities:

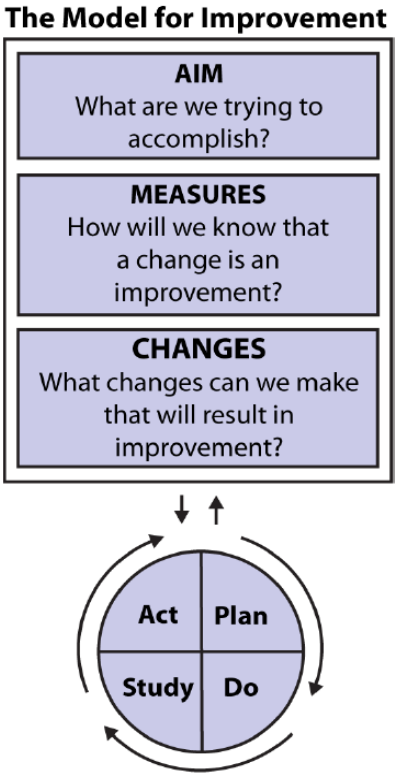
- Prospective - designed to prevent potential problems.
- Concurrent - designed to identify problems or potential problems during patient care.
- Retrospective - designed to identify potential or known problems and prevent their recurrence.
- Reporting/Feedback - all quality improvement activities will be reported to the EMS Agency in a manner to be jointly determined. As a result of Q.A. activities, changes in system design may be made.

In developing QI activities, various models and methodologies such as **The Model for Improvement**, **PDSA**, **DMAIC** and **Program/Project Management Model** should be used by any organization's quality improvement team.

The Model for Improvement

Institute for Healthcare Improvement

Aim
What are we trying to accomplish? How good? By when? For whom?
Measures
How will we know a change is an improvement? What are the process and outcome measures?
Changes
What change can we make that will result in improvement?



The **PDSA Cycle** gives us a way to quickly test changes on a small scale, observe what happens, tweak the changes as necessary, and then test again—before implementing anything on a broad scale.

Plan
State objective of the test, make predictions, develop an improvement plan to carry out the test (who, what where, when)
Do
Carry out the test or trial, document problems and unexpected observations, begin analysis of the data
Study
Complete the analysis of the data, compare the test data to predictions, and summarize what was learned
Act
What changes are to be put into policy and institutionalized?
What will be the objective of the next cycle?
What, if any, re-education or training is needed to effect the changes?

Six Sigma Model

The focus of Six Sigma is reducing variation or the defect rate, measured by Sigma level, or "Defects per Million Opportunities." The Six Sigma improvement framework consists of six basic steps, known as **DMAIC**.

Define
Define the problem in detail.

Measure
Measure defects (in terms of "defects per million," or Sigma level).

Analyze
In-depth analysis using process measures, flow charts, defect analysis to determine under what conditions defects occur.

Improve
Define and test changes aimed at reducing defects.

Control
What steps will you take to maintain performance?

Once an Improvement Plan has been implemented, the results of the improvement must be measured. Changes to the system will be integrated and standardized. A plan for monitoring future activities will be established to ensure the change continues. Findings and plans are discussed and implemented through the EMS Quality Council.

Program/Project Management Model

Program/Project Title	A short title that labels the program/project should be concise and clear.
Purpose	A clear program/project purpose related to the overall EMS Purpose to improve health and reduce pain and suffering should be clearly defined in one sentence.
Vision	Where we see the program/project in the future related to the overall EMS Vision should be clearly defined in one sentence.
Values	The main concerns and cares of the program/project related to the overall EMS Values of STARCARE should be stated.
Program/Project Scope	The parameters of the program/project, what's included and/or not included, "what's in or out", should be defined.
Program/Project Members	The program/project leader and members should be listed. The roles and responsibilities of the leader and each member should be clearly defined.
Measurements, Outcome	Established benchmarks and measures as well as other innovative data measures that are pertinent to the improvement program/project should be established. Results and measurements from the patient's perspective are essential.
Improvement Projects	Define the specific work being done within the Quality Improvement program/project.
Schedule	The difference between a wish and a goal is that a goal contains a deadline. Intermediate and final project deadlines should be determined and followed.

COVID PANDEMIC

The COVID pandemic necessitated radical rapid-cycle quality improvements to EMS clinical care and operations.

Communications
Almost all meetings with external parties performed virtually

Assess and Refer Expansion
To reserve valuable finite paramedic transport resources for the highest acuity patients, paramedics were directed that "the patient request for transport may be declined by a paramedic if they meet criteria of low acuity". Ambulance transport rates were reduced after this directive. (See Addendum 2)

Logistics/Supply
In response to COVID-19, the EMS Agency positioned multiple staff members in the DOC and County EOC to be responsive to Resource Requests for equipment, supplies, personnel, and other items. During that time, we have served approximately 600 different organizations and fulfilled over 6,000 resource requests. Due to the rapidly evolving nature of the pandemic, we have rapidly implemented new technology and other logistical changes to be manage the demand and ensure accessibility to those in need.

Data Collection
- COVID documentation expanded in ESO
- Tableau reporting expanded

Infectious Disease Response
- **PPE** - CDC recommendations prescribed
- **Testing** - ALCO EMS coordinated and led in the management of many testing sites
- **Vaccinations** - ALCO EMS coordinated and led in the management of many vaccination sites
- **Aerosolized Procedures**
  - Pre-COVID Pandemic, for patients ≥ 40 kg, i-gel airways were prescribed in field policy to be placed after unsuccessful endotracheal tube (ETT) attempts. During the COVID pandemic, I-Gel has been prescribed to be used preferentially over an ETT. See Addendum 2.
  - Per CDC guidelines, N95s recommended for every aerosolized procedure (Advanced Airway, Nebulized Medications, CPAP, Suctioning)

Hospital Impacts on EMS System
APOT - The pandemic has contributed to an adverse effect on Ambulance Patient Offload Times (APOT). Each COVID wave contained a corresponding increase in APOT. See Addendum 2. ALCO EMS has worked with each 911 ambulance provider and receiving facility to improve APOT.

Field Manual Policy Updates (See Addendum 1)
- 2020 Policy Review Process was suspended except for Chest Pain policy update in Dec.
- In 2021, the Policy Review Process resumed. 2022 updates were implemented Jan. 2022.
- After discussion with Quality Council, the 2022 Policy Review Process for 2023 updates are suspended and will resume in 2023 for 2024 updates

POLICY REVIEW PROCESS

(See Addendum-1, Annual Policy Update Summaries)

1. INTRODUCTION

1.1 The policy review process is an advisory process to the EMS Medical Director for the formulation of medical protocols. Policy suggestions and/or draft policies are accepted from committees, system participants, individuals, and/or interested parties.

1.2 Policies will be evaluated on an annual basis with adequate time allowed for training and distribution. Specific recommendations for additions, deletions and/or revisions should be forwarded to the EMS Agency.

2. POLICY PROCESS

2.1 Written Public Comment Draft

2.1.1 The EMS office will distribute draft policies to the appropriate system participants and/or interested parties for written comments.

2.1.2 Policies under consideration that affect the EMS system as a whole will be sentout for review by all systems participants. A policy under consideration that applies to a limited group will only be sent to those who would be directly affected.

2.1.3 The time frame allowed for the return of comments will be 60 days. Comments may be mailed or faxed to the EMS office but must be received no later than 4 p.m. on the deadline date.

2.1.4 All comments will be reviewed by the EMS Medical Director. All suggestions will be taken into consideration.

2.2 Public Testimony

2.2.1 Public comments will be heard at the next most appropriate Emergency Medical Oversight Committee (EMOC) meeting (usually in August)

2.2.2 A final draft of the policy will be distributed prior to the meeting.

2.2.3 Time will be allotted at the meeting for public testimony and discussion. All recommendations will be taken into consideration during the finalization of the policy.

3. ANNUAL POLICY REVIEW PROCESS TIMELINE

Policy Review Process	Timeline
Deadline for policy ideas	**April**
Written public comment draft released	May
Written comments due back to EMS	**June**
Public Testimony at EMOC	July
Finalized policies released	**August**
Update training	August/September
Effective date of new policies	**January 1 of Policy Year**

Specific dates set annually. Subject to change.

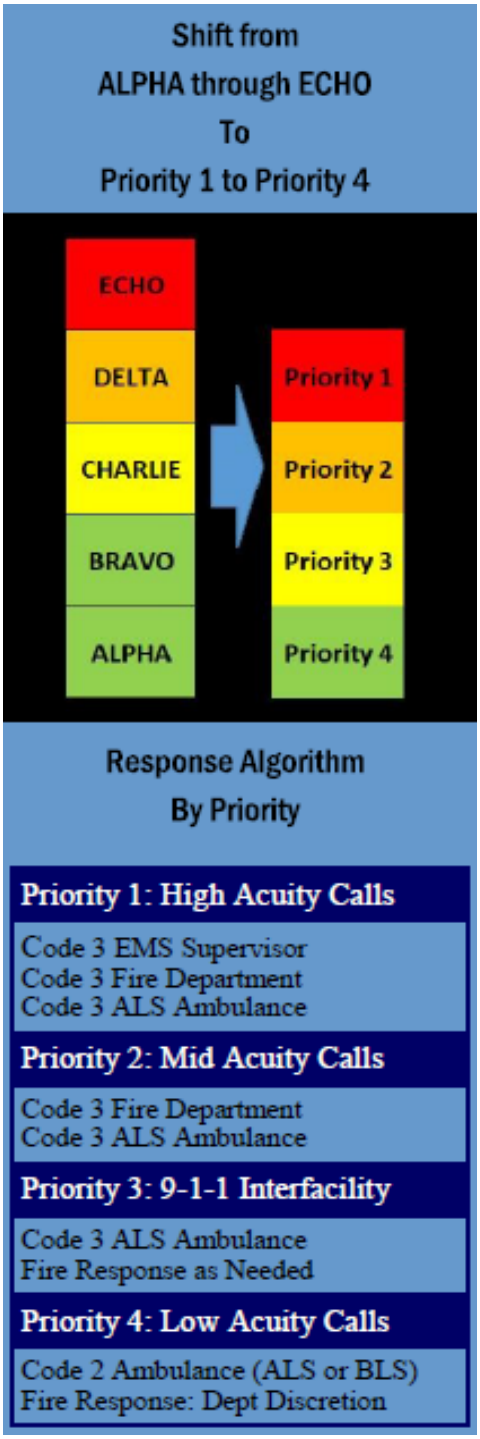
DISPATCH RESPONSE RE-PRIORITIZATION

On July 1, 2019, the dispatch of calls shifted from an ALPHA to ECHO based system to a priority-based system. Utilizing an evidence-based approach with ALCO EMS historical data (Transport Rate and ALS Time Sensitive Intervention Rate), a response prioritization matrix has been developed by the EMS Medical Director. Through the creation of a response prioritization matrix, the Alameda County EMS is using its experience with Medical Priority Dispatch System (MPDS), its two approved EMD Accredited Centers of Excellence (Oakland Fire and ACRECC), and outcome data to optimally deploy prehospital personnel.

The evidence-based analysis and review of the priority-based dispatch results is ongoing. Specific modifications may be required by comparing each MPDS determinant to its subsequent Time Sensitive Interventions and Transport Rates to analyze the appropriateness of the dispatched resource.

With the goals of improving system response flexibility and efficiency, an evidence-based list of calls eligible for BLS response has been created in allow providers to supplement their fleet of ambulances with BLS resources. This allows greater availability of ambulances for the system and ensures ALS ambulance availability for higher acuity calls where their presence may make a difference.

While BLS 911 response has been historically been underutilized, with the introduction of the prioritization matrix, BLS resources have been utilized closer to their full potential. The idea of BLS utilization is not to replace ALS responses but instead to supplement them. The goal is to improve flexibility and efficiency in responding the right resources to the right patients at the right time at the lowest responsible cost.



SYSTEM REDESIGN

Since 2019 we have been convening stakeholder meetings to inform our next RFP. Organizations have been cross-sectional and inclusive. The original stakeholder group included the LEMSA, fire departments, hospital leadership, city managers, representatives from labor, staff members from the Board of Supervisor districts, ambulance providers, and more. After those stakeholders met, the vision of the group was presented to community groups for feedback including access and functional needs communities, senior care providers, Public Health Commission, Mayors Conference, Board of Supervisors, at-large community meetings, and more.

QUALITY IMPROVEMENT ACTIVITIES SUMMARY

QI Project/Programs	Primary QI Partners	QI Activities
Cardiac Care/STEMI	• The CARC/STEMI Committee with STEMI centers and EMS providers • Take Heart America • Equipment Vendors	• System Based Approach • Cardiac Arrest Registry to Enhance Survival (CARES) Improving STEMI Triage • Reduce time from onset to definitive care • Community AEDs • 12 Lead Program/Transmission • Feedback to providers on Pt outcomes (ESO HDE) • MOU Renewals • "ECMO To Go" • Code Stat
Stroke Care	Stroke Committee with Stroke Centers and EMS providers	• Improving Stroke Triage • Reducing time from onset to definitive care • Time of Onset for Stroke Alert expanded from 4 to 24 hours • Public Stroke Education • Feedback to providers on Pt outcomes

Trauma Care	• Trauma Audit Committee (TAC) with Trauma Centers and Providers
	• Regional TAC with other counties
	• Air Transport Providers
		• Trauma Case Reviews
		• Improve Triage
		• Improve Spinal Immobilization Triage and Care
		• Efficient Aircraft Utilization
		• Feedback to providers on Pt outcomes
		• American College of Surgeon Trauma Center Verifications
		  ○ Children's - Level I
		  ○ Highland - Level I
		  ○ Eden - Level II

Pain and Suffering Reduction	All	• Reduce pain and suffering • Analyze pain scales before and after treatments • Analyze causes of pain and suffering • Analyze non-invasive pain reduction treatments in all demographics • Analyze analgesic and anti-nausea treatments in all demographics • Implementation of comfortable patient movement measures such as vacuum mattress use • Patient Satisfaction Surveys
Disaster Planning, Response, Pediatric Readiness	All partners, local and statewide	• Improved communication strategies between local, state and federal agencies • Improved EMS surge capacity • Improved EMS disaster caches • Disaster drills and training • ReddiNet expansion and training • EBRICSA - ALCO Permitted BLS providers have installed EBRICS radios in each permitted ambulance • Stop the Bleed • Pediatric Readiness Project - Strengthen Pediatric Readiness • Contract with UCSF Benioff Pediatric Site Visits and follow-up reports with recommendations for improvement ongoing
Agreements	Contracted Providers and Partners	• Contract compliance monitoring of all line items • Development of new agreements
Unusual Occurrences, Investigations, Enforcement	All providers and receiving facilities	Development of an EMS investigation/enforcement unit with CLEAR training (or equivalent) • Identify sentinel events • Development of a standard intake and investigation process • Investigate all Unusual Occurences • Transparent reporting

Data Collection, Flow and Analysis	• EMS Providers • Data Steering Committee with all partners/provider • First Watch • ESO • Stryker • DNI	• Improving the flow of data between all partners and EMS • Improve monitor data upload to ESO EHR • Tableau reporting analytics used by all EMS providers • Improved data communications via wireless, internet, intranet and landlines • Use of data expertise, Epidemiologist added • Use of local data for EMS system analysis and interventions if necessary • Definitive Networks Incorporated Data Hosting / Training Services contract to 06/30/2023 • Established bi-directional data exchanges with St. Rose, Alameda, Highland, San Leandro, John George, Adding other hospitals in progress • First Watch-First Pass added, First Pass - Patient Centric View added
EMT Certification, Paramedic Accreditation	• EMS Providers • EMSA	• EMS certification and accreditation policies • Implementation of an electronic online EMT Certification and Paramedic Accreditation process in progress • Providers to update new hire employee education and continuing education plans including field training and evaluation • Policy 2000 Policy/Skills Competencies updated 11/2021
EMT/ Paramedic Training Programs	• All In-County Training Programs • All providers	• Update Training Program Policies • Preceptor Program Improvement • Ensuring provider and training programs are compliant with EMS state and local policies • EMS Core
Policy/Protocol Development	• Quality Council • Stroke Committee • STEMI/CARC Committee • TAC • EHR Committee • EMS Section Chiefs • Receiving Hospital Committee • Field Providers Input • EMS for Children (EMSC)	• Continuous update of policy/protocols to address system improvement needs • Simplification of existing policies • Increase flexibility in protocol development and implementation to include online training and electronic protocol distribution • Updated Mobile Field Manual Application • 2022 911 Field Manual update implemented 01/2022 • 2022 CCP Field Manual update proposals in progress
EMS Operations	All	• First Watch Hospital Status provided to field crews BFD, PFD, HFD, AlbFD CAD links established with First Watch • System Redesign

Medical Direction/ Research	All	• Field Protocol Updates
		• Clinical Oversight
		• EMS Fellowship Program
		• Research
		  ○ Respiratory Distress
		  ○ Status Seizures
		  ○ Overdose Receiving Centers
		  ○ Mobile Integrated Healthcare
		  ○ Post-ROSC Blood Pressure
		  ○ MPDS/Transport Rates
		  ○ PHIRE (EEG)
		  ○ End of Life Care
		  ○ Pulmonary Edema

Injury Prevention	All	Youth and Senior Injury Prevention
Aircraft Utilization	CALSTAR, REACH, CHP, Lifeflight, EBRPD	Monitor appropriate aircraft utilization
Emergency Medical Dispatch	• All Providers and Dispatch Centers • All PSAPS	• Timely dispatch of appropriate resources • MPDS QI/QA Time Sensitive Interventions
Community Paramedicine Specialized Responses	Specialized Behavior Health responses by OFD, Alameda City and Falck (CATT)	Measure programs' impacts

SPECIALIZED QUALITY IMPROVEMENT ACTIVITIES

EMERGENCY MEDICAL SERVICES FOR CHILDREN (EMSC) is a program that addresses the specific care of children within the EMS system to include the prevention, prehospital, emergency department, in-patient and rehabilitation services. This includes planning, implementation, management, policy development, evaluation, and education consistent with new California EMSC Regulations effective July 1, 2019. UCSF Benioff Children's Hospital has a contract with EMS to conduct QI pediatric readiness assessments and simulation training.

HOSPITAL PREPAREDNESS PROGRAM (HPP)
The Health Emergency Preparedness and Response (HEPR) Unit Lead within EMS coordinates the HPP workplan deliverables with the HPP Coordinator and HPP LEMSA Liaison. ALCO EMS staff support activities of the HPP workplan (such as the 700-megahertz radio programs and the annual statewide exercises).

REGIONAL DISASTER MEDICAL HEALTH SPECIALIST (RDMHS)
For California's heat emergencies, wildfires, COVID pandemic, and other disasters, the RDMHS provides 24/7 mutual aid coordination for medical and health needs including processing situation reports and resource requests from the Region II Operational Areas.

CPR 9
CPR 7 was a program developed in 2010 for public school 7th graders in Alameda County. Since the State of California recently passed legislation requiring 9th grade health science students be trained in CPR as a graduation requirement, CPR 7 transitioned into **CPR 9** using CPR Anytime training kits. ALCO EMS continues to support the school CPR training efforts.

PROJECT HEARTSAFE ensures community sites and Alameda County departments have **AEDS** placement, training and maintenance. The VIA Heart Foundation has a contract with Alameda County EMS to provide oversight and maintenance of 92 community AEDs.

CRITICAL CARE PARAMEDICS (CCPs) deliver advanced critical care when moving patients from one health care facility to another or when responding directly to the scene of a medical or trauma emergency. CCPs perform detailed patient assessments, provide invasive out-of-hospital care (such as ventilator management), and specialized treatments including advanced medication infusions. San Francisco County EMS and Alameda County EMS are jointly working on common CCP protocols, expanding CCP scope of practice and CCP accreditation reciprocity.

COMMUNITY PARAMEDIC provide follow-up care for selected individuals with chronic illnesses who have been recently discharged from the hospital. Additionally, Community Paramedics will connect at-risk populations to appropriate resources, including those who frequently use emergency services.

BEHAVIORAL HEALTH FIRST RESPONDERS provide immediate assessment, management, navigation, and referral or transport, as appropriate to individuals presenting with behavioral emergencies in the community. The goal of the program is to provide access to the appropriate care, services, and resources that will best meet the needs of the individual.

COMMUNITY ASSESSMENT & TRANSPORT TEAM – CATT is a collaboration among core Alameda County Health Care Services Agency programs - Behavioral Health Care Services, Emergency Medical Services, and Alameda Care Connect (Whole Person Care) – as well as other partners – 911 dispatch, the County Sheriff's Office, city police departments, city health and human services, and other relevant services - to ensure the crisis response system is more agile and flexible.

V. Training and Education

EMERGENCY MEDICAL SERVICES CORPS trains youth from our community as Emergency Medical Technicians (EMTs) and prepares them for careers in healthcare and public service. EMS Corps is a 5-month paid program for young minority men and women between the ages of 18 and 26. An EMS Corps paramedic training program is also proposed.

ALAMEDA COUNTY HEALTH PIPELINE PARTNERSHIP provides ethnically diverse youth of the county with academic, social, and professional development to build a successful career in all areas of the health industry. The vision is to have a healthy workforce that reflects the rich ethnic and cultural diversity of our community.

INJURY PREVENTION

Safe Kids partners with community organizations to provide public education and assistance to reduce preventable injuries to youth:

- **Child Passenger Safety**
- **Helmet Safety Program**
- **Railway Safety**

Senior Injury Prevention Program (SIPP) partners with community organizations to provide public education and assistance to reduce preventable injuries to older adults.

- Physical Activity Training Sessions
- Home modifications
- Medication management
- Fall Prevention
- Driving Safety
- Bone Density Screenings
- Hospice “Getting the Most Out of Life”

STOP THE BLEED is a national awareness campaign and call-to-action intended to cultivate grassroots efforts that encourage bystanders to become trained, equipped, and empowered to help in a bleeding emergency before professional help arrives.

SPECIALIZED TRAINING - DRILLS – EXERCISES

- Various disaster training, drills and exercises
- Tactical Emergency Medical Support (TEMS) training
- Stop The Bleed https://www.bleedingcontrol.org/
- Ambulance Strike Teams
- Vaccination Training
- Pediatric Surge Training
- Emergency Preparedness Training
- EMSC Forum
- Pediatric Surge
- Senior Injury Prevention Conference
- Preceptor Training/Intern Orientations
- EMS Orientation for Paramedic Accreditation
- EMS Protocol Train the Trainer

PARAMEDIC AND EMT TRAINING PROGRAMS

Paramedic and EMT Training Programs are approved and monitored in accordance with California Code of Regulations, Title 22. Training programs receive EMS education initiatives associated with treatment protocol updates and quality improvement activities.

CONTINUING EDUCATION (CE) ***Title 22. DIVISION 9. CHAPTER 11***

Training and Education is fundamental to the success of quality improvement and is addressed in collaboration with quality and training experts from all of our partners throughout the EMS system. CE training program objectives are designed to:

- Meet State licensure/certification requirements and/or County accreditation requirements
- Be developed with educational content to address Alameda County specific needs
- Provide standards-based training for all fire and ambulance personnel
- Integrate prehospital skills/CE training into a county-wide system
- Utilize patient simulator training countywide to achieve training objectives
- Improve and integrate "partners" in ALS/BLS training
- Facilitate increased interagency training to promote cooperation and respect

EMS will work in strong partnership with CE training programs to communicate and educate EMS providers throughout the system in the following ways:

- Identification, development and implementation of EMS best practices
- Skills and protocol focused indicator reports monitoring field practice and success
- Annual EMS updates on protocol changes and quality initiatives
- Report to constituent groups
- Describe next year's work plan based on the results of the reporting year's indicator review

VI. ANNUAL UPDATE

Sample Work Plan Template

Indicators Monitored	Key Findings/Priority Issues Identified	Improvement Action Plan Plans for Further Action	Were Goals Met? Is Follow-up Needed?

.

For annual update details see:

- **Pages 26-32 - Alameda County Local Quality Indicators and Activities**
- **Pages 33-40 - Action to Improve**
- **Pages 41-12 - Training and Education**
- **Addendums 1 and 2.**

ADDENDUM-1 / 2016-2022 FIELD POLICY UPDATE SUMMARIES

2022 POLICY UPDATE SUMMARY

FIELD POLICY/PROTOCOL	2022 SUMMARY OF FIELD MANUAL UPDATES (09/24/2021)	REASON FOR CHANGE/EVIDENCE/OTHER NOTES
MISCELLANEOUS		
Staff Directory	MODIFIED Directory	MODIFY with new staff
GENERAL		
Assault/Abuse/DV	For sexual assault transports to CHO: MODIFIED sexual assault pediatric age from < =14 y.o. to <=13 y.o.	CHO request
Infection Control	REMOVED H1N1 table, MODIFIED general Infection Control guidance	Update to current Infection Control guidance
Trauma Patient Care	ADDED "Keep Patient Warm"	Trauma Death Triad 1) Hypothermia 2) Coagulopathy 3) Metabolic Acidosis
TXA	REMOVED GI Bleed Indication	HALT-IT randomized, double-blind, placebo-controlled trial, *Lancet* 2020; 395: 1927–36, **"TXA did not reduce death from gastrointestinal bleeding"**
ADULT		
Asystole/PEA	• MODIFIED algorithm flow (format change only) • ADDED Administer Epi with 5 minutes of CPR initiation ("Epi ASAP")	• Algorithm flow change is a format change only • Consistent with 2020 AHA guidelines
Bradycardia & ROSC	MODIFIED Atropine dosage to 1 mg	• Consistent with 2020 AHA guidelines
Chest Pain (MODIFIED in 2020)	<u>MODIFIED NTG administration language and parameters</u> • REMOVED cautionary language regarding inferior wall and right ventricular involvement • MODIFIED heart rate threshold to > 120 for base contact	• NTG is useful for chest pain patients of suspected cardiac etiology • There is a clinical meaningful reduction in chest pain following NTG • The concern about NTG causing hypotension in the setting of an inferior wall MI was not seen in two large case series • The concern for using NTG in pts with chest pain AND tachycardia is real but mild and uncommon
Pain Management	• REMOVED Ketorolac (Toradol) age > 65 and asthma contraindications • ADDED Ketamine ○ IV/IO 0.3 mg/kg in 100ml over 10 minutes (max 30 mg) OR ○ IM/IN 0.3mg/kg (max 30 mg) OR ○ Follow weight-based dosing guide chart in protocol • A <u>*standard dose*</u> of Fentanyl OR Ketamine may be administered if Ketorolac is ineffective • DO NOT CO-ADMINISTER FENTANYL AND KETAMINE	• Ketamine is comparable to opioids and is less likely to decrease blood pressure or depress the respiratory system • Sub-Dissociative Dose Ketamine (SDDK), 0.3 mg/kg, is unlikely to increase heart rate and blood pressure • The Use of Ketamine for Acute Treatment of Pain: A Randomized, Double-Blind, Placebo-Controlled Trial, J Emerg Med, 2017 May;52(5):601-608 **"When used as an adjunct, SDDK administered at 0.3 mg/kg over 15 min resulted in safe and effective analgesia for ≤30 min in patients who presented with acute pain in the ED."**
Pulmonary Edema / CHF Respiratory Distress	• MODIFIED "Consider CPAP" to "CPAP"	• Removing the word "consider" is designed to emphasize CPAP administration in moderate to severe distressed respiratory patients
Suspected Opiate WIthdrawl	• ADDED COWS (Clinical Opiate Withdrawl Scale) • ADDED CA-Bridge Designation to Receiving Hospital list (HGH,SMC,SLH)	• Includes recommendation that patients with Opiate Use Disorders be transported to a California Bridge Program destination site
PEDIATRICS		
Anaphylaxis & Shock	MODIFIED fluid administration from 20 ml/kg to 10-20 ml/kg	Consistent with 2020 PALS guidelines
Pulseless Arrest: Asystole/PEA	• ADDED Reversible Causes IAW 2020 PALS algorithm ADDED Administer Epi with 5 minutes of CPR initiation ("Epi ASAP")	Consistent with 2020 PALS guidelines. Note: Hypoglycemia is a reversible cause for pediatric (not adult) patients in Asystole/PEA
OPERATIONS		
End of Life Care Death in the Field Grief Support	• ADDED End of Life Care Policy ○ Contact Hospice / Pain Management / Naloxone not advised • Grief Support integrated with Death in the Field Policy	• Reduce patient symptom distress • Maintain patient dignity by aligning care with stated end-of-life preferences
Equipment	• MODIFIED various minimum equipment and supply inventory requirements • MODIFED ITD-10 to ITD-16, exhaust ITD-10 through attrition	• All "County Approved" equipment / supplies are specified in a separate document that can be modified without making field manual modifications
Restraints	• ADDED "Leather or soft restraints, designed specifically for patient restraint	• Zip-tie type restraint devices are not authorized
PROCEDURES		
Intraosseous Access	• ADDED IO Distal Femur Site for age < 10 y.o. (Unconscious Patient ONLY)	• IO Policy condensed

2020 POLICY UPDATE SUMMARY

FIELD POLICY/PROTOCOL	2020 SUMMARY OF FIELD MANUAL UPDATES (8/8/2019)	REASON FOR CHANGE/EVIDENCE/OTHER NOTES
Miscellaneous		
Staff Directory (p. VI)	MODIFIED Directory	MODIFIED with new staff
Abbreviations (p. VIII)	MODIFIED/ADDED/REMOVED Abbreviations	ADDED Falck (FLK) and others, Cleaned up old abbreviations
General Section		
ASSAULT/ABUSE/DV (p. 5)	ADDED if a rescuer knows or reasonably suspects a person suffering from any wound or other physical injury inflicted upon the person where the injury is the result of assaultive or abusive conduct, notify Law Enforcement.	AB 1973 extends "reporting duties" of EMTs and Paramedics
BURN PATIENT CARE (p. 7)	Weight in kg x TBSA (%) / 8 = rate (mL/HR) MODIFIED PRE-HOSPITAL FLUID FORMULA	Aligns fluid administration IAW with ATLS guidelines
VIDEO TXA (p. 28)	○ MODIFIED to "suspected" cervical cord injury ○ ADDED to Inclusion Criteria "Other *massive uncontrolled* hemorrhage (e.g., GI bleeding, dialysis shunt bleeding, vaginal bleeding, post-partum hemorrhage, etc.)"	Wien Klin Wochenschr (2017) 129:303–316 DOI 10.1007/s00508-017-1194-y "TXA has been used for decades to prevent and treat clinically relevant hyperfibrinolysis (HF) and more generally for the prevention and treatment of bleeding due to a variety of causes."
Adult/Pediatric Sections		
VIDEO Acute Stroke (Adult p. 30)	MODIFIED Time of Onset "must be within *24* hours, observed by a reliable witness or reported by a reliable patient (for thrombolysis)"	• The patient may be a reliable historian • Extending Time of Onset to 24 hours includes patients with unknown time of onset including "wake-up" strokes • DAWN Trial, N Engl J Med 2018; 378:11-21, "Among patients with acute stroke who had last been known to be well 6 to 24 hours earlier and who had a mismatch between clinical deficit and infarct, outcomes for disability at 90 days were better with thrombectomy plus standard care than with standard care alone."
VIDEO Pain Management (Adult p. 41, Pediatric p. 66)	• ADDED Ketorolac (Toradol) for Adults age 15 – 65 y.o. • ADDED Pain Management Algorithm to Adult and Pediatric Protocols	• Ketorolac is a NSAID that provides a non-narcotic pain management option for adults • Algorithm format clarifies protocols • (Ketamine is proposed to be ADDED to 2021 protocol)
Respiratory Depression (Adult p. 44, Pediatric p. 72)	MODIFIED algorithm and format, no substantive changes	MODIFIED format clarifies protocols
VIDEO Seizure (Adult p. 49, Pediatric p. 76)	MODIFIED Midazolam Administration for Status Seizure Patients ○ MODIFIED Adult IM/IN dose to 10 mg ○ MODIFIED Adult preferred route to IM ○ MODIFIED Pediatric IM dose to 0.2 mg/kg ○ MAINTAINED Pediatric preferred route of IN (0.2 mg/kg)	Intramuscular versus Intravenous Therapy for Prehospital Status Epilepticus (RAMPART), N Engl J Med 2012; 366:591-600 "For subjects in status epilepticus, intramuscular midazolam is at least as safe and effective as intravenous lorazepam for prehospital seizure cessation."
PEDIATRICS Airway Obstruction (p.62) Neonate Resus (p.67) Poisoning (p. 71) Resp. Depression (p. 74) Resp Distress (p.75-76) Routine Medical Care (p.77)	ADDED iGel utilization for pediatric patients < 40 kg *if BVM ventilation is inadequate*	iGel provides a backup advanced airway adjunct for pediatric patients < 40 kg *if BVM ventilation is inadequate*
Medications (Adult p.41)	• ADDED Ketorolac 15 mg IM/IV/IO • MODIFIED Midazolam initial dose to 10 mg IM/IN in Adults	
Operations Section		
Equipment (p. 98-104)	• MODIFIED various minimum equipment and supply inventory requirements on ALS and BLS response vehicles	• Clarifies equipment specifications associated with 2020 field policy updates

	• REMOVED 14g IV Cathetar • ADDED 22g x 1.5" IM Needle • ADDED iGel • ADDED Ketorolac	• All "County Approved" equipment/ supplies are specified in a separate document that can be modified without making field manual modifications
Olanzapine (p.134)	• REMOVED from CONTRAINDICATIONS - "Agitation requiring restraints" • ADDED to INDICATIONS - "IAW Restraint Policy (P.111), restraints may be utilized after patient self-administers Olanzapine."	Patient Preference and Adherence 2012:6 109–125 Orally disintegrating olanzapine review: effectiveness, patient preference, adherence, and other properties "Olanzapine is an efficacious and well-tolerated atypical antipsychotic indicated for the treatment of schizophrenia and acute manic or mixed episodes, along with maintenance therapy in bipolar disorder and (in some countries) related psychiatric disorders." "This medication has a favorable risk/benefit profile that has led to it being extensively utilized worldwide.
Procedures		
VIDEO Advanced Airway (p.116)	ADDED iGel Supraglottic Airway as a backup advanced airway adjunct for adult and pediatric patients	• King LT has theoretic concern regarding impaired internal carotid blood flow • iGel provides improved ease of use and more rapid placement
Hemorrhage Control (p.126)	MODIFIED Any standard gauze or County-approved hemostatic gauze may be utilized	Complies with EMS Authority Approved Hemostatic Dressings, May 2018
Pleural Decompression (p. 132)	REMOVED mid-axillary line (MAL) site, 2nd ICS-MCL remains	J Trauma Acute Care Surg. 2016 Feb; 80(2): 272–277. Needle Thoracostomy: Clinical Effectiveness is Improved Using a Longer Angiocatheter 8 cm angiocatheters are more effective at chest decompression compared to 5 cm at the 2nd ICS-MCL Am Surg. 2018 Nov 1;84(11):1750-1755. Failure Rate of Prehospital Needle Decompression for Tension Pneumothorax in Trauma Patients. Using an 8-cm catheter at the 5th ICS AAL, iatrogenic cardiac injury was at risk in 42 per cent of patients
Sedation (Adult) (p.137)	MODIFIED Midazolam to Total Maximum Dose of 10mg	Provides continuity with Weight-Based Midazolam Dose Chart on Pg. 138
MCI		
MCI (p. 159)	• ADDED Defined MCI Resource Response Packages *Note: Immediately cancel assigned resource(s) when no longer required* • ADDED Defined MCI Notifications	• Provides easy ordering of pre-determined MCI Resource Response Packages • Provides pre-determined MCI Notifications
CLINICAL PATIENT CARE	**EDUCATION ONLY**	**REASON FOR EDUCATION**
Training Only		
• Patient Monitoring • Reporting Format (p. 136) • TRAUMA PATIENT CRITERIA (p. 26) VIDEO	○ Significantly ill patients, especially those with suspected respiratory, cardiac and neurological related illnesses, should receive appropriate continuous monitoring by EMS personnel until transferred to another appropriate monitor. ○ Receiving Hospital Report should include VS ○ Prediction of the incidence of traumatic intercranial hemorrhage (tICH) includes: • History of vomiting • Evidence of trauma above the clavicles • Meeting Step 1 to 3 criteria • Abnormal EMS GCS score • Mechanism of injury other than a fall • from standing height or less • Loss of consciousness or amnesia	Out-of-Hospital Triage of Older Adults With Head Injury: A Retrospective Study of the Effect of Adding "Anticoagulation or Antiplatelet Medication Use" as a Criterion Ann Emerg Med. 2017 Aug;70(2):127-138. For individuals who did not have steps 1 to 3 trauma criteria, nearly 30% had anticoagulant or antiplatelet use. 9% of these patients had intracranial hemorrhage, but a much smaller proportion (3%) died or had neurosurgery during hospitalization The Incidence of Traumatic Intracranial Hemorrhage in Head-Injured Older Adults Transported by EMS with and without Anticoagulant or Antiplatelet Use JOURNAL OF NEUROTRAUMA 35:750–759 (March 1, 2018)

2019 POLICY UPDATE SUMMARY

<table>
<tr><th>FIELD POLICY/PROTOCOL</th><th>2019 SUMMARY OF FIELD MANUAL POLICY UPDATE PROPOSALS (8/14/2018)</th><th>REASON FOR CHANGE/OTHER NOTES</th></tr>
<tr><td colspan="3">Miscellaneous</td></tr>
<tr><td>Ambulance Rerouting p. V</td><td>REMOVED Extended Wait Times “Bypass”</td><td>Destination decision is patient centered</td></tr>
<tr><td colspan="3">General Section</td></tr>
<tr><td>VIDEO
Hyperkalemia p.14</td><td>MODIFIED Albuterol Dose to 10-20 mg
MODIFIED Signs/Symptoms (weakness, N/V, CP, palpitations, SOB, numbness etc.)
ADDED
• ECG Change Progression associated with Hyperkalemia progression
• NaHCO3 Contraindication/Caution
• Albuterol Contraindication/Caution</td><td>•Clarifies Hyperkalemia S/S, treatments and tx cautions
•Clarifies Albuterol dosage
•Clarifies ECG change progression associated with Hyperkalemia progression</td></tr>
<tr><td>Scope of Practice p. 20</td><td><u>ALS</u>
REMOVED Pediatric Intubation
ADDED Olanzapine, TXA
<u>BLS</u>
MODIFIED - Require ASA, EPI, Naloxone, SPO2, Glucometry for all permitted IFT BLS ambulance providers</td><td>•Pediatric Intubation removed per <u>California EMSA</u>
•“Olanzapine is an efficacious and well-tolerated atypical antipsychotic indicated for the treatment of schizophrenia and acute manic or mixed episodes.”</td></tr>
<tr><td>Trauma Pt Criteria p. 27</td><td>ADDED San Joaquin General Trauma Center (Level III)</td><td></td></tr>
<tr><td>VIDEO
TXA pg.28</td><td>MODIFIED Inclusion/Exclusion Criteria
<table><tr><th>Inclusion Criteria</th><th>Exclusion Criteria</th></tr><tr><td>Within three hours, the prehospital use of TXA should be considered for all blunt or penetrating trauma patients with signs and symptoms of hemorrhagic shock that meet any one of the following inclusion criteria:
•SBP < 90 mmHg
•Significant hemorrhage with a HR > 120
•Bleeding not controlled by direct pressure or tourniquet
•Major amputation of any extremity above the wrists or ankles</td><td>•Any patient <15 years of age
•Any patient more than three hours post-injury
•Isolated penetrating cranial injury
•Traumatic brain injury with brain matter exposed
•Documented cervical cord injury with motor deficits</td></tr></table>REMOVED documentation language (Required in ePCR)</td><td><u>California Prehospital Antifibrinolytic Therapy (Cal-PAT) Study</u>
•“Improved mortality”
•“The mortality difference was greatest in severely injured patients.”
•“Significant reduction in total blood transfusion”</td></tr>
<tr><td colspan="3">Adult/Pedi Sections</td></tr>
<tr><td>Acute Stroke</td><td>MODIFIED Time of Onset “must be within 4 hours, observed by a reliable witness or reported by a reliable patient (for thrombolysis)”</td><td>The patient may be a reliable historian</td></tr>
<tr><td>Anaphylaxis Adult p.36
Anaphylaxis Pedi p. 63</td><td>• Adult -- 0.3mg IM via auto-injector or Epi Safe type 1ml syringe
• Pediatric – 0.15 IM via auto-injector or Epi Safe type 1ml syringe</td><td>Clarifies BLS administration of Epinephrine in Anaphylaxis</td></tr>
<tr><td>VIDEO
Asystole/PEA Adult p.37
Asystole/PEA Pedi p.72
VF/VT Adult p.59
VF/VT Pedi p.73</td><td><u>For Adult Cardiac Arrest Algorithms:</u>
MODIFIED “place advanced airway” to “<u>consider</u> advanced airway” per 2015 AHA Guidelines
ADDED ETCO2 monitoring to top box of algorithm
<u>For ALL Cardiac Arrest Algorithms</u>:
MODIFIED Adult Pedi Asystole/PEA
•Administer Epinephrine (after IV/IO), Q10 mins, up to 3 doses
MODIFIED Adult Pedi VF/VT
•Administer Epinephrine (after 2nd defib), Q10 mins, up to 3 doses</td><td>J Emerg Med. 2017 <u>Emergency Medicine Myths: Epinephrine in Cardiac Arrest</u>. “Epinephrine may improve ROSC, but it does not improve survival to discharge or neurologic outcome. Timing of epinephrine may affect patient outcome, but BLS measures are the most important aspect of resuscitation and patient survival. “
Prehosp Emerg Care. 2015;19(4):457-63 <u>Probability of ROSC as a Function of Timing of Vasopressor Administration in Out-of-Hospital Cardiac Arrest.</u> “Time to vasopressor administration is significantly associated with ROSC, and the odds of ROSC declines by 4% for every 1-minute delay between call receipt and vasopressor administration. “</td></tr>
</table>

VIDEO Airway Obstruction p.62 Neonate Resus p.67 Poisoning p. 71 Resp. Depression p. 74 Resp Distress p.75-76 Routine Medical Care p.77	REMOVED Pediatric Endotracheal Intubation (ETI) (< 40 kg) per California EMSA • "Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning and BVM ventilation as necessary. Consider Advanced Airway Management (pg. xx) for patients >= 40 kg if BVM ventilation is not adequate." REMOVED Meconium Aspiration	Pediatric ETI: • Difficult to obtain ETI skills overall • More difficult to obtain and maintain pediatric ETI competency • Low frequency event with high complication rate • Not shown to be helpful, and may be harmful in cardiac arrest, trauma, and status epilepticus
Medications p.41	ADDED Olanzapine, TXA (HazMat medication specifications moved to HazMat Policy)	
Operations Section		
BLS/ALS First Responder p. 87	MODIFIED Title to "BLS/ALS First Responder" MODIFIED 1. "First Responder Personnel" …. ADDED 1.3 First Responders includes California licensed, Alameda County accredited Paramedics ADDED Jump-S.T.A.R.T. Triage	Clarifies First Responder Personnel
VIDEO Death in the Field p. 88	MODIFIED Medical (Cardiac) Arrest - Discontinuation of CPR: if non-shockable rhythm persists, despite appropriate, aggressive ALS interventions for 30 minutes (OR if ETCO2 is <10mmHg after 20 minutes in a patient with an advanced airway), consider discontinuation of CPR	"Low end-tidal carbon dioxide (ETCO2) in intubated patients after 20 minutes of CPR is associated with a very low likelihood of resuscitation. While this parameter should not be used in isolation for decision making, providers may consider low ETCO2 after 20 minutes of CPR in combination with other factors to help determine when to terminate resuscitation."
Equipment p. 98-104	ALS (HazMat medication specifications moved to HazMat Policy) MODIFIED Atropine concentration to 1mg/10ml (typo correction) ADDED TXA REMOVED ETT # 2.5, 3, 4, #5 REMOVED Meconium Aspirator MODIFIED Colorimetric ETCO2 - Optional BLS MODIFIED - All permitted IFT BLS ambulances are required to carry either 1mg/ml Epi with "Epi Safe" type 1ml syringe, (A = 0.3mg, P=0.15mg) OR Adult and Pedi Epi Auto-Injectors	Clarifies equipment specifications associated with 2019 field policy updates
IFT p. 106	REMOVED policy 2300, 4605 5600 references MODIFIED Base Contact Requirements 5.3 from "closest" to "closest most appropriate"	Base contact is NOT required for high acuity 911 interfacility patients transferred to a "closest most appropriate" higher level of care facility.

VIDEO ADD Olanzapine (NEW) (Add To Procedures Section) VIDEO Excited Delirium Psychiatric and Behavioral Emergencies p. 112 (Move To Procedures Section)	ADDED Olanzapine (Zyprexa) 10 mg sublingual is an atypical antipsychotic with minimal side effects. The major side effect would be minimal sedation that can be worsened by alcohol or other sedatives. The orally disintegrating olanzapine allows for rapid absorption with effects within 10-15 minutes. Indications For the cooperative anxious adult patient with a primarily behavioral health presentation and a history of psychiatric disorder. These patients will commonly be hearing voices or having paranoid thoughts after not taking their usual psychiatric medications. Administration The medication should be handed to the patient for self-administration. No water is needed for this orally disintegrating tablet. Contraindications • Age less than 18 or over 65 • Clinical intoxication with other substances • Agitation requiring restraints • Pregnant patients MODIFIED ALGORITHM ADDED Excited Delirium path •Up to 10 mg Versed standing order for chemical sedation •Initiate fluid resuscitation •12 lead ECG and appropriate arrhythmia tx •ETCO2 monitoring •Internal/External cooling measures for hyperthermia •BG evaluation	Patient Preference and Adherence 2012:6 109–125 Orally disintegrating olanzapine review: effectiveness, patient preference, adherence, and other properties "Olanzapine is an efficacious and well-tolerated atypical antipsychotic indicated for the treatment of schizophrenia and acute manic or mixed episodes, along with maintenance therapy in bipolar disorder and (in some countries) related psychiatric disorders. Consistent with the findings from large comparative clinical trials and observational studies, olanzapine has been found to be comparable or superior to other atypical antipsychotic medications in meta-analyses of head-to-head studies using a variety of efficacy /effectiveness and safety/tolerability outcomes. Notwithstanding potential weight gain as an important consideration associated with olanzapine treatment, this medication has a favorable risk/benefit profile that has led to it being extensively utilized worldwide." Excited Delirium algorithm pathway converges links to applicable existing field manual treatment policies.
Responding Units – Canceling/Reducing Code p. 114	MODIFIED 1. General Principles see p. 114 MODIFIED 2. Canceling/Reducing Responding Units 2.1 "Should" cancel the ambulance if there is no apparent illness or injury 2.2 "Shall" cancel the ambulance if patient meets Determination of Death Criteria 2.3 "Shall" reduce the ambulance response to C2 if pt has no immediate life threat OR the difference between C3 and C2 would not likely impact pt outcome	
Unusual Occurrence (NEW)	ADDED Unusual Occurrence (UO) to Field Manual (This is an abbreviated version of the existing Administrative UO policy)	Identifies improvement opportunities in clinical outcomes and/or system structures and processes.
Procedures		
VIDEO Advanced Airway p.116	REMOVED Pediatric Endotracheal Intubation (ETI) per California EMSA • "Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning and BVM ventilation as necessary. ALS personnel are authorized to perform the skill of endotracheal intubation for patients >= 40 kg." MODIFIED Advanced Airway Placement • If advanced airway placement will interrupt chest compressions, providers may consider deferring insertion of the airway until the patient fails to respond to initial CPR and defibrillation attempts or demonstrates ROSC. (2015 AHA Guidelines)	Pediatric ETI: • Difficult to obtain ETI skills overall • More difficult to obtain and maintain pediatric ETI competency • Low frequency event with high complication rate • Not shown to be helpful, and may be harmful in cardiac arrest, trauma, and status epilepticus
VIDEO Consent and Refusal Guidelines p. 120 Assess and Refer (NEW)	MODIFIED 1.2 "……patient, ….. must be offered medical care~~/transport~~" MODIFIED 3.1 "patient must be legally and mentally capable….." to "patient, parent or guardian must have legal and mental Decision Making Capacity……" MODIFIED 3.2.1 "If patient is legally and mentally capable' to "If patient has legal and mental Decision-Making Capacity"	"Competent….." modified to "Patient, parent, or guardian must have legal and mental Decision Making Capacity" "The Assess and Refer process identifies patients whose condition does not require transport by 911 emergency ambulance. All 911 calls for EMS will receive an appropriate

	MODIFIED 4. "competent adult" to "Adult with Decision Making Capacity" MODIFIED Algorithms to include Assess and Refer, Transport for patients) ADDED Assess and Refer Protocol • Does the patient, parent, or guardian have Decision Making Capacity? • How concerned are you with this patient's current medical issue? • How likely is this patient to successfully navigate the provided referral?	response, timely assessment and appropriate patient care."
VIDEO Hemorrhage Control p. 129	ADDED - Wound Packing "Significant uncontrolled bleeding from extremity and junctional (shoulder, groin) wounds may packed with standard or hemostatic gauze. Wounds to the chest, abdomen or pelvis should not be packed." MODIFIED – Allow BLS to administer Combat Gauze (optional)	<u>September 2015 American College of Surgeons Bulletin</u> "After significant feedback from experienced military medics, in 2003 the CoTCCC recommended a hemostatic dressing that could be packed into a wound but that had hemostatic performance that was superior to standard gauze."
MCI		
Nerve Agent p. 164	MODIFIED "ALS and specially trained BLS personnel may administer nerve agent antidote medications to patients."	
CLINICAL PATIENT CARE	**2019 SUMMARY OF PROPOSED UPDATES**	**REASON FOR UPDATE OR CHANGE**
Training Only		
Patient Monitoring	ADDED - Significantly ill patients, especially those with suspected respiratory, cardiac and neurological related illnesses, should receive appropriate continuous monitoring by EMS personnel until transferred to another appropriate monitor.	
ePCR Data Collection / Quality Improvement Measures / "How do we know that a change is an improvement?"		
Cardiac Arrest	ADDED Seizure witnessed by bystander or EMS ADDED Gasping witnessed by bystander or EMS	
Typos / Other		
Table of Contents/Index	ADDED Titles and Keywords • Refusal, AMA, TXA, Assess and Refer, Olanzapine, Other 2019 Changes……	

2018 POLICY UPDATE SUMMARY

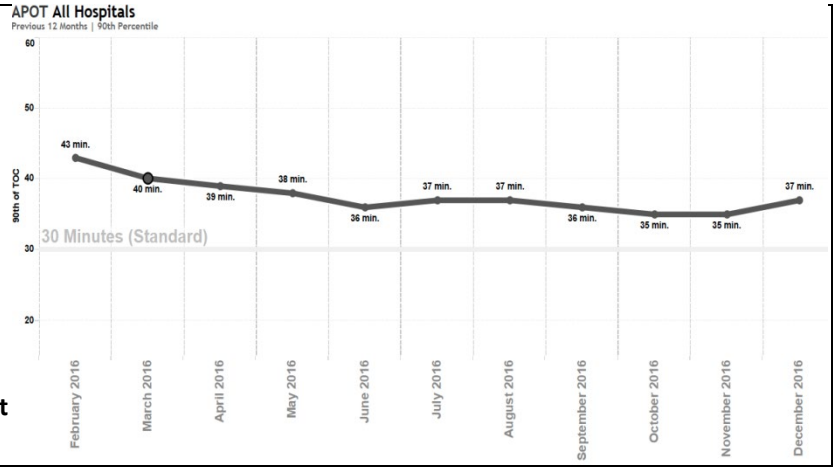
POLICY/PROTOCOL	2018 SUMMARY OF UPDATES PPT/VIDEO/SKILL TRAINING	REASON FOR CHANGE / OTHER NOTES
Misc.		
Inside Back Cover	• Remove Alta Bates as a stroke center	
General Section		
Assault / Abuse / Domestic Violence (Pg. 4,5)	• If patient is NOT transported - and if safe, appropriate and feasible - perform a DV Lethality Screen ○ If patient screens HIGH RISK, refer patient to the Family Violence Law Center (FVLC) by calling the FVLC 24/7 hotline # 800-947-8301 (BIG-BOLD). ○ Briefly describe the DV circumstances to the FVLC advocate without providing any patient identifying information ○ If patient consents to speaking with FVLC advocate, hand patient the phone ○ If patient does not consent to speaking with FVLC advocate, give patient discreet FVLC resource information and advise that he/she can call 24/7 ○ Repeat basic safety planning tips that the FVLC advocate provides • If patient is transported, inform receiving facility of DV incident and presence of law enforcement on scene • Added DV Algorithm (PPT/VIDEO)	IF DV is suspected AND if feasible, perform a DV Lethality Screen on Non-Transported Patient
Burn Pt Care (Pg.8)	• Remove Base Contact Requirement PPT…..	
CPR (Pg. 10)	• Updated CPR Matrix to 2015 guidelines	
CPR (Pg. 11)	• Removed Hypoglycemia as one of the causes of persistent arrest <u>Added AutoPulse Contraindications</u> • ≤ 17 years of age • Patients with traumatic injury (wounds resulting from sudden physical injury or violence) <u>Added Lucas 2 Contraindications</u> • If it is not possible to position LUCAS safely or correctly on the patient's chest. • Too small patient: If you cannot enter the PAUSE mode or ACTIVE mode when the pressure pad touches the patient's chest and LUCAS alarms with 3 fast signals. • Too large patient: If you cannot lock the Upper Part of LUCAS to the Back Plate without compressing the patient's chest.	Clearly defines mechanical CPR device contraindications
Crush Syndrome (Pg.13)	Removed Base Contact Requirement (PPT)	
Hyperkalemia (Pg. 15)	• Added Albuterol (PPT) • Removed Base Contact Requirement (PPT)	Albuterol promotes cellular reuptake of potassium resulting in reduced blood serum potassium levels
Local Optional Scope (Pg.21)	Pulse Oximetry, Glucometer, ASA, Epinephrine Adult/Pedi Auto Injectors, Naloxone training (and supplies) required for BLS 911 Transport >>> Optional, with EMS MD approval, for BLS IFT (PPT, BLS SKILL)	Modified to reflect updated Title 22 regulations
Sepsis (Pg. 53)	• Initiate IV Fluids (VIDEO/PPT) If patient has sign and symptoms of shock, administer 500-1000ml NS IV/IO. If unresponsive to fluids, consider Epinephrine diluted to 0.01mg/ml (10mcg/ml), 0.5ml (5mcg) slow IV/IO every 3 minutes, titrate to a SBP > 90. (VIDEO/PPT)	Emphasizes fluid administration in Sepsis patients

POLICY/PROTOCOL	2018 SUMMARY OF UPDATES PPT/VIDEO/SKILL TRAINING	REASON FOR CHANGE / OTHER NOTES
Shock (Pg.55)	• Epinephrine diluted to 0.01mg/ml (10mcg/ml), 0.5ml (5mcg) slow IV/IO every 3 minutes, titrate to a SBP > 90 (VIDEO/PPT/SKill) • Removed Dopamine (VIDEO/PPT)	
BRUE (Pg. 66)	Modify title to BRUE (Formerly ALTE) (PPT)	ALTE (BRUE) title is consistent with Impression list and PALS
Neonate (Pg. 68)	In healthy full-term newborns, routine bulb syringe suctioning is not indicated. (PPT)	Multiple studies have found no benefit to routine suction of health full-term neonates.
Operations Section		
ALS Responder (Pg. 87)	"First Responder and transport personnel providing patient care are responsible for accurately documenting all available and relevant patient information on the electronic health record." (PPT)	
Procedures		
Airway Management (Page removed)	Pg. 118 Airway Management Policy removed (See ETCO2 Indications)PPT	If used as designed, Airway Checklist does have value
Intraosseous (Pg. 134-135)	Added Humeral Site IO (VIDEO/PPT/SKILL). Tibial Site IO may be used Updated IO Contraindications: • Fracture in target bone. • Previous, significant orthopedic procedure at the site, prosthetic limb or joint. • IO catheter use in past 48 hours of the target bone. • Infection at the area of insertion. • Excessive tissue (severe obesity) and/or absence of adequate anatomical landmarks.	• Evidence suggests the humerus may be a superior site for flow rates, drug delivery, and management of infusion pain. • Clarifies IO Contraindications
Administration Policies		
Policy #2000 Policy and Skills Competency	In conjunction with paramedic and EMT skills and policy competency evaluations, use Quality Improvement indicators as a guideline for analysis of skills and policy competencies	
CLINICAL PATIENT CARE	**Supplemental Training**	**REASON FOR UPDATE OR CHANGE**
Trauma Assessment	Central Cord Syndrome (VIDEO/PPT) Trauma Doc….	
Cardiac	STEMI	
VAD	(VIDEO/PPT) Dr. Jason Chan	
12 Lead	Indicated patients should receive a prehospital 12 lead ECG within 10 minutes of EMS arrival (PPT)	
Overdose/Poisoning	"Toxidrome" reference (HANDOUT, PPT?)	
ETCO2 Indications	►Cardiac/Respiratory Arrest (PPT) ►Shortness of breath with visible distress ►Significant tachypnea/bradypnea <10 >30 (adults) ►Patients who cannot protect their own airway ►ALTE ►Respiratory depression after receiving sedation or pain management ►Patients treated with an airway adjunct, BVM, suctioning or CPAP for airway compromise	

2017 POLICY UPDATE SUMMARY

POLICY/PROTOCOL	2017 SUMMARY OF UPDATES (01/20/2017)	Quality Improvement Measures
Inside Back Cover	Added STEMI Centers [HACH, KFre, KOak (added KOak to EKG Policy)]	STEMI #s to all STEMI Centers
General Section		
Assault/Abuse / Domestic Violence	• Added APS Website URL (APS Reporting can be done online) • Added Domestic Violence (DV) to Assault/Abuse Policy ○ If feasible (and with patient consent), conduct DV Lethality screen AND call Family Violence Law Center (FVLC) hotline and hand patient the phone. (800) 947-8301 ○ If patient is NOT transported, provide basic safety planning ○ If patient is transported, inform receiving facility of DV advocacy steps taken ○ Please document thoroughly	2016 APS 37 CPS 5 DV 9 (7 in Interventions) 2017 DV
Transport Guidelines / Patient Destination	• Removed "without regard to county lines" in 1.1.1 • 1.1.1 "Patients should be transported to the closest hospital appropriate for their medical needs within a reasonable transport time, or as specified in the patient care protocols "	OOC Transports Destinations and OOC % of Total Transports
Adult/Pedi Sections		
Anaphylaxis (Adult/Pedi)	Moved "IV/IO NS" to Fluid Bolus Text Box	None
Acute Stroke	Please "Make sure to either: ►►transport the witness to the stroke center in the ambulance (PREFERRED); OR, ►►if driving, tell him/her to leave immediately and meet you at the stroke center; AND, ►►obtain a contact number where the witness can be reached by the attending physician"	1-1-17 to 1-18-17 Stroke Witness Disposition Ambulance 21 Enroute 31 (Missing 10 phone #s) N/A 48
Asystole/PEA Adult	• Removed hypoglycemia from reversible causes	
Asystole / Anaphylaxis / Resp Distress/ V-Fib./ etc……	• Simplified Epinephrine concentration unit to "mg/ml" • Modified 1:1,000 to 1 mg/ml • Modified 1:10,000 to 0.1 mg/ml	Pedi Dosing (Audit Method Used)
VF/VT (Adult/Pedi)	Witnessed/Unwitnessed Cardiac Arrest • Perform high quality CPR until defibrillator available/charged	Cardiac Arrest Survival – Time to Defibrillation P+ and BFD working ECG uploads to EHR
Operations Section		
Death in the Field	• Removed "and asystole" for EMT in 2.1.3 • Added "End of Life Act" (AB 15). Resuscitation should be withheld if there are DNR orders or evidence (e.g., Final Attestation Form) that the patient is exercising their rights under the End-of-Life Act." • Added 2016 POLST Form	• End of Life Act # • POLST # Add Pulseless

Equipment / Supplies	• Added Vacuum Mattress (VM) requirement • Added Mechanical CPR Device (optional) • Added POW Kit mandatory requirement for FRALS and ALS units • Add Triage Recording requirement • HAZMAT TEAMS - Dual-chamber autoinjectors (e.g. - DuoDote®) may be substituted for individual doses of atropine and pralidoxime • Modified Syringes to Luer Lock, Added Filter Needle	• VM treatment # Date # % of Total SMR • May 2016 26 4.93% • June 2016 25 4.61% • July 2016 32 6.41% • August 2016 28 5.35% • September 2016 25 4.57% • October 2016 35 6.21% • November 2016 32 5.47% • December 2016 24 4.45% • January 2017 19 6.91% (to 1/18) • Central Cord Syndrome Training
POLICY/PROTOCOL	**2017 SUMMARY OF UPDATES (01/20/2017)**	**REASON FOR UPDATE OR CHANGE (Why are we doing this?)**
PROCEDURES		
Advanced Airway Management	• "An intubation attempt is defined as the insertion of the laryngoscope blade into the patient's mouth" • "A supraglottic airway attempt is defined as the insertion of the supraglottic airway device into the patient's mouth"	• Intubation Success Rates
MCI		
MCI	• Either SALT or START triage can be used • Standardized Triage Colors are Red Yellow Green Black • During initial pt contact, use triage recording////At CCP, use triage tags • ACRECC (with ICS structure) will track patients in ReddiNet • Receiving hospitals will track patients in ReddiNet (& inc. tag # in tracking) IC & ACRECC will reconcile patient tracking during and at the end of the MCI	Reddinet Use in MCI
CLINICAL PATIENT CARE	**2017 SUMMARY OF SUPPLEMENTAL TRAINING**	**REASON FOR TRAINING (Why are we doing this?)**
Falls	Added Fall Risk Assessment Training • Have you fallen in the past year? • Do you feel unsteady when standing or walking? • Do you worry about falling?	At risk fall # "Clunky"
Cardiac Arrest	• Sodium Bicarb should be administered If renal failure or hyperkalemia is suspected • If traumatic arrest (from GSW or other traumatic etiologies) is suspected, do NOT use ACLS medications (including Epinephrine) • If time permits, obtain a BP. This measure should NOT influence or affect patient treatment decisions.	• Bicarb ~20% of all CA….# Unknown change • Epi in Trauma Arrest 40yo GSW arrest in Nov 2016, non-transport • VS analysis
Tachycardia (SVT)	"Modified Valsalva Maneuver"	
TXA Indications	• Trauma with signs and symptoms of hemorrhagic shock (BP < 90) • Trauma with risk for significant hemorrhage ○ EBL > 500 AND HR > 120 ○ Bleeding not controlled by direct pressure or tourniquet ○ Amputation above wrists or ankles	• TXA #s, study data including undertriage • 2016 25 (7 in Dec) • 2017 1 "Got TXA" PSA
Documentation	PLEASE ensure accurate VS documentation (including repeated BP and RR). VS data accuracy is important because it is used by ALCO EMS and other researchers to assess patients' responses to various treatments	Data field analysis

Ambulance Wait Times	**The <u>Transfer of Care (TOC) Time</u> Definition** • **The patient is <u>physically transferred</u> from the ambulance gurney to hospital equipment** **AND** • **The hospital staff have <u>received a report</u> concerning the transfer of the patient** **Please obtain the hospital staff signature at the TOC Time**	

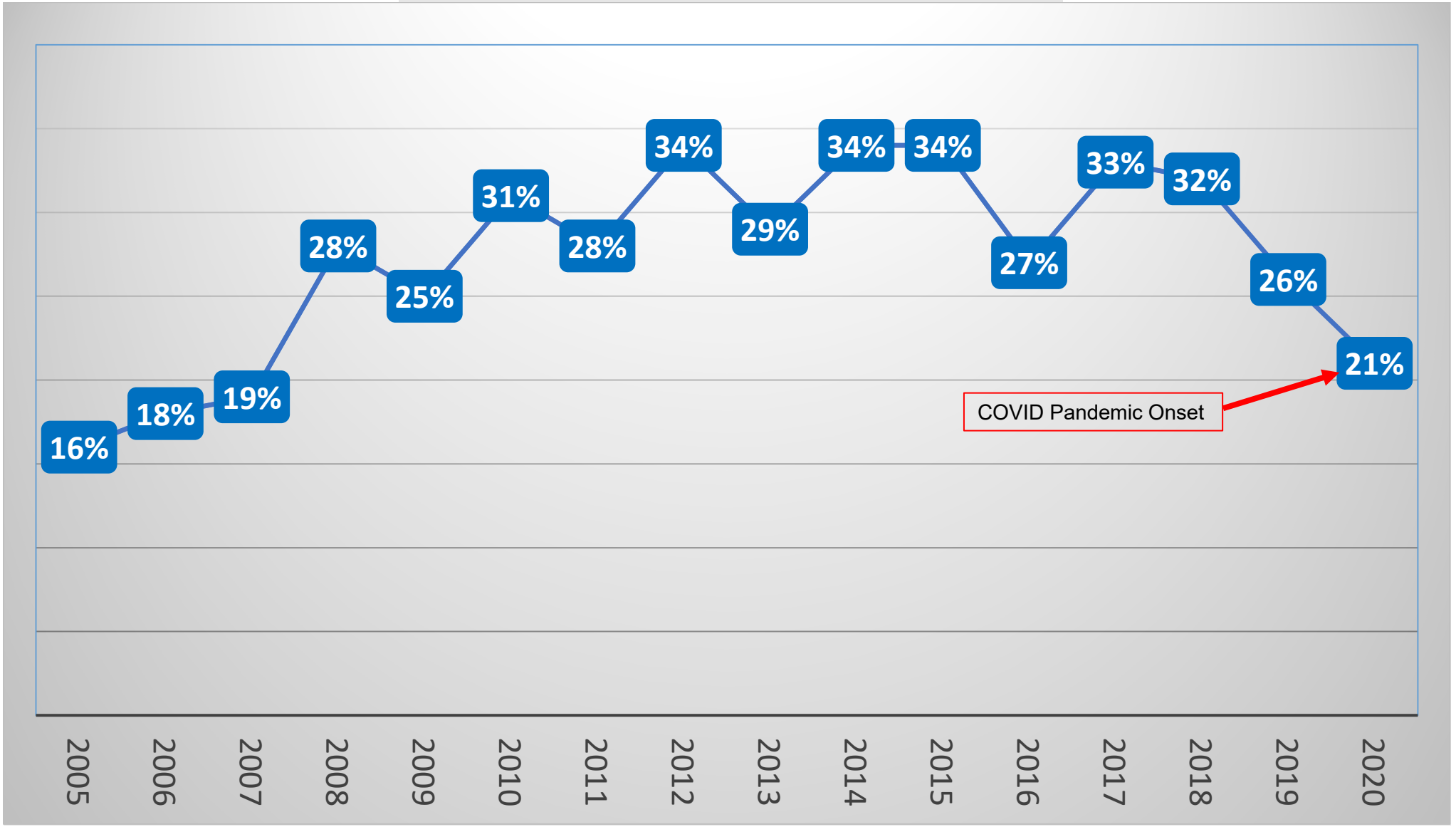
2016 POLICY UPDATE SUMMARY

Policy/Protocol	2016 Summary of Changes Rev. 9-29-15	QA/QI	Update Reason / Best Evidence Basis
Ambulance Rerouting Criteria (This policy is an abbreviated field version of the admin policy already in effect)	"In the event a hospital is holding two or more ambulances for more than thirty (30) minutes, incoming ambulances may be rerouted, and facility placed on bypass by an EMS transport provider supervisor for all non-critical patients until ED resolves transfer of care issues with ambulance service provider(s). "	• Bypass # / Duration • Wait Times	Purpose: To reduce ambulance wait times at hospitals **The Transfer of Care (TOC) time** is defined as the time when: ○ The patient is **physically transferred** from the ambulance gurney to hospital equipment AND ○ The hospital staff have received a **report** concerning the transfer of the patient
General Section			
Trauma Patient Care	Added Tranexamic Acid (TXA)	See below	See below
TXA	**INDICATIONS:** Patients >= 18 y.o. with sustained blunt or penetrating trauma within three (3) hours with: • Blunt or penetrating trauma with signs and symptoms of hemorrhagic shock. ○ Systolic blood pressure of less than 90 mmHg at scene of injury, during ground medical transport, or on arrival to designated trauma centers • Patients who are considered to be high risk for significant hemorrhage: ○ Estimated blood loss (EBL) of 500 milliliters in the field accompanied with heart rate (HR) greater than 120. ○ Bleeding not controlled by direct pressure or tourniquet. ○ Major amputation of any extremity above the wrists and above the ankles **CONTRAINDICATIONS:** • Penetrating cranial injury • Traumatic brain injury with brain matter exposed • (See TXA Field Policy for other contraindications) **DOSE:** Administer TXA 1 gm in 100 ml of NS/D5W via IV/IO over 10 mins. (Do not administer IVP. This will cause hypotension.) Place an approved wristband on patient prior to transport	• TXA admin for indicated patients • Morbidity/Mortality • Blood Transfusions • Fluid Admin • Adverse Effects (including DVT)	**2011 CRASH 2 Trial:** 10 096 patients were allocated to tranexamic acid and 10 115 to placebo, of whom 10 060 and 10 067, respectively, were analyzed. All-cause mortality was significantly reduced with tranexamic acid (1463 [14·5%] tranexamic acid group *vs* 1613 [16·0%] placebo group; relative risk 0·91, 95% CI 0·85–0·97; p=0·0035). The risk of death due to bleeding was significantly reduced (489 [4·9%] *vs* 574 [5·7%]; relative risk 0·85, 95% CI 0·76–0·96; p=0·0077). Interpretation - TXA safely reduced the risk of death in bleeding trauma patients in a study 10,96 patients allocated. Based on these results, TXA should be considered for use in bleeding trauma patients.
Adult/Pediatric Sections			
Acute Stroke	**Added KSL destination, Removed KHay and ABH**	N/A	N/A
Asystole / PEA	For Discontinuation of CPR, **ALS resuscitation extended to 30 mins**	See below	See Death in the Field below
Chest Pain	Added **"Patients who have oxygen saturations of greater than 94% without signs or symptoms of hypoxia or impending airway compromise should not receive oxygen."**	O2 Dosing	**2010 AHA Guidelines:** "Supplementary oxygen is not needed for patients without evidence of respiratory distress if the oxyhemoglobin saturation is ≥ 94%."
Pain Management	Add FLACC and PAINAID Scales to Policy Web App (in development)	Pedi/Geriatric Pain Mgmt	Provides easier access to pain scale references
Respiratory Distress	Added **"For patients with COPD, oxygen supplementation should be given to achieve an oxygen saturation of 88%-92%. Higher oxygen saturations in COPD patients have been shown to be harmful. "**	O2 Dosing	• **Effect of High Flow Oxygen on Mortality In Chronic Obstructive Pulmonary Disease Patients In Prehospital Setting: Randomised Controlled Trial** "O2 treatment, titrated by paramedics to achieve SPO2 between 88% and 92%, for patients with breathlessness and a history or risk of COPD, reduced the risk of death from respiratory failure by 58% for all patients and 78% for patients with confirmed COPD, compared with high flow O2." • **Hyperoxygenation can cause**: **(EMS World, Jan. 17, 2012**) ○ "Absorbative Atelactasis" associated with nitrogen washout ○ Cellular damage from accumulation of toxic oxygen molecules ○ Carbon Dioxide Narcosis/Oxygen-Induced Hypercapnia in patients with advanced COPD
ROSC	**"If appropriate, transport pediatric ROSC patients to Childrens"**	Pedi ROSC	Pediatric ROSC pts do not require a cardiac cath procedure
Severe Nausea Pedi/Adult	• Modified Note #3, **"If patient has s/s of anaphylaxis/allergic reaction, follow Anaphylaxis/Allergic Reaction policy."** • Removed former (2015) note #4 co-administration language • Added **"Zofran (Ondansetron) administration during first trimester of pregnancy is not recommended."**	• Audit # of Zofran + Fentanyl • Audit Zofran in pregnancy	• **Zofran should not be given prophylactically when Fentanyl is administered** • **Denmark Ondansetron Studies:** There is confounding (increased vs. none) evidence regarding fetal harm risk associated with Zofran administration during first trimester pregnancy
Operations Section			

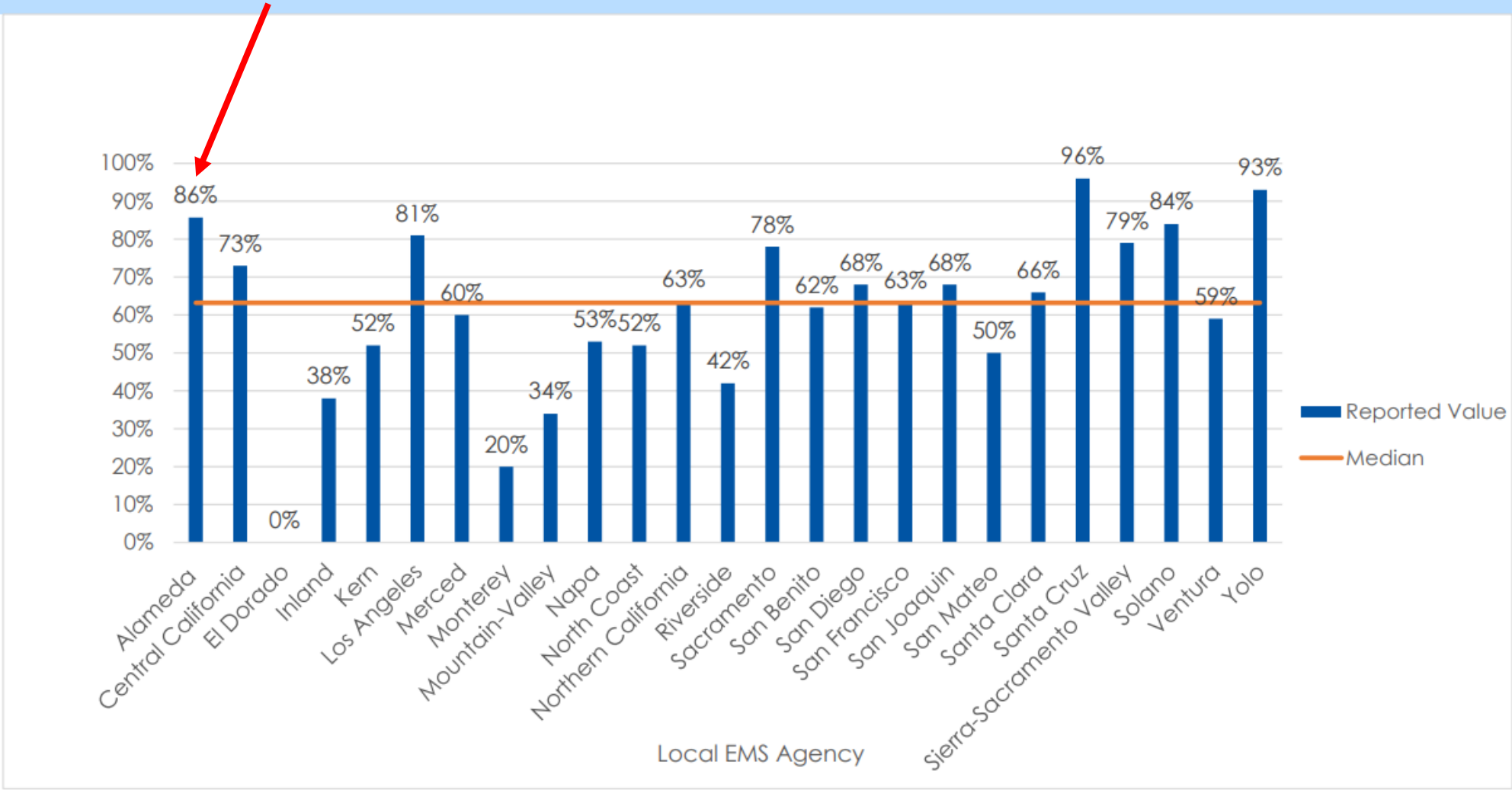
Death in the Field	• For Discontinuation of CPR, **ALS resuscitation extended to 30 mins** • Removed 3.9.4. Resuscitation "may be withheld or stopped" IAW 1.3.	• Cardiac Arrest Transport Rate • Resus Times	**Wake County EMS Cardiac Arrest Study 2005-2012** "A large number of patients survived neurologically intact with durations of resuscitation greater than previous guidelines would suggest."
Equipment	• Added PPE IAW OSHA Standards • Added Adult/Pedi ETCO2 Sampling Nasal Cannulas • Added ND Kit components (3 1/4" Decomp. Needle, One Way Vent/Drain Valve) • Added Triage Recording (Optional) • Added IO needle weight criteria **(15mm pink needle is optional, 25 mm blue for pts >3 kg)** • Added County Approved Video Laryngoscopy (Optional)	• ETCO2 Use • IO Needle Use	N/A
Procedures Section			
IN	Added IN routes for Fentanyl (Pain Management) / Midazolam (Sedation)	IN route use	This aligns IN policy with Pain Mgmt. and Sedation policies

ADDENDUM-2 / ADDITIONAL PERFORMANCE DATA

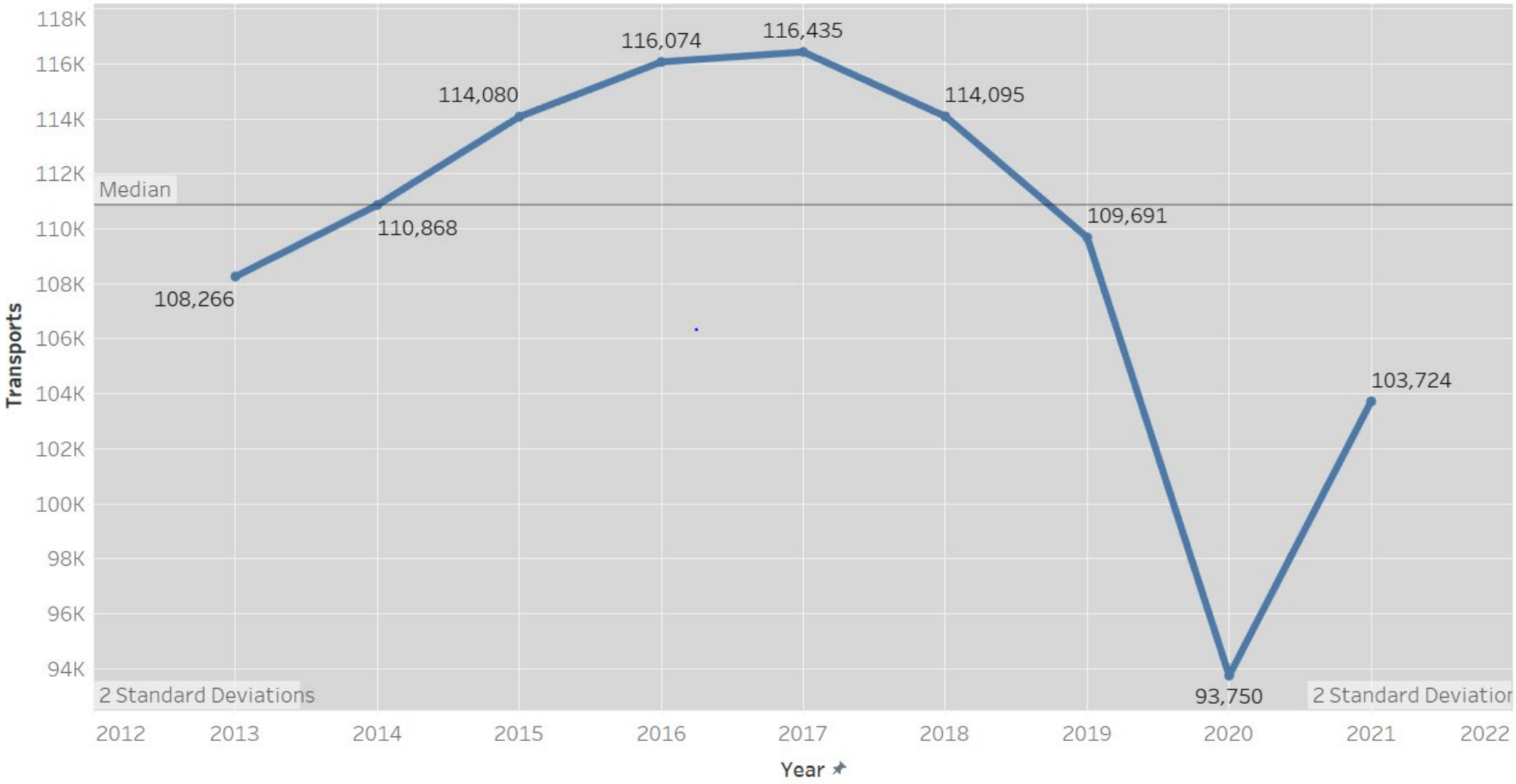
ALL VF/VT SURVIVAL TO HOSPITAL DISCHARGE



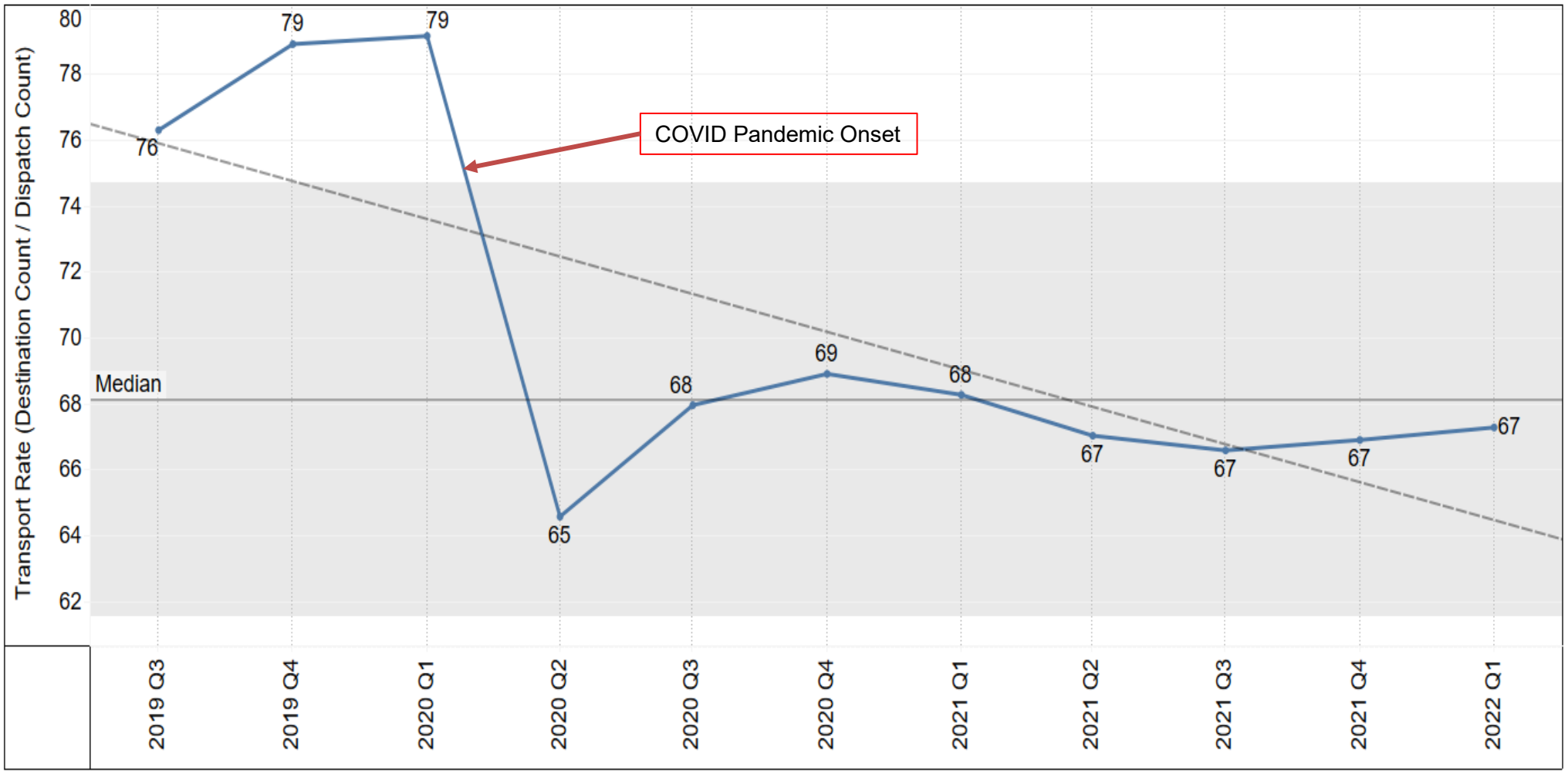
ACS-1 CHART: ASPIRIN ADMINISTRATION FOR STEMI OR SUSPECTED CARDIAC CHEST PAIN



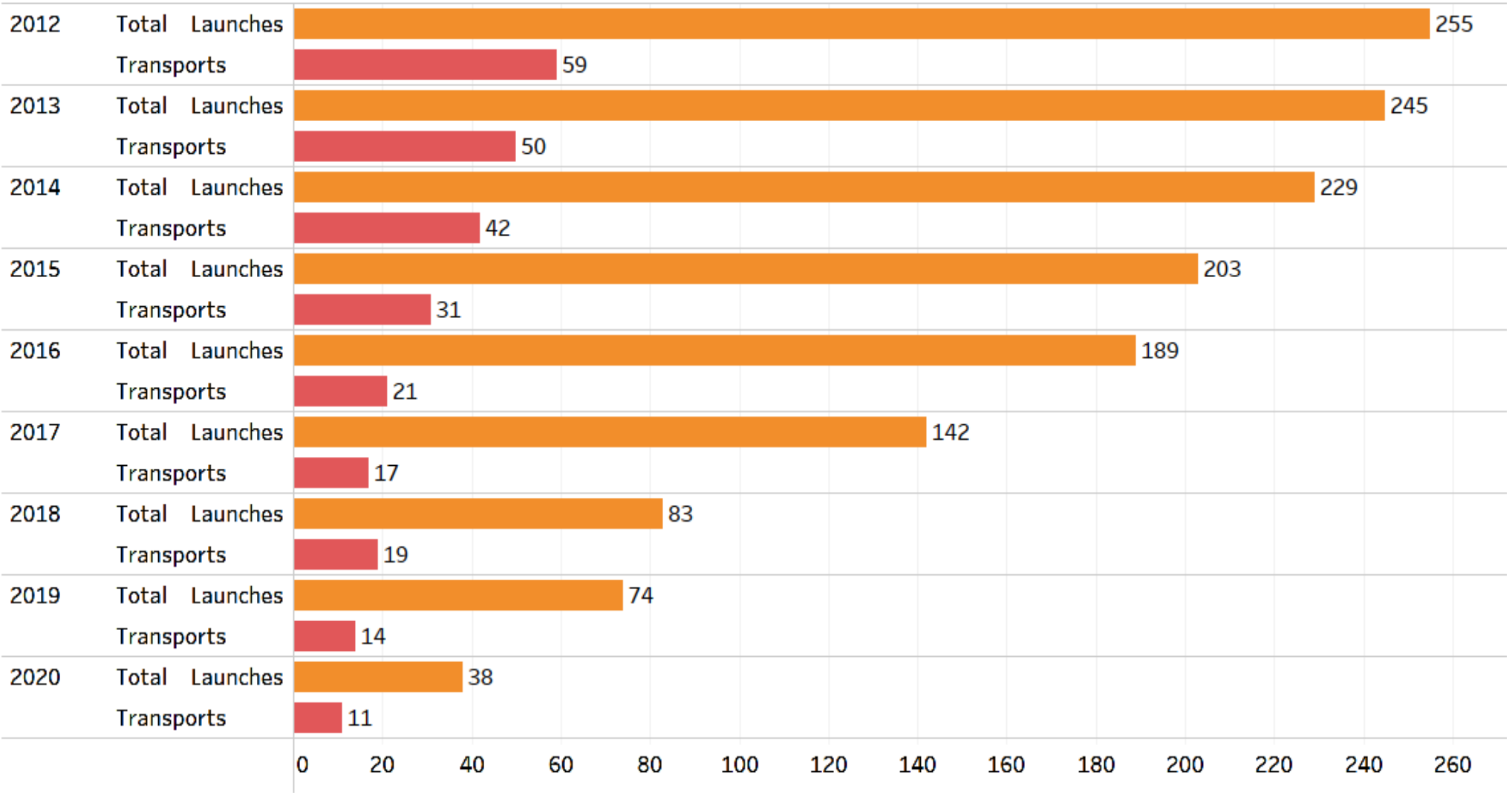
AMBULANCE TRANSPORT VOLUME



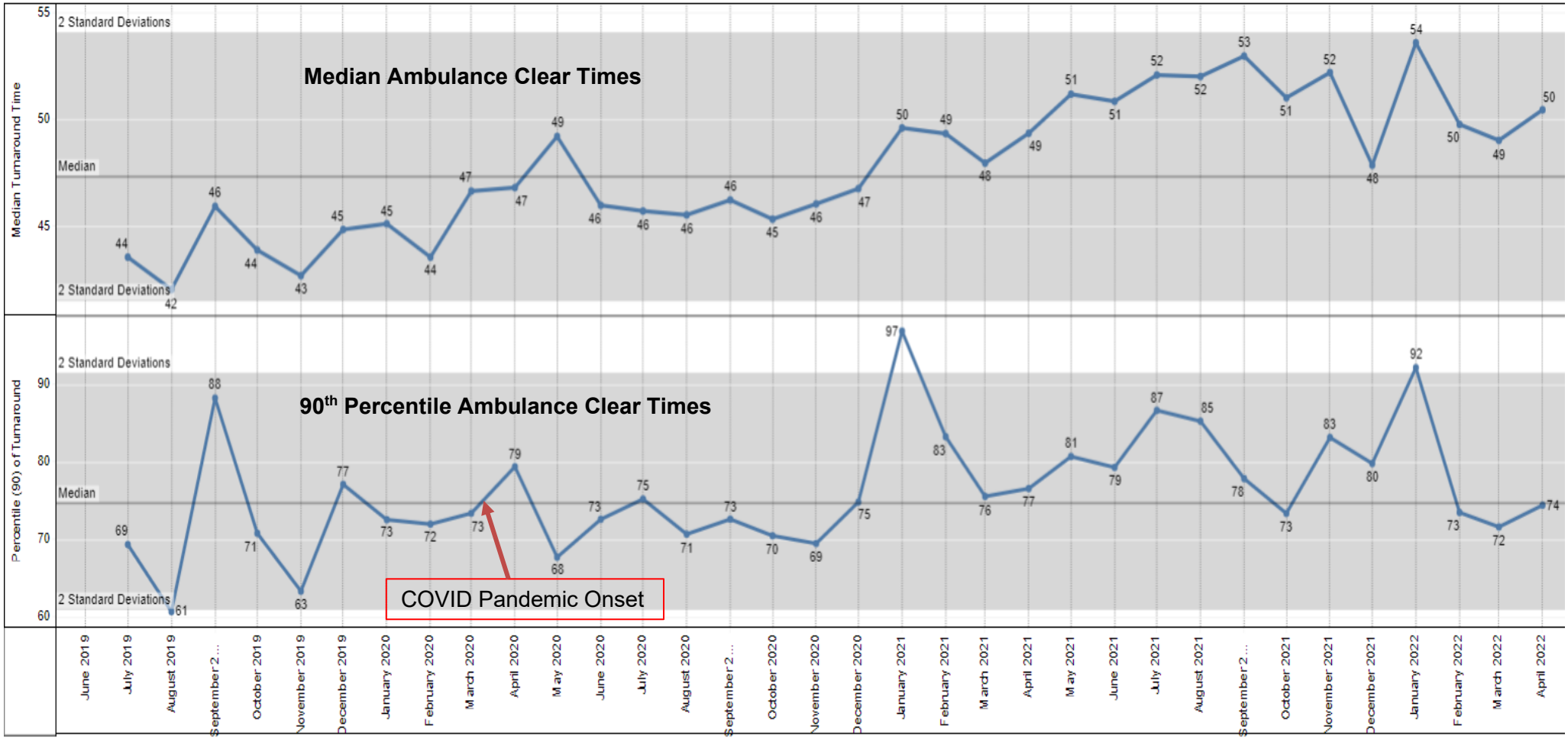
FALCK AMBULANCE PATIENT TRANSPORT RATE %



Aircraft Launches/Transports (CALSTAR-REACH)

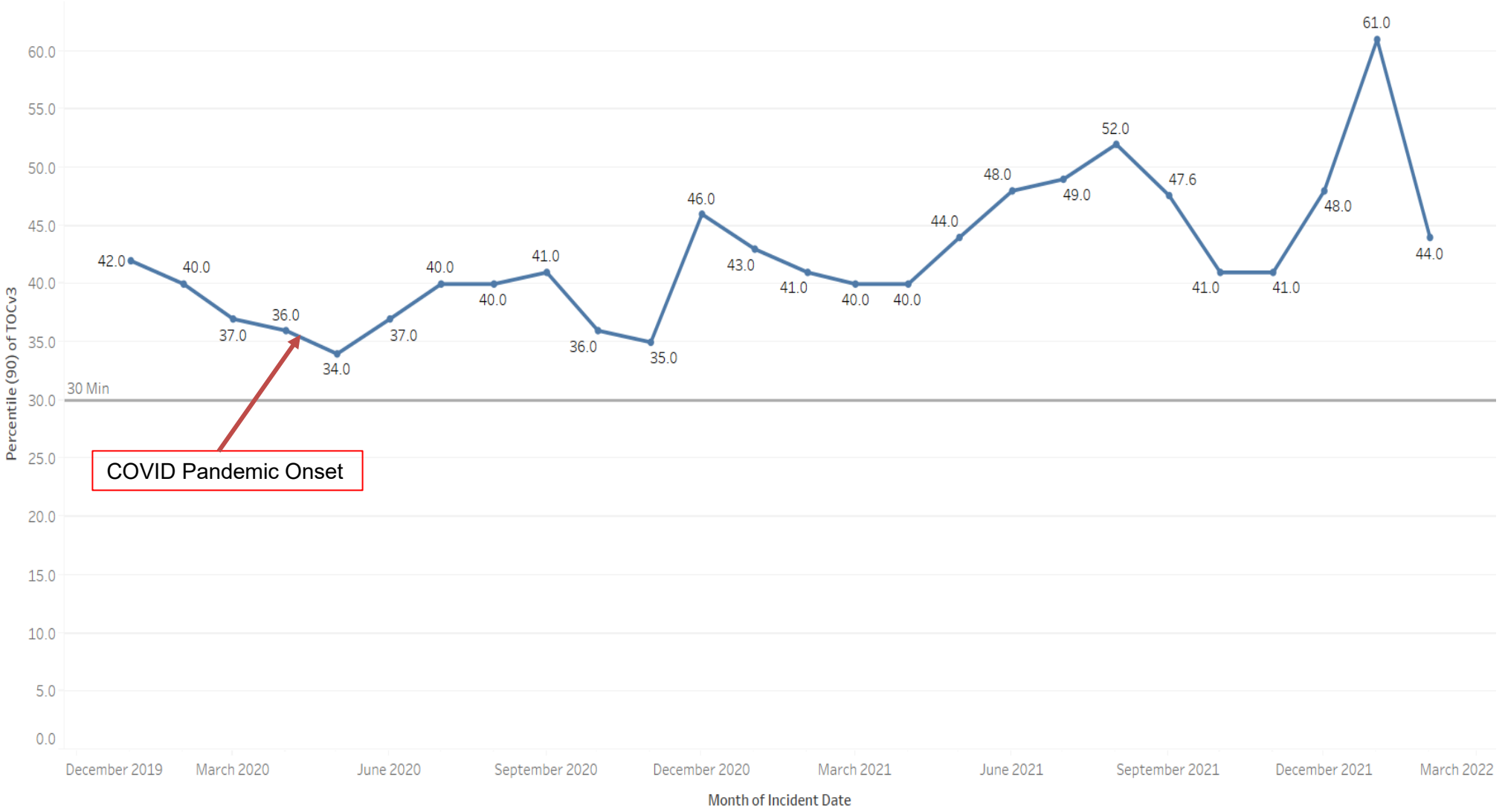


AMBULANCE CLEAR TIMES

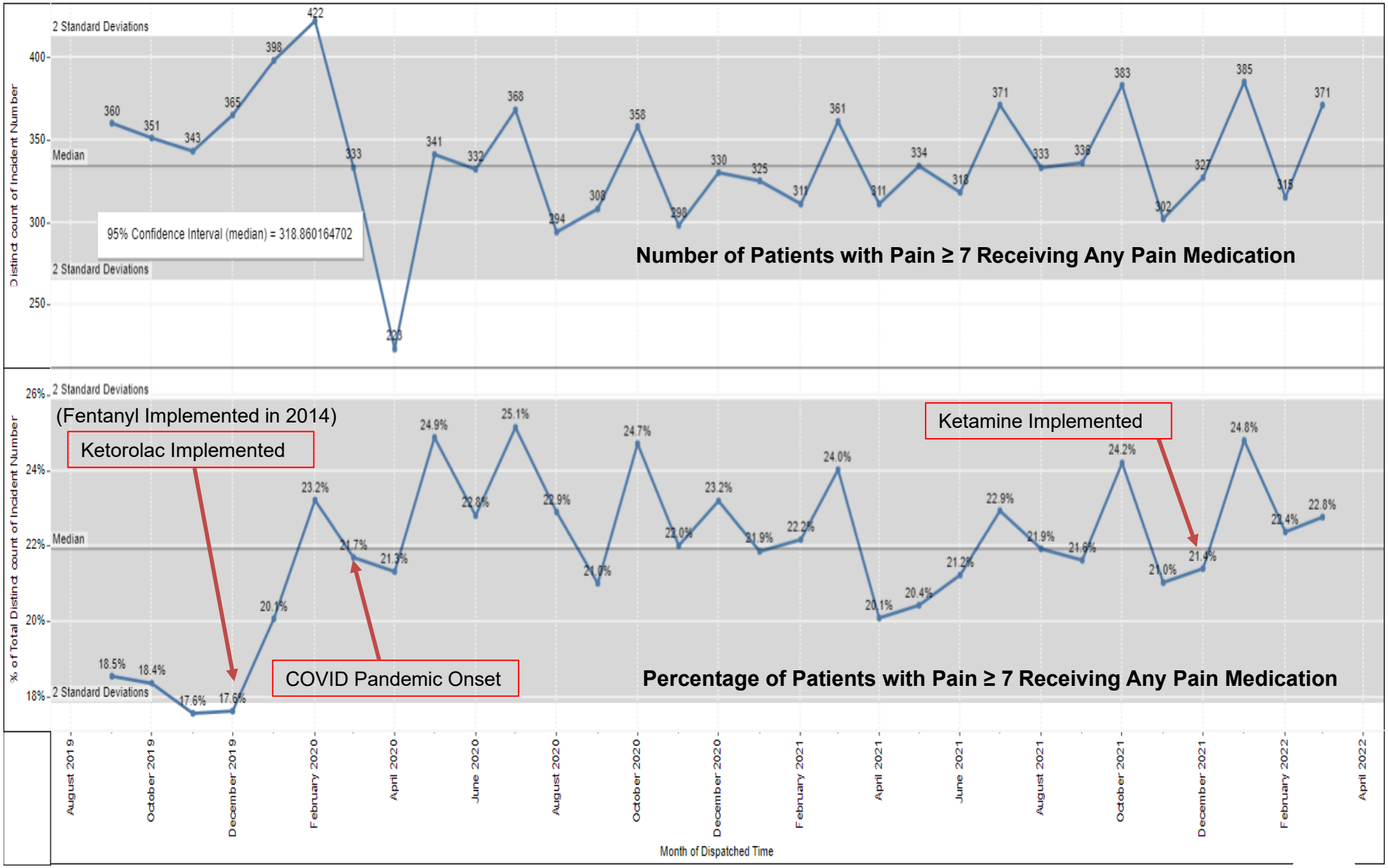


AMBULANCE PATIENT OFFLOAD TIME - APOT

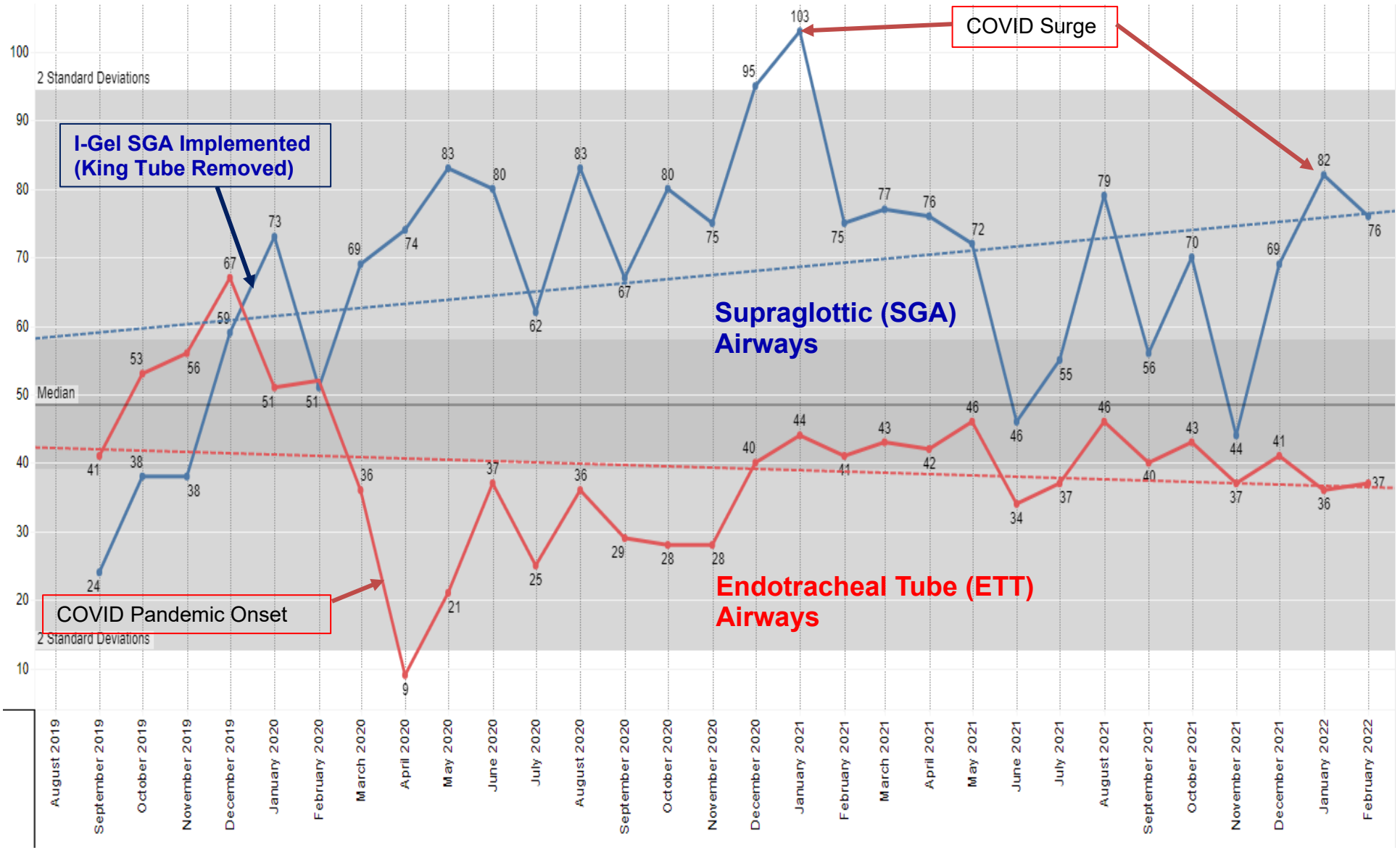
All Hospital 90% APOT

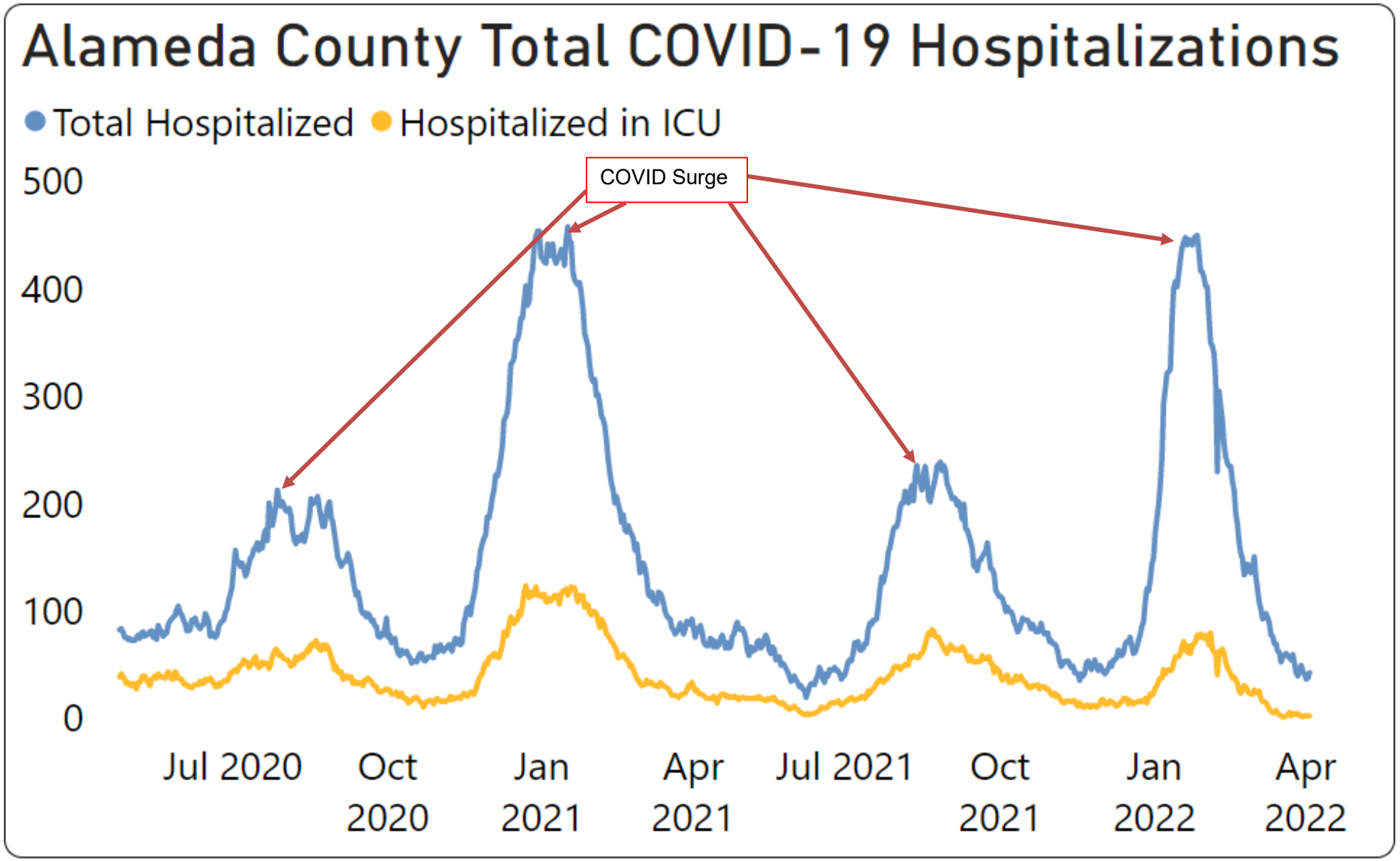


NUMBER AND PERCENTAGE OF PATIENTS WITH PAIN ≥ 7 RECEIVING ANY PAIN MEDICATION (Fentanyl OR Ketorolac OR Ketamine)



ADVANCED AIRWAY ADMINISTRATIONS




Alameda County Total COVID-19 Hospitalizations
Total Hospitalized
Hospitalized in ICU
COVID Surge
500
400
300
200
100
0
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
EMERGENCY MEDICAL SERVICES

2019-2022 (Update)
TRAUMA SYSTEM STATUS REPORT

September 2022

(All 2019-2021 Updates in Arial Black Bold Italic Font)

2019-21 EMS PLAN: TRAUMA SYSTEM STATUS REPORT

TRAUMA PLAN SYSTEM SUMMARY

BACKGROUND

The Alameda County Trauma System Plan was approved by the State of California and implemented in January of 1987. The purpose of the trauma system, as written in 1985, was to assure optimum preparation, response, and definitive care for the people that incur critical traumatic injuries within Alameda County. The goal remains unchanged. The many changes influencing the health care delivery system in the Unites States over the years have affected the trauma system in the County Operational Area. Yet, the fundamental components of the trauma system design remain intact and continue to meet the needs of the residents and visitors to Alameda County.

In November of 1986, the Board of Supervisors provisionally designated UCSF Benioff Children's Hospital, Oakland, as the pediatric trauma center and Sutter Eden Medical Center and Alameda Health System Highland Hospital Oakland as the adult trauma centers. The trauma system operations began on January 15, 1987.

The EMS Agency is responsible for overall trauma system monitoring and quality improvement, and for administration of the trauma center designation contract. The trauma system quality improvement process established by Alameda County includes a joint Alameda-Contra Costa County Trauma Audit Committee (TAC), facilitation of the region's Regional Trauma Coordinating Committee, and a trauma registry maintained both by the Trauma Center and by the County EMS Agency. The EMS Medical Director - Karl Sporer MD, and the EMS Prehospital Care Coordinator – Michael Jacobs, Paramedic, primarily conducts trauma system oversight. The Trauma Audit Committee meets quarterly to review cases treated at the four trauma centers that serve Alameda and Contra Costa Counties. The Alameda/Contra Costa County EMS Medical Directors, Trauma Service Directors, Trauma Surgeons, or members of the Pre-Trauma Audit Committees submit cases to the Trauma Audit Committee for review. During 2009, a system was developed to allow trauma surgeons to review these cases electronically.

BRIEF OVERVIEW SUMMARY - TRAUMA CARE SYSTEM

Key elements of the current Trauma System Program include the following:

- Designation of one adult Level I trauma center, one adult Level II trauma center and one Level 1 pediatric trauma center that serve all of Alameda County. The Alameda County trauma centers serve the surrounding counties on a less frequent basis, with the exception of UCSF Benioff Children's Oakland that also routinely receives patients from other areas throughout Northern California.
- Trauma center designation is determined based on an open competitive process including use of an outside team of experts to evaluate trauma center applications.

- Maintenance of verification ***(April 2021-2024***) from the American College of Surgeons Committee on Trauma: Level 2 Adult Trauma Center status for Sutter Eden Medical Center, Level 1 Adult Trauma Center status for Alameda Health System Highland Hospital and Level 1 Pediatric Trauma Center status for UCSF Benioff Children's Hospital Oakland.
- Recognition of the Level I pediatric trauma center designated by Alameda County as the appropriate facility to serve the needs of pediatric trauma patients.
- Full integration of the trauma system into the existing EMS system.
- Field triage of all major trauma patients to a designated trauma center when possible.
- Use of air ambulance transport (helicopter) services to reduce trauma transport times when appropriate.
- Maintenance of a trauma registry to track trauma system and trauma center performance on a case-by-case basis.
- A bi-county trauma audit (quality assurance and improvement) process to assure outside expert review of the trauma center and the trauma system on an ongoing basis.
- Full participation in regional and state trauma system activities.
- Full participation in CEMSIS Trauma and EMS data sharing.
- Implementation of a countywide pediatric and neonatal disaster / surge plan to support traumatic injury as the result of catastrophic earthquake or multi-casualty events involving traumatic injury. -
- Active injury prevention activities supporting preventable injuries in children in collaboration with Sutter Health Eden Medical Center, Alameda Health System Highland Hospital and UCSF Benioff Children's Hospital in Oakland.
- Development of an intra-facility transfer processes to support enhanced trauma patient destination workflow implemented via ***regional Trauma Re-Triage protocol in January 2013, last revised 2017.***
- Implementation of Spinal Motion Restriction treatment protocols and equipment.
- ***Implementation of TXA administration (adult) adopted into EMS protocol 2018.***

NUMBER AND DESIGNATION LEVEL OF TRAUMA CENTERS (2022)

TRAUMA CENTERS

- Alameda Health System (Highland) – ***Oakland – ACS Adult Level-1 – LEMSA Adult Level 2***
- Sutter Health Eden Medical Center – ***Castro Valley – ACS Adult Level 2 – LEMSA Adult Level 2***
- UCSF Benioff Children's Hospital Oakland ***– ACS Pediatric Level 1 – LEMSA Pediatric Level 1***

CHANGES IN TRAUMA SYSTEM

PROGRESS TOWARD IMPLEMENTATION

RE-ORGANIZATIONS

- **Trauma Hospitals – Designations** - American College of Surgeons (ACS) Initial Verification was completed at all Alameda County Trauma Centers in April 2014: UCSF Benioff Children's Hospital

Oakland (Level-1 Pediatric). Alameda County Medical Center (Highland) and Eden (Level 2 Adult). ACS Verification is now a requirement of the Alameda County Trauma Center MOU.

NEW CONTRACTS, AMENDMENTS, & REQUIREMENT UPDATES - *2019-2021*

- ALAMEDA COUNTY BASE HOSPITAL SUBSIDY
  - Alameda Health System (Highland) - Oakland – Amendments ***2021***
- TRAUMA CENTERS – Current Master Contract Amendments executed ***July 1, 2021, termed through June 30, 2024***
  1. Alameda Health System (Highland) – Oakland
  2. Sutter Health Eden Medical Center – Castro Valley
  3. UCSF Benioff Children's Hospital Oakland

  - Contract / MOUs - Master Contract amendments for the 3 Trauma Centers approved for ***July 2021-2024.***
  - ACS Verification is now a requirement of the Alameda County EMS Trauma Center MOU.
  - All trauma centers successfully completed ACS re-verification in April ***2021***: Alameda Health System Highland Hospital-Level 1 Adult**,** Sutter Eden Medical Center-Level 2 Adult and UCSF Benioff Children's Hospital Oakland-Level 1 Pediatric.
  - All trauma centers are scheduled for ACS re-verification in April ***2024***.

TRAUMA SYSTEM GOALS AND OBJECTIVES

INCLUDES PROGRESS TOWARD IMPLEMENTATION

TRAUMA PLANNING

- Objective: The purpose of the trauma plan is to monitor the delivery of services, improve trauma care through use of best practices in reducing death and disability, and identify areas where improvement can be made.
  - Short-Range Plan: Maintain ACS Verification as a requirement of the MOUs with ALCO trauma centers.
  - Long-Range Plan – ***Designate one new ACS Adult Level 2 verified Trauma Center by 2027***
  - Short Range Plan: Improve the functionality of our Trauma Audit Committee by adding a pre-TAC component. Improve our analysis of existing trauma ***TQIP*** data.
- Progress to Date: ACS verification is now a requirement of current MOUs that were completed in ***2021*** and end in ***2024***. ***(Renewal July 1, 2024-June 30, 2027)***
  - ALCO EMS and its county trauma centers continue to participate in RTCC x6 annually.
  - ALCO EMS and its county trauma centers continue to participate in TAC x4 annually.
  - ***ALCO EMS recently completed (5/2022) a yearlong assessment/evaluation of its three-decade mature trauma system. This assessment was prompted by the inquiry of two community hospitals located in Alameda County, regarding interest in becoming designated adult trauma centers. The assessment/evaluation was outsourced to a nationally recognized and reputable trauma consulting group with over thirty years of exclusive trauma content expertise.***

The intent of the assessment was to evaluate the performance and operational stability of the current trauma system in Alameda County. As well, the consultants were tasked to investigate the potential need for additional trauma centers, immediate and or future, to meet the need of population growth in Alameda County over the next two decades.

At the conclusion of the assessment/evaluation, the findings/recommendation were that the current trauma system in Alameda County is stable and high performing. But considering the projected population growth over the next twenty years, the trauma system could benefit from one additional trauma center in the next five years and possibly a second in the next ten to twenty years. The data analysis from the assessment suggested that the next trauma center to be designated within the next five years by ALCO EMS should be Washington Hospital Healthcare System (WHHS) located in Fremont, southern Alameda County. ALCO EMS will be working closely in collaboration with WHHS for them to achieve ACS Adult Level 2 verification by 2027.

COMPLIANCE WITH POLICIES - TRAUMA

- Objective: Data
  - Leverage HL7 compliant software systems currently in place to get EMS data into hospital data systems, and get outcome data out of hospital systems
  - Long Range Plan. Continue Monitoring via site visits to monitor and evaluate system components; Continue 24/7 On-Call and response capabilities for unusual occurrences, MCIs, and other immediate system needs; and MCI after action reports and improvement plans
- Progress to Date:
  - ***Establish bidirectional Healthcare Data Exchange (HDE) with all ALCO hospitals, currently 5/13 and 1/3 TCs.***
  - Implementation of NEMSIS 3.4 scheduled for late 2016 (in progress).
  - Alameda County EMS plans to implement the CEMSIS data elements ("primary impression" and other elements) in 2016.
  - Ensuring overarching Monitoring Mechanism: QI Committee and Plan; Policy Review; Unusual Occurrences; Trauma Audit; Training Program and CE Provider; and System Audits – Cardiac Arrest; intubation
  - On-going Evaluation & Improvement Plans - MCI "Real Event": Train Derailment Incident March 7, 2016 – Evaluated MCI, ReddiNet, and HAvBED Policy

QA/QI - TRAUMA

- Objectives:
  - Short Range Plan: Continue pre-hospital data analysis and reporting from EMS and providers utilizing Tableau analytic tool
  - Long-Range Plan - Integration of data with hospitals via HDE and/or other methods Participate in the ACS Trauma Quality Improvement Program (TQIP) for EMS system performance
  - QI Plan includes trauma on Website, update QI plan in 2022

- Improve QI communication to field from LEMSA

- Progress to Date:
  - Alameda County EMS ensures QI System-Wide Procedures and Plan
  - Alameda County Trauma Centers participate in the ACS Trauma Quality Improvement Program
  - Provider based QI Plans
  - EMS QI Plan approved by state EMSA
  - CA EMSA Core Measures
  - One ePCR data collection and reporting system for all 911 providers
  - Data analysis and trend identification
  - Training based on trends
  - Policy Review
  - QI committee groups: EMSA Core Measures; Quality Council, ePCR; Equipment, Trauma Audit, and Receiving Hospital
  - EMS representation at hospital Trauma Quality Review and Process Improvement Meetings
  - ***Establish bidirectional Healthcare Data Exchange (HDE) with all ALCO hospitals, currently 5/13 and 1/3 TCs.***

TRAUMA SYSTEM PLAN

- Objective: Review and update a trauma care system plan
- Progress to Date:
  - Alameda County EMS has a plan for trauma care and determines the optimal system design for trauma care.
  - **Trauma Centers**: Alameda Health System (Highland Hospital)-ACS Adult Level 1; Sutter – Eden Medical Center-ACS Adult Level 2; UCSF Benioff Children's Hospital Oakland-ACS Pediatric Level 1.
  - **Trauma Plan Status**:
    - Trauma System Plan updated and accepted by EMSA in 2018
    - MOU contracts with the 3 designated Trauma Centers: currently ***2021-2024 (renewal, 2024-2027)***

  - ***Trauma Patient Volume for 2021***
    - ***UCSF Benioff Children's Hospital 1147***
    - ***Sutter Eden Medical Center 2520***
    - ***Alameda Health System – Highland Hospital 3315***
    - ***Total trauma patient volume 6982***
    - ***Total trauma activations 5803***
    - ***Total critical patient Level-1 activations 1403***

  - ***Trauma Patient Volume for 2020***
    - ***UCSF Benioff Children's Hospital 1007***
    - ***Sutter Eden Medical Center 2413***
    - ***Alameda Health System – Highland Hospital 2829***
    - ***Total trauma patient volume 6249***

- ***Total trauma activations 4959***
- ***Total critical patient Level-1 activations 1313***

- ***Trauma Patient Volume for 2019***
  - ***UCSF Benioff Children's Hospital 1031***
  - ***Sutter Eden Medical Center 2435***
  - ***Alameda Health System – Highland Hospital 2903***
  - ***Total trauma patient volume 6369***
  - ***Total trauma activations 4876***
  - ***Total critical patient Level-1 activations 1073***

- **Receiving Facilities/Non-Trauma Centers** – The non-trauma facilities in Alameda County receive some patients meeting Trauma Patient Criteria (CTP), as outlined in EMS Policy Trauma Triage Criteria. These facilities are directed to call 911 for emergent transfers to the closest trauma center by use of Trauma Triage/Re-Triage Policy, updated 2017 (attached).
  - Priority education and training on the Emergency Triage/Re-Triage to Trauma Center Policy – Ensure process for re-triage of patients needing trauma care from non-trauma hospitals is efficiently adhered to.

PUBLIC INPUT

- Objective:
  - Continue obtaining input from consumer and healthcare partners.
- Progress to Date:
  - Various committee collaborations are continuing to ensure public input and EMS agency representation as follows: EMS Quality Council; Emergency Medical Oversight Committee EMOC; Receiving Hospital Committee; Trauma Audit Committee; Regional Trauma Audit Committee; Data Steering Committee; ePCR Change Committee; EMS Section Chiefs Committee; Alameda County Fire Chiefs Committee; EMSAAC/EMDAAC; LEMSA Coordinators Meeting; and other ad-hoc committees

Triage & Transfer Protocols: SEE ATTACHED PROTOCOLS

2019-2021 TRAUMA PRIORITY WORKPLAN

IDENTIFIED MAJOR NEEDS

1. Facilitate Specialty Trauma Centers - Quality Improvement - Continued data collection for driving continual improvements in care; development of more robust and comprehensive collaborative trauma care quality improvement program

GOALS:

1. Continued enhancement of quality improvement programs including those associated with trauma specialty systems of care
2. Continue to host the Regional Trauma Care Committee as well as participate in local EMS system Clinical Quality Oversight and Process Improvement collaborations.

MAJOR PROGRAM SOLUTIONS – TRAUMA SYSTEM

Refer to the new changes below that will strengthen the EMS system.

- **Identify and implement solutions consistent with the Triple Aim** of the Institute for Healthcare Improvement
- **Continuous quality improvement. Strengthen Continuous Trauma Quality Improvement Program** on an ongoing basis.
- **Emergency Department Pediatric "Readiness" for Trauma** - Site Visits and Evaluations - April and June in 2016 (Completed)
- **Facilitate EMS New Policy / Procedure Update** – Disseminate annual trauma policy information update; and conduct training
- **Ensure Interoperable & Redundant Disaster Communications** - Strengthen infrastructure - interoperable and redundant communications. Expand participating partner access to ReddiNet and EBRCS system.
- **Strengthen Disaster Response Capability** - Strengthen regional resource inventory and relationships with neighboring Operational Areas. Develop a framework for transportation to assist in facilitating expansion and decompression of Operational Area (OA) medical surge capacity. Given limited transportation resources, a plan for medical surge acquisition and use of prehospital provider resources including alternative transportation vehicles is a priority. Under the HPP work plan grant, a medical surge contractor has been hired to explore prehospital BLS surge capacity - patient movement including preparing to move patients within the OP area. Given that the state and region including EMSA, CDPH, OES, ABAHO and the Bay Area UASI have several ongoing projects to expand surge capacity including the MAC Project, IRG project, and Catastrophic Earthquake Planning, EMS is participating on planning committees and aligning surge plans accordingly.
- **Enhance Bi-Directional Data Sharing Capabilities -** amongst Dispatch Centers, First Responder, Transport Providers, and hospitals – Leverage HL7 compliant software systems to get EMS data into hospital data systems and get outcome data out of hospital systems.
- **Support for ePCR system** – Provide fully functional ePCR Training System, business Intelligence Portal, Tier 4 Hosting Center and redundant hardware for servers starting April 2016 through April 2017

- **Promote Patient Care "Best Practices"** - Sustain and strengthen research and disseminate information – Ensure sustainable research funding sources. Seek revenue to enhance already existing programs and to conduct approved trials.
- ***Community Awareness and Engagement - "STOP the BLEED" campaign and courses through ALCO EMS, ALCO EMS Providers and ALCO Trauma Center involvement and support.***

July 2020, a memo was disseminated countywide to ALL EMS field providers by the LEMSA, regrading Patients with Suspected COVID-19: ALCO EMS Suspected COVID-19 Interim Guidance (see attached).

Each Trauma Receiving Center has its own policy/procedure in place to manage suspected/confirmed COVID-19 patients.

Trauma Statistics

2021

	Children's		Eden		Highland	
	Total	%	Total	%	Total	%
PATIENT COUNT	1147	100.00%	2520	100.00%	3315	100.00%
ACTIVATE - LEVEL 1	128	11.16%	386	15.32%	889	26.82%
ACTIVATE - LEVEL 2	723	63.03%	1195	47.42%	1998	60.27%
ACTIVATE - DIR ADMIT	4	0.35%	0	0.00%	0	0.00%
ACTIVATE - CONSULT	91	7.93%	91	3.61%	97	2.93%
ACTIVATE-OTHER/NONE	201	17.52%	0	0.00%	0	0.00%
ACTIVATE--6,7,8	0	0.00%	848	33.65%	331	9.98%
ADM AFTER TRA/ED	751	65.48%	1703	67.58%	1556	46.94%
ADM AFTER TRA/ED ICU	125	16.64%	225	13.21%	305	19.60%
ADM AFTER TRA/ED OR	116	15.45%	222	13.04%	307	19.73%
ADM AFTER TRA/ED TCU	0	0.00%	146	8.57%	227	14.59%
ADM AFTER TRA/ED WARD	507	67.51%	767	45.04%	717	46.08%
ADM AFTER TRA/ED UCU, IR	0	0.00%	343	20.14%	0	0.00%
DISCHARGES after TRA/ED	390	34.00%	817	32.42%	1759	53.06%
DISCHARGES HOME/OTHER	345	88.46%	736	90.09%	1504	85.50%
DISHARGES AMA	0	0.00%	17	2.08%	110	6.25%
DISCHARGES- ACUTE TRANS.	35	8.97%	48	5.88%	95	5.40%
DISHARGES MORGUE	5	1.28%	16	1.96%	49	2.79%
OUTCOME LIVED	1132	98.69%	2437	96.71%	3177	95.84%
OUTCOME DIED	15	1.31%	83	3.29%	138	4.16%
POS > 50%	933	81.34%	2476	98.25%	3061	92.34%
POS >50% DIED	4	0.35%	51	2.02%	59	1.78%
POS >50% LIVED	2	0.17%	10	0.40%	14	0.42%
ISS > 15	85	7.41%	297	11.79%	437	13.18%
DOA	0	0.00%	7	0.28%	22	0.66%
BLUNT	1103	96.16%	2351	93.29%	2607	78.64%
PENETRATING	44	3.84%	169	6.71%	708	21.36%
MALE	702	61.20%	1459	57.90%	2255	68.02%
FEMALE	445	38.80%	1061	42.10%	1060	31.98%

Trauma Statistics

2020

	Children's		Eden		Highland	
	Total	%	Total	%	Total	%
PATIENT COUNT	1007	100.00%	2413	100.00%	2829	100.00%
ACTIVATE - LEVEL 1	87	8.64%	383	15.87%	843	29.80%
ACTIVATE - LEVEL 2	615	61.07%	1142	47.33%	1889	66.77%
ACTIVATE - DIR ADMIT	3	0.30%	2	0.08%	4	0.14%
ACTIVATE - CONSULT	124	12.31%	117	4.85%	91	3.22%
ACTIVATE-OTHER/NONE	176	17.48%	0	0.00%	0	0.00%
ACTIVATE--6,7,8	0	0.00%	769	31.87%	0	0.00%
ADM AFTER TRA/ED	757	75.17%	1680	69.62%	1327	46.91%
ADM AFTER TRA/ED ICU	163	21.53%	235	13.99%	226	17.03%
ADM AFTER TRA/ED OR	95	12.55%	206	12.26%	241	18.16%
ADM AFTER TRA/ED TCU	0	0.00%	124	7.38%	226	17.03%
ADM AFTER TRA/ED WARD	498	65.79%	716	42.62%	634	47.78%
ADM AFTER TRA/ED UCU, IR	1	0.13%	399	23.75%	0	0.00%
DISCHARGES after TRA/ED	246	24.43%	732	30.34%	1501	53.06%
DISCHARGES HOME/OTHER	208	84.55%	636	86.89%	1270	84.61%
DISHARGES AMA	0	0.00%	18	2.46%	105	7.00%
DISCHARGES- ACUTE TRANS.	32	13.01%	56	7.65%	78	5.20%
DISHARGES MORGUE	5	2.03%	23	3.14%	48	3.20%
OUTCOME LIVED	999	99.21%	2325	96.35%	2718	96.08%
OUTCOME DIED	6	0.60%	88	3.65%	110	3.89%
POS > 50%	848	84.21%	2360	97.80%	2675	94.56%
POS > 50% and Died	0	0.00%	51	2.11%	36	1.27%
POS < 50% and Lived	2	0.20%	10	0.41%	12	0.42%
ISS > 15	89	8.84%	272	11.27%	366	12.94%
DOA	0	0.00%	9	0.37%	28	0.99%
BLUNT	965	95.83%	2219	91.96%	2192	77.48%
PENETRATING	42	4.17%	194	8.04%	636	22.48%
MALE	598	59.38%	1501	62.20%	887	31.35%
FEMALE	409	40.62%	912	37.80%	819	28.95%

Trauma Statistics

2019

	Children's		Eden		Highland	
	Total	%	Total	%	Total	%
PATIENT COUNT	1031	100.00%	2435	100.00%	2903	100.00%
ACTIVATE - LEVEL 1	61	5.92%	353	14.50%	659	22.70%
ACTIVATE - LEVEL 2	546	52.96%	1193	48.99%	2064	71.10%
ACTIVATE - DIR ADMIT	6	0.58%	0	0.00%	1	0.03%
ACTIVATE - CONSULT	157	15.23%	122	5.01%	179	6.17%
ACTIVATE-OTHER/NONE	261	25.32%	0	0.00%	0	0.00%
ACTIVATE--6,7,8	0	0.00%	767	31.50%	0	0.00%
ADM AFTER TRA/ED	848	82.25%	1566	64.31%	1409	48.54%
ADM AFTER TRA/ED ICU	132	15.57%	281	17.94%	298	21.15%
ADM AFTER TRA/ED OR	88	10.38%	215	13.73%	236	16.75%
ADM AFTER TRA/ED TCU	0	0.00%	115	7.34%	240	17.03%
ADM AFTER TRA/ED WARD	613	72.29%	463	29.57%	633	44.93%
ADM AFTER TRA/ED UCU, IR	4	0.47%	492	31.42%	0	0.00%
DISCHARGES after TRA/ED	182	17.65%	869	35.69%	1494	51.46%
DISCHARGES HOME/OTHER	160	87.91%	761	87.57%	1246	83.40%
DISHARGES AMA	0	0.00%	28	3.22%	96	6.43%
DISCHARGES- ACUTE TRANS.	20	10.99%	69	7.94%	116	7.76%
DISHARGES MORGUE	1	0.55%	11	1.27%	36	2.41%
OUTCOME LIVED	1024	99.32%	2364	97.08%	2812	96.87%
OUTCOME DIED	7	0.68%	71	2.92%	91	3.13%
POS > 50%	877	85.06%	2336	95.93%	2740	94.39%
POS > 50% and Died	2	0.19%	39	1.60%	35	1.21%
POS < 50% and Lived	4	0.39%	5	0.21%	19	0.65%
ISS > 15	64	6.21%	297	12.20%	342	11.78%
DOA	0	0.00%	6	0.25%	23	0.79%
BLUNT	984	95.44%	2286	93.88%	2476	85.29%
PENETRATING	47	4.56%	149	6.12%	427	14.71%
MALE	639	61.98%	1482	60.86%	1941	66.86%
FEMALE	392	38.02%	953	39.14%	961	33.10%

ALCO EMS INTERIM GUIDANCE FOR SUSPECT/KNOWN COVID-19 PATIENT - revision 2 **7-14-2020**

COVID-19 is a new disease with limited information regarding risk factors for severe disease. Older adults and others of ALL ages who have serious underlying medical conditions might be at higher risk for severe illness:
65 years and older, live in a congregate setting (e.g. skilled nursing facility, homeless encampments), chronic lung disease, asthma, smoking, heart disease/conditions, immunocompromised, obesity, diabetes, kidney disease, liver disease, pregnancy, sickle cell disease.

SYMPTOMS (may appear 2-14 days after exposure to the virus) **fever, cough, fatigue, shortness of breath or difficulty breathing, new loss of taste or smell**, chills, repeated shaking with chills, muscle pain, headache, sore throat, aches and pains, nasal congestion, runny nose, abdominal pain, nausea/vomiting, diarrhea, OR any combination of the above.

UNIVERSAL PRECAUTIONS

- **PPE - PROVIDER** (CDC recommended) Appropriately don face mask (N95 or equivalent) respirator, eye protection (goggles or face shield) gown, gloves, HEPA Filter for use with CPAP, BVM, BV-ET, BV-SGA, ventilator, (head/hair and shoe covers are optional)
- **PPE - PATIENT** Apply surgical mask

OPERATIONS

- Involve least number of EMS personnel required to minimize potential exposures
- Optimize vehicle ventilation to maximize air exchange
- Family members and other contacts of patients should NOT ride in vehicle, if possible. If riding, they should wear a face covering.

ASSESSMENT

- Thorough H & P including SPO2, BP, Pulse, RR, ETCO2, lung sounds, temperature, ECG, 12-Lead if indicated
  - SPO2 may be unusually LOW (< 90%) with minimal distress and may present with LOW ETCO2
- Assess POLST/Advanced Directive status

TREATMENT (All values are guidelines and not substitutes for sound medical judgement.)
***While aerosolizing-generating procedures increase exposure risk, consider these treatments when necessary.**

RESPIRATORY DISTRESS-SOB

- Lung sounds CLEAR
  - SPO2 < 94% - NC up to 6 LPM
  - SPO2 < 90% - NR up to 15 LPM
- Lung sounds – Mild-moderate wheezes with or without crackles
  - Consider Albuterol* 5mg/6ml NS, hand-held, in-line OR
  - Albuterol* MDI with Spacer (patient MDI preferred) if available. (Use with NC, NR, CPAP*)
- Lung sounds – Severe wheezes
  - Consider Albuterol* 5mg/6ml NS
  - Consider Epinephrine 1mg/ml, 0.01mg/kg IM (max dose 0.5mg) for patients with no history of CAD or HTN
- NO improvement with O2 or medication therapies: SPO2 < 90%
  - Consider trial of CPAP*. If ineffective, discontinue CPAP*. **AND/OR**
  - Consider Alternate Positioning
    (*Right or Left Lateral* if tolerated In an **Awake Patient)**
    - ✓ Patient must be able to **self-move** to the Alternate Position
    - ✓ **Discontinue Alternate Positioning if patient's condition deteriorates**

Alternate Positioning

RESPIRATORY DISTRESS-SOB – BP < 90mmHg

- Adult: NS up to 500 ml, Pediatrics: NS up to 10 ml/kg
- Consider Epinephrine 0.01mg/ml, 5 mcg IV/IO push q3 minutes
- Maintain BP > 90 mmHg (suspect sepsis and or cardiogenic shock)

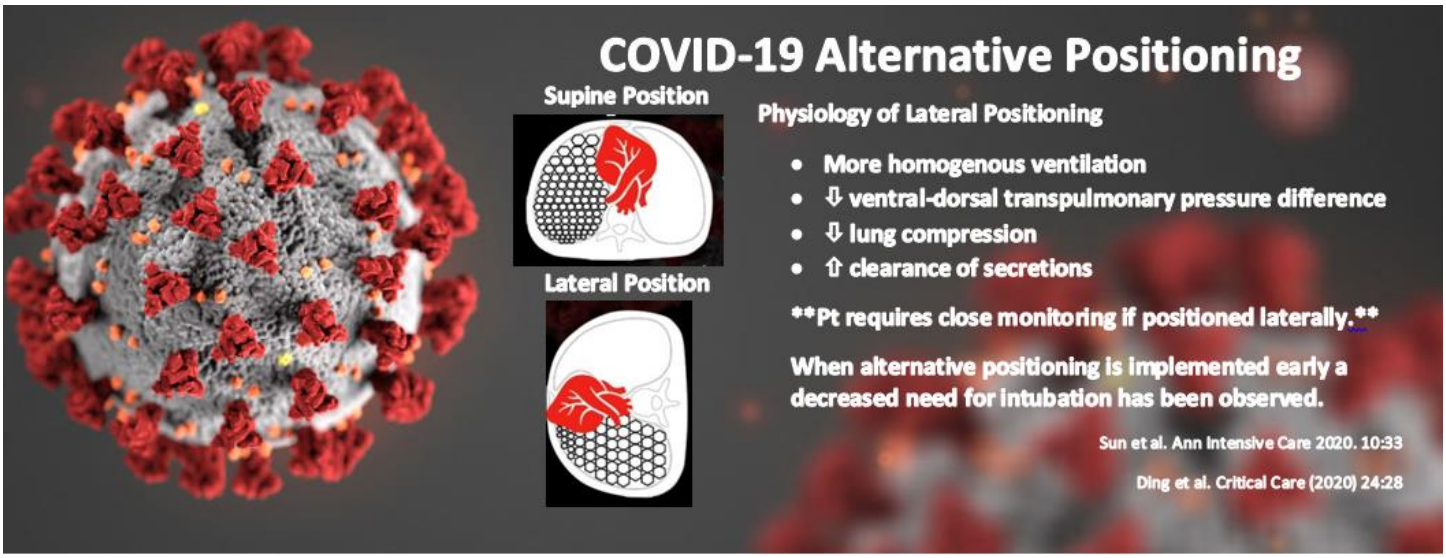
RESPIRATORY FAILURE - LOW SPO2 - ALOC (with increased or lack of breathing effort)

- Proper airway positioning, simple airway adjuncts, suctioning*, BVM* 10 breaths/min.
- Consider advanced airway management* (i-gel preferred)

GI-NAUSEA/VOMITING-DIARRHEA

- Nausea - Zofran 4mg
- Orthostatic, Poor Perfusion, BP < 90 mmHg – NS up to 500ml IV/IO

RECEIVING HOSPITAL	**DECONTAMINATION**
• Notify as **EARLY** as possible to allow for patient care preparations	• Appropriately doff PPE • Clean vehicle and reusable equipment with appropriate disinfectants



EARLY SELF-PRONING IN AWAKE, NON-INTUBATED PATIENTS IN THE EMERGENCY DEPARTMENT: A SINGLE ED'S EXPERIENCE DURING THE COVID-19 PANDEMIC

Nicholas D. Caputo MD, MSc; Reuben J. Strayer MD; Richard Levitan MD
Department of Emergency Medicine, NYC H+H/Lincoln, Bronx NY; Department of Emergency Medicine, Maimonides Medical Center, Brooklyn NY; Department of Emergency Medicine, Littleton Regional Health, Littleton, NH

Abstract

Objective: Prolonged and unaddressed hypoxia can lead to poor patient outcomes. Proning has become a standard treatment in the management of patients with ARDS who have difficulty achieving adequate oxygen saturation. The purpose of this study was to describe the use of early proning of awake, non-intubated patients in the emergency department (ED) during the COVID-19 pandemic.

Methods: This pilot study was carried out in a single urban ED in New York City. We included patients suspected of having COVID19 with hypoxia on arrival. A standard pulse oximeter was used to measure SpO2. SpO2 measurements were recorded at triage and after five minutes of proning. Supplemental oxygenation methods included non-rebreather mask (NRB) and nasal cannula. We also characterized post-proning failure rates of intubation within the first 24 hours of arrival to the ED.

Results: Fifty patients were included. Overall, the median SpO2 at triage was 80% (IQR 69 to 85). After application of supplemental oxygen was given to patients on room air it was 84% (IQR 75 to 90). After 5 minutes of proning was added SpO2 improved to 94% (IQR 90 to 95). Comparison of the pre- to post-median by the Wilcoxon Rank-sum test yielded P=0.001. Thirteen patients (24%) failed to improve or maintain their oxygen saturations and required endotracheal intubation within 24 hours of arrival to the ED

Conclusion: Awake early self-proning in the emergency department demonstrated improved oxygen saturation in our COVID-19 positive patients. Further studies are needed to support causality and determine the effect of proning on disease severity and mortality.

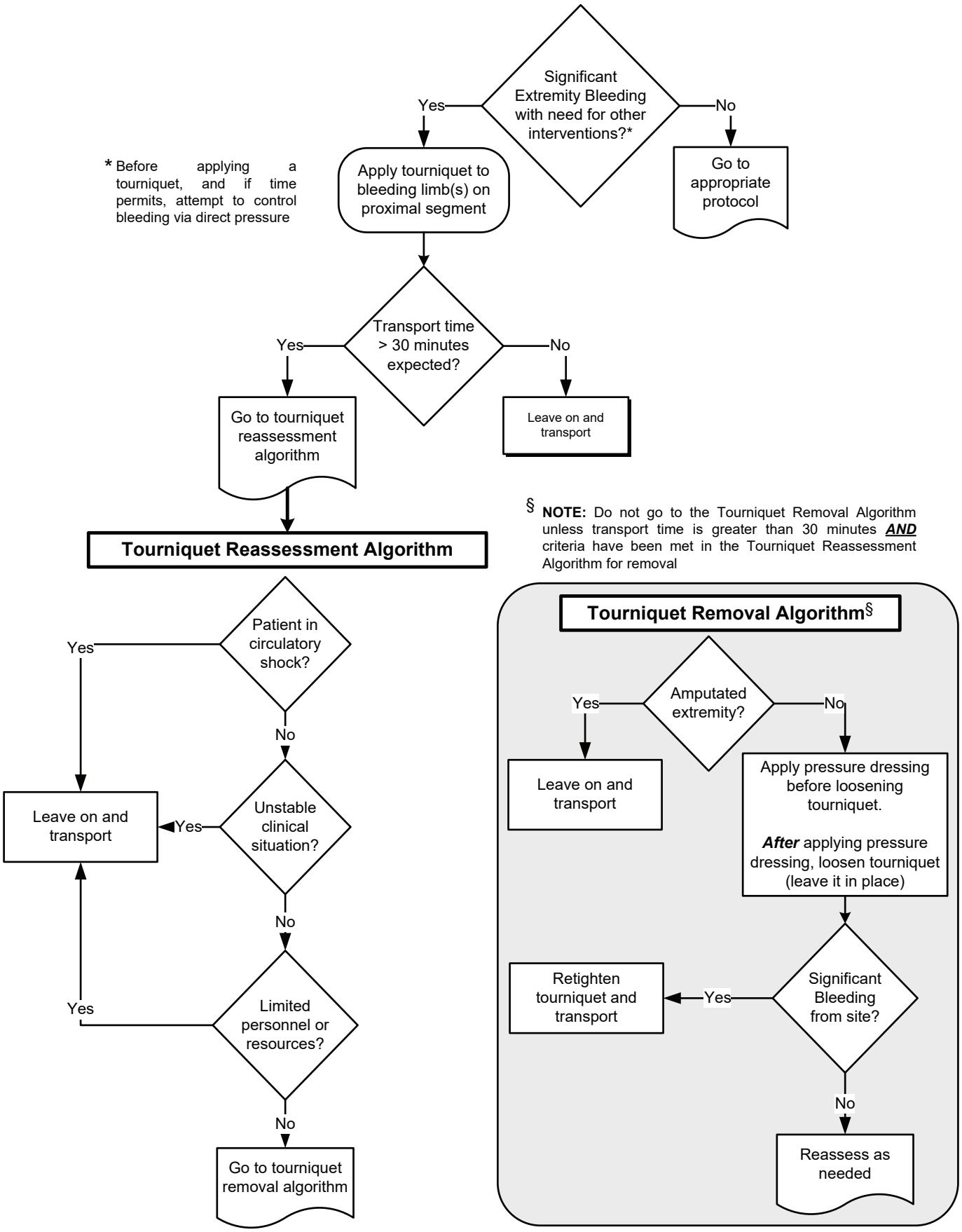
Summary of Changes - Revision 2

- **COVID Risk Factors** – Added smoking, pregnancy, sickle cell disease
- **Symptoms** – Modified **new loss of taste or smell** (increased emphasis in bold)
- **CPAP** – Modified to "Trial of CPAP*. If ineffective, discontinue CPAP*."
- **Limited Fluid Administration** – Added "up to 10ml/kg NS" for pediatric hypotension

HEMORRHAGE CONTROL

1. **INTRODUCTION:** Controlling severe bleeding from an extremity injury can be challenging (especially in the lower limbs). Use of a County-approved tourniquet can assist in the care of patients with uncontrollable bleeding in the extremities safely and effectively when the appropriate precautions are taken. Approved for both ALS and BLS.
2. **INDICATIONS:**
   - ► Amputation
   - ► Failure to stop bleeding with pressure dressing(s)
   - ► Injury does not allow control of bleeding with pressure dressing(s)
   - ► Impaled foreign body with ongoing extremity bleeding
   - ► Under difficult or dangerous situation for responding caregivers
   - ► Mass casualty event
   - ► Significant extremity hemorrhage in the face of any or all of:
     - •Need for airway management
     - •Need for breathing support
     - •Circulatory shock
     - •Need for other emergent interventions or assessment
     - •Significant bleeding from multiple locations
3. **TOURNIQUET:** Place County-approved tourniquet according to manufacturer's instructions
4. **WOUND PACKING:** Significant uncontrolled bleeding from extremity and junctional (shoulder or groin) wounds may be packed with standard or hemostatic gauze. Wounds to the chest, abdomen, or pelvis should not be packed.
5. **HEMOSTATIC AGENT:** After tourniquet placement, and to aid in severe arterial bleeding; or to control severe bleeding where tourniquets are not indicated (trunk, head, neck, etc), use of a hemostatic gauze is indicated. **Use of hemostatic gauze is optional.**
6. **PROCEDURE:** Any standard gauze or County-approved hemostatic gauze may be utilized

HEMORRHAGE CONTROL

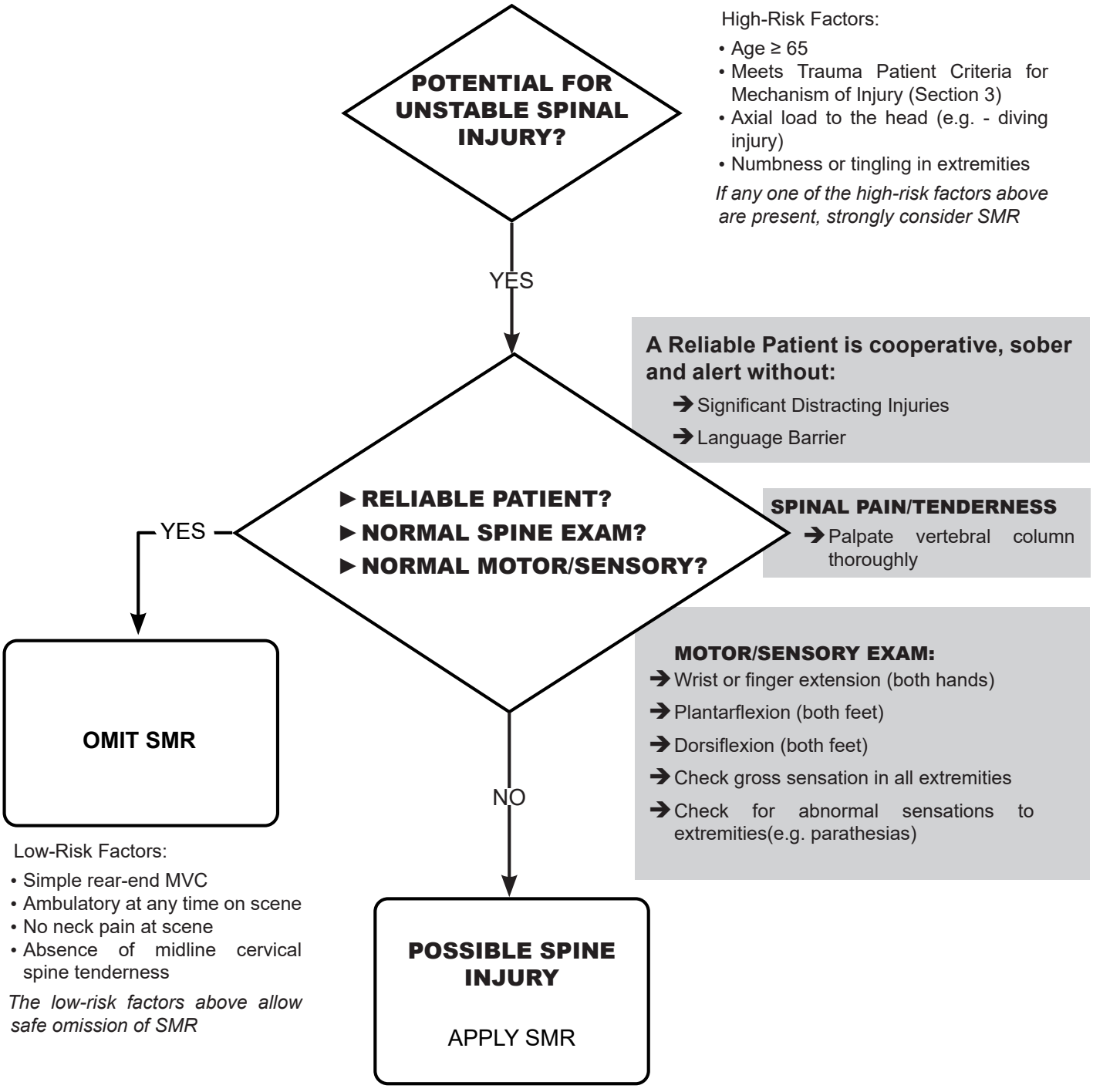


SPINAL INJURY ASSESSMENT

- ► Alameda County EMS is supporting efforts to decrease unnecessary immobilizations in the field and reduce the risks and complications associated with this procedure
- ► If the immobilization process is initiated prior to assessment, *STOP* and perform spine injury assessment to determine best course of action
- ► Studies show that immobilizing trauma victims may cause more harm than good to the patient. Penetrating trauma victims benefit most from rapid assessment and transport to a trauma center without spinal motion restriction (SMR)

1. **INTRODUCTION:**
   - 1.1 Omit SMR if all assessment criteria are safely assessed *and* normal
   - 1.2 Consider SMR for a patient who is suspected of having a traumatic unstable spinal column injury. Have high index of suspicion for pediatrics and patients with degenerative skeletal/ connective tissue disorders (i.e. osteoporosis, elderly, previous spinal fractures, etc)
   - 1.3 Victims of penetrating trauma (stabbings, gunshot wounds) to the head, neck, and/or torso SHOULD NOT receive SMR unless there is one or more of the following:
     - ► Obvious neurologic deficit to the extremities
     - ► Significant secondary blunt mechanism of injury (e.g.- fell down stairs after getting shot)
     - ► Priapism
     - ► Neurogenic shock
     - ► Anatomic deformity to the spine secondary to injury
2. **Pediatric Patients and Car Seats:**
   - 2.1 **Infants restrained in a rear-facing car seat** may be immobilized and extricated in the car seat. The child may remain in the car seat if the immobilization is secure and his/her condition allows (no signs of respiratory distress or shock)
   - 2.2 **Children restrained in a car seat** (with a high back) may be immobilized and extricated in the car seat; however, once removed from the vehicle, the child should be placed in SMR
   - 2.3 **Children restrained in a booster seat** (without a back) need to be extricated and immobilized following standard SMR procedures
3. **Helmet removal:** Safe and proper removal of the helmet should be done by two people following steps outlined in an approved trauma curriculum

SPINAL INJURY ASSESSMENT



SPINAL MOTION RESTRICTION (SMR)

1. **INTRODUCTION**: The term spinal motion restriction (SMR) better describes the procedure used to care for patients with possible unstable spinal injuries. SMR includes:
   - ► Reduction of gross movement by patient
   - ► Prevention of duplicating the damaging mechanism to spine
   - ► Regular reassessment of motor/sensory function
2. **PURPOSE:** To decrease the risk of negative effects caused by traditional spinal immobilization while still providing appropriate care to patients with possible spinal injury by implementing alternative methods to achieve SMR
3. **INDICATIONS:** Any patient identified by Alameda County's Spinal Injury Assessment to warrant spinal motion restriction. The spinal injury assessment should be performed prior to application of SMR.
4. **PROCEDURE:** If patient experiences negative effects of SMR methods used, alternative measures should be implemented.
   - 4.1 Methods/tools to achieve SMR that are allowable: (less invasive to more invasive) lateral, semi-fowler's or fowler's position with cervical collar only, soft collars, pillows, vacuum splint or mattress, children's car seats, KED, backboards with adequate padding, head immobilizers and straps
   - 4.2 Provide manual stabilization restricting gross motion. Alert and cooperative patients may be allowed to self-limit motion if appropriate with or without cervical collar
   - 4.3 Apply cervical collar
   - 4.4 If needed, extricate patient limiting flexion, extension, rotation and distraction of spine
   - 4.5 Considerations for patient movement when decision to SMR has been made:
     - ► Keeping with the goals of restricting gross movement of spine and preventing increased pain and discomfort, self-extrication by patient is allowable
     - ► Pull sheets, other flexible devices, scoops and scoop-like devices can be employed if necessary. Hard backboards should only have limited utilization
   - 4.6 Apply adequate padding or vacuum mattress to prevent tissue ischemia and increase comfort
   - 4.7 Place patient in position best suited to protect airway
   - 4.8 Regularly reassess motor/sensory function (include finger abduction, wrist/finger extension, plantar/dorsal flexion and sharp/dull exam if possible)
   - 4.9 Consider the use of SpO_2 and $EtCO_2$ to monitor respiratory function
5. **SPECIAL CONSIDERATIONS**
   - 5.1 **Patients with acute or chronic difficulty breathing:** SMR has been found to limit respiratory function an average of 17% with the greatest effect experienced by geriatric and pediatric subjects restricted to a hard backboard.
     - ► Use SMR with caution with patients presenting with dyspnea and position appropriately
   - 5.2 **Pediatric patients:**
     - 5.2.1 Consider use of padded pediatric motion restricting board
     - 5.2.2 Avoid methods that provoke increased spinal movement
     - 5.2.3 If choosing to apply SMR to patient in car seat, ensure that proper assessment of patient posterior is performed
   - 5.3 **Combative patients:** Avoid methods that provoke increased spinal movement and/or combativeness

TRAUMA PATIENT CARE

- **Routine Medical Care**
- **Critical Interventions** - See below
- **Transport Decision** - Determine need for rapid intervention/transport
- **Transport**
- **If traumatic arrest is suspected do not use ACLS medications**

CRITICAL/TIME SENSITIVE INTERVENTIONS:

► Control major external hemorrhage (see **page 126**)

► Control the Airway - Consider **endotracheal intubation or supraglottic airway device if indicated** (See below for patients with closed head trauma)

► Keep patient warm

► Determine patient severity (see "Trauma Patient Criteria" - see **page 25**):

Meets Physiologic and/or Anatomic Factors	Meets Mechanism of Injury Criteria
➔ Transport to the Trauma Center In accordance with Transport Guidelines (page 22). ➔ ADULT - Establish one (1) large bore IV/IO with Normal Saline (NS) or Saline Lock (SL). Establish 2nd IV if appropriate. ➔ PEDIATRIC- Establish one (1) appropriate large bore IV/IO with Normal Saline (NS) or Saline Lock (SL).	➔ Transport to the Trauma Center code 2. ➔ ADULT/PEDIATRIC - Establish one (1) large bore IV/IO with Normal Saline (NS) or Saline Lock (SL).
Do NOT delay transport to establish IV/IO access See "Trauma Patient Criteria" (**page 25**) for additional judgment decisions on code 2 transports	

► Consider spinal motion restriction (SMR) for blunt trauma (see **page 140**)

► Administer **Oxygen** - Titrate SpO_2 to 94-99%

► **IV fluid resuscitation:**

➔ SBP < 90 mmHg, NS IV/IO 250 – 500ml bolus

➔ > 90 mmHg, IV/IO TKO or Saline Lock

➔ Reassess BP q 5 minutes

► Consider **TXA** for patients with signs of shock or uncontrolled bleeding (see **page 28**)

► **Care of the patient with a closed head injury** (GCS < 8):

➔ **Advanced airway (ETT or SGA)**

➔ End-tidal CO_2 should be between 30-35 mmHg

➔ Track respirations or ventilate to a rate of approx 12 times/minute with 100% O_2 ***(AVOID HYPERVENTILATION)***

➔ **IV/IO** NS in 500 mL increments to ***maintain mean arterial pressure (MAP) of at least 80 mmHg***. Reassess BP q 5 minutes

IMPORTANT CONSIDERATIONS

► Contact the Base Hospital, if appropriate

► Contact the Trauma Center, as soon as possible

► Consider pain management when appropriate

► Splint fractures and dress wounds ONLY if time permits

FORMULA FOR ESTIMATING MAP

$$\text{MAP} = \text{diastolic} + \frac{(\text{systolic} - \text{diastolic})}{3}$$

TRAUMA PATIENT CRITERIA

1. **INTRODUCTION:** The goal of the Alameda County trauma system is to transport confirmed Critical Trauma Patient(s) (CTP) or, potential CTPs who might benefit from care at a trauma center directly to a designated Trauma Center in a timely manner, bypassing non-trauma centers

2. **CRITICAL TRAUMA PATIENT CRITERIA**

   2.1 A patient is identified as a CTP when any of the following physiologic and/or anatomic factors are present. These patients should be transported code 3

   2.2 **Physiologic criteria:**

   - ► Glasgow Coma Scale ≤ 13 ***or***;
   - ► Blood pressure < 90 systolic ***or***;
   - ► Respiratory rate < 10 or > 29 (< 20 in infant < one year) *or need for ventilatory support*

   2.3 **Anatomic injury factors:**

   - ► Penetrating injury to the torso, head, neck, groin, or extremity proximal to the knee or elbow
   - ► Flail chest
   - ► Evidence of two or more proximal long bone fractures (femur, humerus)
   - ► Crushed, degloved, mangled, or pulseless extremity
   - ► Traumatic amputation above the wrist or ankle
   - ► Evidence of pelvic fracture
   - ► Open or depressed skull fracture
   - ► Traumatic paralysis

3. **MECHANISM OF INJURY:** In addition to CTP criteria, the following mechanisms of injury may be used to identify a CTP. In general, these patients are transported code 2, however, differing field circumstances and/or patient condition may require a code 3 transport

   3.1 **Falls**

   - ► Falls greater than twenty (20) feet
   - ► Falls greater than ten (10) feet (≤14 or ≥55 years of age)

   3.2 **High-risk auto crash**

   - ► Intrusion including roof: > 12 in. occupant site; > 18 in. any site
   - ► Ejection of patient (partial or complete) from a moving object (automobile, motorcycle, scooter, horse, etc.)
   - ► Death of an occupant in the same passenger space
   - ► Vehicle telemetry data consistent with high risk of injury

   3.3 **Auto vs. pedestrian/ bicyclist thrown, run over, or with significant (> 20 mph) impact**

   3.4 **Motorcycle crash > 20 mph**

   3.5 **Suspected closed head injury**

4. **SPECIAL PATIENT CONSIDERATIONS:** Patients with the following considerations should be considered for transport to a trauma center. ***It is highly recommended that you make base contact in these situations***

4.1 **Age**

4.1.1 Older adults

➔ Risk of injury and/or death increases after age 55

➔ SBP <110 may represent shock after age 65

➔ Low impact mechanisms (e.g. ground level falls) may result in severe injury

4.1.2 Children (≤ 14 Years of age)

➔ should be triaged preferentially to a pediatric-capable trauma center (e.g.- Children's)

4.2 **Anticoagulation and bleeding disorders**

➔ Patients with head injury are at high risk for rapid deterioration

4.3 **Burns**

➔ Without other trauma mechanism: ***Triage to burn center***

➔ With trauma mechanism: ***Triage to trauma center***

4.4 **Pregnancy > 20 weeks**

4.5 **EMS provider judgement**

5. **TRANSPORT:** Patients identified as a CTP will be transported to **the closest, most appropriate, designated Trauma Center. Exception:** The patient is identified as a CTP or Potential CTP but presents with one of the following:

PATIENT PRESENTATION	ACTION	
UNMANAGEABLE AIRWAY: ***The patient requires intubation, and the paramedic is unable to intubate, and an adequate airway cannot be maintained with B.V.M. device.***	**Closest Basic E.D.**	
ADULT TRAUMA ARREST - BLUNT or PENETRATING:	**Determination of Death in the Field** (page 86) **Note:** Coroner's personnel must transport all dead bodies. If ordered to move a body by law enforcement, note the time, name, and badge number of the officer, and comply with the request. Ensure that the police officer on scene has contacted the Coroner's Bureau for permission to move the body	
PEDIATRIC TRAUMA ARREST BLUNT or PENETRATING:	➔ ETA to the Pediatric Trauma Center ≤ 20 minutes	Pediatric Trauma Center
	➔ ETA to the Pediatric Trauma Center ≥ 20 minutes	Closest Adult Trauma Center

6. **TRAUMA BASE CONTACT:** Varying field circumstances make rigid application of any set of rules impractical. These criteria should serve as guidelines. Clinical circumstances may dictate that transport be undertaken immediately with Trauma Base contact made en route

6.1 **Designated trauma base hospital** - Highland Hospital is the Base Station for all trauma patients requiring base contact

6.2 **Trauma base contact is not required** if the patient meets "Critical Patient Criteria" or "Mechanism of Injury" **and** is transported to a Trauma Center

6.3 If the patient meets any of the "Special Patient Considerations" and Trauma Base contact cannot be established or maintained, transport the patient to a Trauma Center

6.4 **Contact the trauma Base Physician if:**

- ► The patient meets the criteria listed in the "Mechanism of Injury" criteria but the paramedic is requesting transport to a basic ED
- ► The patient requires medical treatment not covered in the "Trauma Patient Care" protocol (see **page 24**)
- ► The patient would benefit from consultation with the Base Physician

7. **OUT-OF-COUNTY TRANSPORT**

7.1 Patients who meet "Trauma Patient Criteria" may be transported directly to an out of county Trauma Center

7.2 Prior to transporting to an out-of-county Trauma Center, the transporting medic must:

- ► Contact the out-of-county Trauma Center by landline to determine if they can accept the patient
- ► Give a brief report including E.T.A.
- ► Contact the Alameda County Base Hospital if medical consultation is required (see #6 above)

7.3 **Out-of-County Trauma Centers:**

TRAUMA CENTER	PEDIATRIC CAPABLE	LOCATION	PHONE #
STANFORD UNIVERSITY MEDICAL CENTER	**X**	PALO ALTO	(650) 723-7337
SAN FRANCISCO GENERAL HOSPITAL		SAN FRANCISCO	(415) 206-8111
REGIONAL MEDICAL CENTER		SAN JOSE	(408) 729-2841
SANTA CLARA VALLEY MEDICAL CENTER	**X**	SAN JOSE	(408) 885-6912
JOHN MUIR MEDICAL CENTER		WALNUT CREEK	(925) 947-4444
SAN JOAQUIN GENERAL		FRENCH CAMP	(209) 982-1975

TXA - TRANEXAMIC ACID

1. **DESCRIPTION** - Tranexamic Acid (TXA) is a Lysine analogue that works to inhibit the formation of plasmin, which is a molecule responsible for clot degradation. It has had multiple medical applications in the past including pre-operative use, menorrhagia, hemophilia and hereditary angioedema. It has recently been shown in multiple studies to reduce mortality in trauma patients meeting specific physiologic criteria or who have obvious signs of massive hemorrhage.

2.

INCLUSION CRITERIA	EXCLUSION CRITERIA
Within three hours of onset of injury or illness, prehospital administration of TXA should be considered for all patients with blunt or penetrating trauma or other massive uncontrolled bleeding (vaginal hemorrhage, etc.) that have signs and symptoms of hemorrhagic shock and meet any one of the following inclusion criteria: ► SBP < 90 mmHg ► Significant hemorrhage with a HR > 120 ► Bleeding not controlled by direct pressure or tourniquet ► Major amputation of any extremity above the wrists or ankles	► Any patient <15 years of age ► Any patient more than three hours post-injury ► Isolated penetrating cranial injury ► Traumatic brain injury with brain matter exposed ► Suspected cervical cord injury with motor deficits

3. **ADMINISTRATION**

3.1 Administer TXA 1 gram in 100ml NS or D_5W IV/IO over 10 minutes

Do NOT administer IV push. This will cause hypotension.

3.2 Place an approved wristband on the patient.

3.3 Ensure that RN/MD at receiving facility is notified that TXA was administered.

3.4 Follow IV fluid resuscitation guidelines on **page 24**, “Trauma Patient Care”

ALAMEDA COUNTY TRAUMA RE-TRIAGE PROCEDURE / CRITERIA (ADULT)

TRAUMA RE-TRIAGE PROCEDURE (ADULT)

Step 1	**Determine level of severity**	**Emergency re-triage** vs. **Urgent re-triage** (see below)
Step 2	**Contact Trauma Center & Transport Provider**	**EMERGENCY LEVEL RE-TRIAGE** – Simultaneously: **Call 911** to request a **"Code 3 Ambulance"** for emergent transport. **Contact Trauma Center** for patient acceptance stating **"Emergency trauma re-triage"** **URGENT RE-TRIAGE** – Contact trauma center below as noted for acceptance. Contact appropriate transport agency **(911, CCT-P, CCT-RN, Air ambulance)**
Step 3	**Determine appropriate level of transport – if Emergency Level re-triage, steps 2 and 3 should be initiated simultaneously.**	If within Paramedic Scope of Practice and timely transport needed – Contact 911 to request a "***Code 3 Ambulance"*** If exceeds paramedic scope of practice, contact appropriate transport agencies (CCT-RN or Air Ambulance) or arrange for nursing staff to accompany paramedic ambulance. **"Urgent" re-triage** - Consider options for transport based on patient acuity CCT, ALS (911) or EMT (BLS) transfer.
Step 4	**Prepare patient and paperwork for immediate transport.**	Fax additional paperwork that is not ready at time of transport departure. Do not delay transport. (SEE FAX LIST BELOW)

TRAUMA LEVEL CRITERIA (ADULT) – LEVEL OF SEVERITY

EMERGENCY LEVEL RE-TRIAGE: These are patients whose needs are generally known immediately or soon after initial arrival, based on clinical findings. Avoid any unnecessary studies (e.g. CT scans or angiograms). Request 911 ambulance for transport while simultaneously contacting the trauma center for patient acceptance stating **"Emergency trauma re-triage"**.

EMERGENCY LEVEL CRITERIA:

Blood pressure / perfusion:

- Systolic pressure < 90 or
- Need for high volume fluid resuscitation (> 2 L NS) or immediate blood replacement

GCS / Neuro

- GCS Less than 9
- GCS Deteriorating by 2 or more during observation
- Blown pupil
- Obvious open skull fracture

Anatomic criteria

- Penetrating injuries to head, neck, chest, or abdomen
- Extremity injury with ischemia evident or loss of pulses

Provider judgment

- Patients who have a high likelihood of need for emergent life- or limb-saving surgery or other intervention within 2 hours.

URGENT LEVEL RE-TRIAGE: Contact Trauma Center stating **"Urgent trauma re-triage"** for acceptance and appropriate transport provider based on patient acuity. These patients may require limited diagnostic procedures to discover abnormalities – upon findings of significant abnormalities, transfer should be arranged in a timely manner and further extensive workup should not be necessary.

URGENT LEVEL CRITERIA

Any patient meeting criteria for field transport to a trauma center that arrives via private auto or EMS should be considered a potential urgent re-triage. Criteria includes but not limited to the following:

CNS

- GCS < 14 with abnormal CT scan
- Depressed skull fracture
- Spinal cord or major vertebral injury

Chest

- >3 rib fractures and/or pulmonary contusion
- Widened mediastinum or other signs of great vessel injury on CXR
- Cardiac injury

Pelvis/Abdomen

- Unstable pelvic ring or pelvic ring disruption
- Solid organ injury confirmed by ultrasound exam or CT scan

Extremity

- Two or more long bone fractures
- Suspected crush injury or compartment syndrome

Multi-System Injury

- Major injury to more than 2 body regions
- Signs of hypoperfusion (e.g. elevated lactate level > 4 or base deficit more than X)

TRAUMA CENTER CONTACT INFORMATION

TRAUMA CENTER	TRAUMA CENTER ACCEPTANCE	FAX NUMBER FOR RECORDS
SUTTER EDEN MEDICAL CENTER	**(510) 566-3039- ask for on call Trauma Surgeon**	**(510) 727-3355**
HIGHLAND HOSPITAL	**(510) 535-6000 - ask for Attending Physician**	**(510) 535-7791**
CHILDREN'S HOSPITAL	**(510) 428-3240 – ask for Attending Physician**	**(510) 601-3934**

ALAMEDA COUNTY TRAUMA RE-TRIAGE PROCEDURE / CRITERIA PEDIATRIC (Age ≤14)

TRAUMA RE-TRIAGE PROCEDURE PEDIATRIC

Step 1	**Determine if patient meets Emergency Trauma Re-Triage Criteria**	See Criteria Below – Pediatric Patients are **Age ≤14**
Step 2	**Contact Pediatric Trauma Center**	Children's Hospital and Research Center – Oakland
Step 3	**Determine appropriate level of transport and arrange transport (should be done simultaneously to Trauma Center contact)**	If within Paramedic Scope of Practice and timely transport needed: **Call 911** to request a *"**Code 3 Ambulance**"* If exceeds paramedic scope of practice, contact appropriate transport agencies (CCT-RN or Air Ambulance) or arrange for nursing staff to accompany paramedic or EMT ambulance.
Step 4	**Prepare patient and paperwork for immediate transport.**	Fax additional paperwork that is not ready at time of transport departure. Do not delay transport. (SEE FAX LIST BELOW)

TRAUMA RE-TRIAGE CRITERIA PEDIATRIC – LEVEL OF SEVERITY

Blood pressure / perfusion:

- *Hypotension or tachycardia (based on age-appropriate chart below) or clinical signs of poor perfusion (see below)*
- *Need for more than two crystalloid boluses (20 ml/kg each) or need for immediate blood replacement (10 ml/kg)*

GCS / Neurologic

- *GCS Less than 12 (pediatric scale – see verbal scale below)*
- *GCS Deteriorating by 2 or more during observation*
- *Blown pupil*
- *Obvious open skull fracture*
- *Cervical spine injury with neurologic deficit*

Anatomic criteria

- *Penetrating injuries to head, neck, chest, or abdomen*

Respiratory Criteria

- *Respiratory failure or intubation required*

Provider judgment

- *Patients, who in the judgment of the evaluating emergency physician, are anticipated to have a high likelihood for emergent life- or limb-saving surgery or other intervention within 2 hours.*

TRAUMA CENTER CONTACT INFORMATION

	EMERGENCY RE-TRIAGE	*OTHER TRANSFERS*	FAX NUMBER FOR RECORDS
Children's Hospital Oakland	**(510) 428-3240**	**(855) 246-5437**	**(510) 601-3934**

PEDIATRIC CLINICAL SIGNS OF POOR PERFUSION

Cool, mottled, pale or cyanotic skin
Low urine output
Lethargic
Prolonged capillary refill

PEDIATRIC GCS – VERBAL SCALE (<2)

5	Coos and Babbles
4	Irritable
3	Only cries to pain.
2	Only moans to pain
1	None

Normal Vitals (Broselow)

AGE	WEIGHT	HEART RATE	SYSTOLIC BP	BROSELOW COLOR
Newborn	3-5 Kg	80-190	65-104	Grey -Pink
1 Year	10 Kg	80-160	70-112	Purple
3 Years	15 Kg	80-140	75-116	White
5 Years	20 Kg	75-130	75-116	Blue
8 Years	25 Kg	70-120	80-112	Orange
10 Years	30 Kg	65-115	85-126	Green

Important Pediatric Re-Triage Exceptions:

1. **Pregnant patients of any age should be transferred to an adult trauma center.**
2. **Major Burns should be preferentially transferred to one of the burn centers.**
3. **Contact hospital first for major extremity injuries with vascular compromise.**

TRAUMA RE-TRIAGE PROCEDURE / CRITERIA PEDIATRIC

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
EMERGENCY MEDICAL SERVICES

2019-2022
STEMI CRITICAL CARE SYSTEM PLAN (Update)

September 2022

(All 2019-2021 Updates are in Arial Black Bold Italic Font)

DEFINITIONS AND ACRONYMS

AED	Automated External Defibrillator
AICD	Automated Implantable Cardioverter-Defibrillator
ALCO	Alameda County
BHDE	Bidirectional Healthcare Data Exchange
CABG	Coronary Artery Bypass Graph
CARC	Cardiac Arrest Receiving Center: A comprehensive cardiac care center that is able to offer needed basic and advanced life support: Cardiopulmonary Resuscitation and Post Resuscitation Care: Therapeutic Hypothermia, Emergent Primary Coronary Interventions (PCI), Metabolic Support and Rehabilitation to patients suffering from Cardiopulmonary arrest.
CARES	Cardiac Arrest Registry to Enhance Survival
§ 100270.101. Cardiac Catheterization Laboratory	The setting within the hospital where diagnostic and therapeutic procedures are performed on patients with cardiovascular disease. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code

§ 100270.102. Cardiac Catheterization Team	The specially-trained health care professionals that perform percutaneous coronary intervention. It may include, but is not limited to, an interventional cardiologist, mid-level practitioners, registered nurses, technicians, and other health care professionals. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
CCU	Coronary Care Unit
CCT	Critical Care Transport
§ 100270.103. Clinical Staff	Individuals that have specific training and experience in the treatment and management of ST-Elevation Myocardial Infarction (STEMI) patients. This includes, but is not limited to, physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
CPC	Cerebral Performance Category
ECMO	Extracorporeal Membrane Oxygenation
ECG	Electrocardiogram
EEG	Electroencephalogram
ED	Emergency Department
§ 100270.104. Emergency Medical Services Authority	The department in California responsible for the coordination and integration of all state activities concerning EMS. Note: Authority cited: Sections 1797.1, 1797.107 and 1797.54, Health and Safety Code. Reference: Sections 1797.100, and 1797.103, Health and Safety Code.

HIPAA	Health Insurance Portability and Accountability Act
HITECH	Health Information Technology for Economic and Clinical Health Act
ICD	Implantable Cardiac Defibrillator
ICU	Intensive Care Unit
§ 100270.105. Immediately Available	(a) Unencumbered by conflicting duties or responsibilities. (b) Responding without delay upon receiving notification. (c) Being physically available to the specified area of the hospital when the patient is delivered in accordance with local EMS agency policies and procedures. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.106. Implementation	The development and activation of a STEMI Critical Care System Plan by the local EMS agency, including the prehospital and hospital care components in accordance with the plan. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.107. Interfacility Transfer (IFT)	The transfer of a STEMI patient from one acute general care facility to another acute specialty care facility. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1798.170, Health and Safety Code
IRB	Internal Review Board
§ 100270.108. Local Emergency Medical Services Agency (LEMSA)	The agency, department, or office having primary responsibility for administration of emergency medical services in a county or region and which is designated pursuant Health and Safety Code commencing with section 1797.200.

	Note: Authority cited: Sections 1797.107, 1797.200 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
MOU	Memorandum of Understanding
NCDR	National Cardiovascular Data Registry
§ 100270.109. Percutaneous Coronary Intervention (PCI)	A procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart, usually done on an emergency basis for a STEMI patient. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
PHI	Protected Health Information
§ 100270.110. Quality Improvement (QI)	Methods of evaluation that are composed of structure, process, and outcome evaluations that focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process, and recognize excellence in performance and delivery of care. Note: Authority cited: Sections 1797.103, 1797.107, 1797.174, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.
RH	Referring Hospital
RN	Registered Nurse
ROSC	Return of Spontaneous Circulation
SCA	Sudden Cardiac Arrest
§ 100270.111. ST-Elevation Myocardial Infarction (STEMI)	A clinical syndrome defined by symptoms of myocardial infarction in association with ST-segment elevation on Electrocardiogram (ECG). Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.112. STEMI Care	Emergency cardiac care, for the purposes of these regulations. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.113. STEMI Medical Director	A qualified board-certified physician by the American Board of Medical Specialties (ABMS) as defined by the local EMS agency and designated by the hospital that is responsible for the STEMI program, performance improvement, and patient safety programs related to a STEMI critical care system. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.114. STEMI Patient	A patient with symptoms of myocardial infarction in association with ST-Segment Elevation in an ECG. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.
§ 100270.115. STEMI Program	An organizational component of the hospital specializing in the care of STEMI patients. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.116. STEMI Program Manager	A registered nurse or qualified individual as defined by the local EMS agency, and designated by the hospital responsible for monitoring, coordinating and evaluating the STEMI program. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.117. STEMI Receiving Center (SRC)	A licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.124 and is able to perform PCI. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.
§ 100270.118. STEMI Referring Hospital (SRH)	A licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.125.

	Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.
§ 100270.119. STEMI Critical Care System	A critical care component of the EMS system developed by a local EMS agency that links prehospital and hospital care to deliver treatment to STEMI patients. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.120. STEMI Team	Clinical personnel, support personnel, and administrative staff that function together as part of the hospital's STEMI program. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
TTM	Targeted Temperature Management (FKA: Therapeutic Hypothermia)
V/F	Ventricular Fibrillation: life-threatening cardiac rhythm
V/T	Ventricular Tachycardia: life-threatening cardiac rhythm

This document is the STEMI Critical Care System Plan intended for submission to the EMS Authority for approval and in accordance with California Code of Regulations Title 22. Social Security Division 9. Prehospital Emergency Medical Services Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System: ARTICLE 2. LOCAL EMS AGENCY STEMI CRITICAL CARE SYSTEM REQUIREMENTS, § 100270.121. STEMI Critical Care System Plan.

NOTE: § 100270.121 (a) LEMSAs implementing a STEMI System of Care (b) develop a written STEMI System of Care plan. (c) A STEMI Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all the following components:

(1) The names and titles of the local EMS agency personnel who have a role in a STEMI critical care system.

(2) The list of STEMI designated facilities with the agreement (MOU) expiration dates.

(3) A description or a copy of the local EMS agency's STEMI patient identification and destination policies.

(4) A description or a copy of the method of field communication to the receiving hospital specific to STEMI patient, designed to expedite time-sensitive treatment on arrival.

(5) A description or a copy of the policy that facilitates the inter-facility transfer of a STEMI patient.

(6) A description of the method of data collection from the EMS providers and designated STEMI hospitals to the local EMS agency and the EMS Authority.

(7) A policy or description of how the local EMS agency integrates a receiving center in a neighboring jurisdiction.

(8) A description of the integration of STEMI into an existing quality improvement committee or a description of any STEMI specific quality improvement committee.

(9) A description of programs to conduct or promote public education specific to cardiac care.

(f) The local EMS agency currently operating a STEMI critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a STEMI Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180-days of the effective date of these regulations, whichever comes first.

(g) After approval of the STEMI Critical Care System Plan, the local EMS agency shall submit an update to the plan as part of its annual EMS update, consistent with the requirements in §100270.122.

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STEMI SYSTEM OF CARE SUMMARY

Section 1. Introduction/Background/MOU

Alameda County EMS began to establish a countywide STEMI System of Care in 2004 by implementing 12-lead electrocardiograms by paramedics in the out-of-hospital setting. In 2005, with only one PCI-capable hospital located in the north of Alameda County, paramedics recognizing a possible STEMI patient by 12-

lead ECG acquisition, transported to the geographically desirable and only STEMI Receiving Center (SRC) at that time which only served approximately 25% of the county's EMS catchment. In 2006, three more receiving hospitals within the county became PCI capable and by January of 2007 ALCO EMS was transporting ALL suspected STEMI patients too one of the four designated SRCs.

The first MOUs were executed between ALCO EMS and the four existing SRCs in 2012 and by 2013; two more SRCs were designated as specialty centers of care for STEMI. 2013 also marked the beginning of the STEMI/Cardiac Arrest Receiving Center (SRC/CARC). This model was developed and contractually executed by ALCO EMS, since many STEMI patients also suffer out-of-hospital cardiac arrest (OHCA) and others suffering cardiac arrest require the same specialty services offered by the SRC. Currently, seven high performing SRC/CARCs exist by contractual agreement as an important part of ALCO EMS's integrated specialty system of care for STEMI and Cardiac Arrest today.

The initial purpose of developing a STEMI system was to ensure preparation, timely response and definitive care for people that present with STEMI in Alameda County. A decade and a half later, the goal and objectives remain unchanged. The many changes influencing the health care delivery systems in the United States over the years have not had any negative impact on the STEMI system within the County. The fact is the desire of hospitals and geographic needs of the community have supported the increase for more STEMI Receiving Centers over the past fifteen years. The fundamental components of the STEMI system design remain intact and continue to improve performance and meet the needs of the residents and visitors to Alameda County.

Section 2. ALCO EMS Design/Administration

Alameda County is approximately 739 square miles of land and 82 of water, located in the center of the San Francisco Bay Area, with a diverse demographic and socioeconomic population of 1.6 million. The EMS system design and configuration consists of a countywide Advanced Life Support (ALS) model for first responders and transport: five First Responder ALS (FRALS) Fire Departments, four ALS Transport Fire Departments with FRALS, one private ALS transport provider agency and one Basic Life Support (BLS) First responder Fire Department.

Within the county, currently thirteen hospitals exist as emergency receiving centers for ambulance transport: 12 adult and 1 pediatric. Of the twelve adult hospitals, seven are LEMSA designated SRC/CARCs with three having Cardiovascular Surgical Services but none being ECMO capable at this time.

The EMS Agency is responsible for oversight of the countywide STEMI System of Care including operations, performance, quality improvement, administration, and compliance monitoring of designated SRC/CARC MOUs. ALCO EMS leadership consists of the Director – Lauri McFadden, Deputy Director – William McClurg, Medical Director – Karl Sporer MD and EMS Coordinator (Specialty Systems of Care) – Michael Jacobs, Paramedic.

Section 3. ALCO EMS Designated STEMI Receiving Centers/MOU

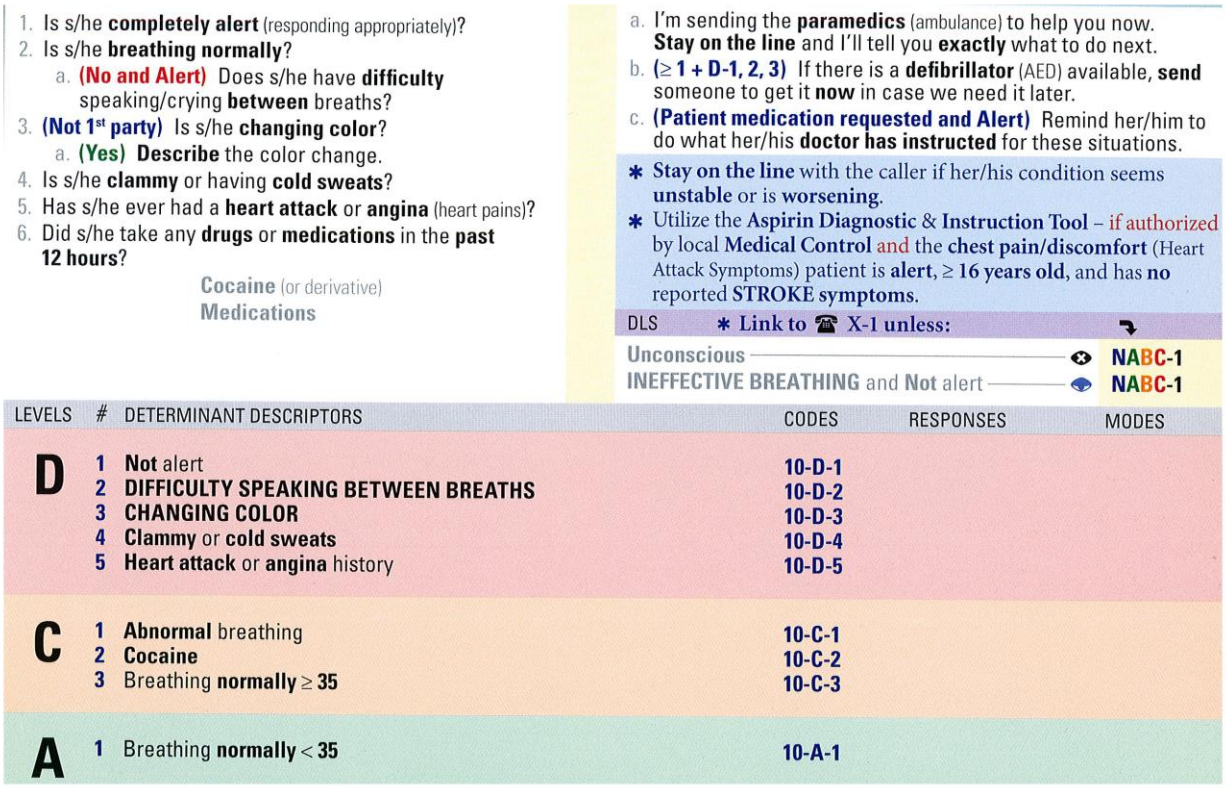
Currently Alameda County EMS has designated seven STEMI Receiving Centers (SRC) that also function as Cardiac Arrest Receiving Centers (CARC) under the existing MOU***. ALL designated SRC/CARCs are on the same three-year agreement cycle: current term is 1/1/2020-12/31/2022, next agreement cycle will be 1/1/2023-12/31/2025.***

- Alameda Health System Highland Hospital-(Oakland)
- Alta Bates Summit Medical Center-(Oakland)
- Kaiser Permanente-(Fremont)

- Kaiser Permanente-(Oakland)
- St. Rose Hospital-(Hayward)
- Stanford Health Care Valley Care Medical Center-(Pleasanton)
- Washington Hospital Health System-(Fremont)

Section 4. STEMI Identification and Destination Policy/Protocol

The identification of a suspected STEMI starts in Dispatch: below are both Medical Priority Dispatch CARD 10 for Chest Pain / Discomfort and ALCO EMS Field Assessment / Treatment Protocol for Chest Pain Suspected Cardiac/STEMI. These decision pathways and protocols address and comply with § 100270.123. EMS Personnel and Early Recognition.



1. Is s/he **completely alert** (responding appropriately)?
2. Is s/he **breathing normally**?
   a. **(No and Alert)** Does s/he have **difficulty** speaking/crying **between** breaths?
3. **(Not 1st party)** Is s/he **changing color**?
   a. **(Yes)** **Describe** the color change.
4. Is s/he **clammy** or having **cold sweats**?
5. Has s/he ever had a **heart attack** or **angina** (heart pains)?
6. Did s/he take any **drugs** or **medications** in the **past 12 hours**?

Cocaine (or derivative)
Medications

a. I'm sending the **paramedics** (ambulance) to help you now. **Stay on the line** and I'll tell you **exactly** what to do next.
b. **(≥ 1 + D-1, 2, 3)** If there is a **defibrillator** (AED) available, **send** someone to get it **now** in case we need it later.
c. **(Patient medication requested and Alert)** Remind her/him to do what her/his **doctor has instructed** for these situations.

* **Stay on the line** with the caller if her/his condition seems **unstable** or is **worsening**.
* Utilize the **Aspirin Diagnostic** & **Instruction Tool** – if authorized by local **Medical Control** and the **chest pain/discomfort** (Heart Attack Symptoms) patient is **alert**, ≥ **16 years old**, and has **no** reported **STROKE symptoms**.

DLS * **Link to ☎ X-1 unless:**

Unconscious — **NABC-1**
INEFFECTIVE BREATHING and **Not** alert — **NABC-1**

LEVELS	#	DETERMINANT DESCRIPTORS	CODES	RESPONSES	MODES
D	1	**Not** alert	10-D-1		
	2	**DIFFICULTY SPEAKING BETWEEN BREATHS**	10-D-2		
	3	**CHANGING COLOR**	10-D-3		
	4	**Clammy** or **cold sweats**	10-D-4		
	5	**Heart attack** or **angina** history	10-D-5		
C	1	**Abnormal** breathing	10-C-1		
	2	**Cocaine**	10-C-2		
	3	Breathing **normally** ≥ **35**	10-C-3		
A	1	Breathing **normally** < **35**	10-A-1		

- Unable to **complete a full sentence** without taking a breath
- Only able to **speak a few words** without taking a breath
- Breathing attempts that **severely hinder** crying in infants and small children

CHANGING COLOR

Changing colors of **clinical significance** include:

- Ashen/Gray
- Blue/Cyanotic/Purple
- Mottled

(Pale, pink, and red are not colors of clinical significance in the dispatch environment and will not, alone, change the dispatch priority. Callers failing to initially identify a listed color should not be coached by asking unlisted clarifiers such as "Well, is s/he gray?")

Rules

1. Patients with a history of **angioplasty, coronary artery stents, or bypass surgery** are considered to have a **history of heart attack or angina** in the dispatch environment.
2. When the complaint description involves **both NON-TRAUMATIC chest pain/heart attack symptoms and breathing problems**, choose the Chief Complaint Protocol that best fits the patient's **foremost symptom**, with **ECHO-level conditions** taking precedence. **(≥ 16, alert, no reported STROKE symptoms)** Use the **Aspirin Diagnostic & Instruction Tool** on either protocol as appropriate.
3. A patient having a **heart attack may worsen at any time**. Always advise to call back if condition worsens.

proven otherwise.

5. If the **caller asks** whether the patient should be given their medication now, the EMD should **only give instructions included in the protocol**.
6. Chest pain **due to trauma** (current or non-recent) should be **handled on Protocol 30**.
7. If the complaint description involves **both chest pain and STROKE symptoms**, go to **Protocol 10** but **do not utilize** the Aspirin Diagnostic & Instruction Tool.

First Law of Chest or Back Pain

"Hurts to breathe" is not considered difficulty or abnormal breathing.

Second Law of Chest Pain

A little chest pain may be as bad as a lot.

Axioms

1. Patients with a history of **angioplasty, coronary artery stents, or bypass surgery** may **not** have actually had a **heart attack** (myocardial infarction). However, since these patients suffer from coronary artery disease, they have a **greater risk of a heart attack** than the general population.
2. True heart attacks are **uncommon in females < 45 and males < 35**.
3. Medical Dispatch may consider heart attack (and an ALS CHARLIE response) in certain patients < 35 when the **symptoms listed in Heart Attack Symptoms strongly suggest** the possibility.
4. Automated external defibrillators (AEDs) might also be called **"shock boxes."** Other local names may be used.

accompanied by STROKE symptoms due to the possibility of acute aortic dissection involving concurrent coronary and carotid artery damage.

Heart Attack Symptoms

EMDs may initially receive non-specific complaints in heart attack cases. Due to patient denial or caller confusion, the following **symptoms may not be recognized as a heart attack**:

- Aching pain
- Chest pain/discomfort (now gone)
- Constricting band
- Crushing discomfort
- Heaviness
- Pressure
- Numbness
- Tightness

While these symptoms are most common in the **chest**, they may also (or only) be present in the **arm(s), jaw, neck, or upper back**. These symptoms should be considered **equivalent to chest pain** and **handled on Protocol 10**.

Thrombolytic and PCI Therapy

Thrombolytic therapy is the use of drugs such as tissue Plasminogen Activator (t-PA) and Streptokinase to break down blood clots. **Percutaneous Coronary Intervention** (PCI) **therapy** is an invasive technique to reopen blocked arteries. These are **critical, time-dependent therapies** for patients suffering from a developing heart attack. EMD is a vital first link in the chain of survival for these patients, as early recognition and rapid treatment are essential.

Procedures: EKG - 12 LEAD Modified May 26, 2016

INTRODUCTION: 12-lead electrocardiograms (EKGs) are used with a variety of patients and should be used with a number of patient care policies (e.g., ALOC (**page 33**), Chest Pain/MI (**page 37**), and CHF/ Pulmonary Edema (**page 43**). Treatment under these policies should proceed in conjunction with the application of the 12-lead EKG. Our goal is to incorporate the 12-lead EKG into our destination decision-making process with regard to the ST-elevation MI (STEMI) patient. The transmission or reporting of the ST-elevation MI should decrease "door-to-intervention" times in our community hospitals.

Approved STEMI Centers are:

STEMI Centers	**ED Phone Number**
Kaiser Walnut Creek (Out of County)	(925) 939-1788
Kaiser Fremont	(510) 248-5011
Kaiser Oakland	(510) 752-8869
Alameda Health System-Highland	(510) 535-6000
San Ramon MC (Out of County)	(925) 275-8338
St. Rose Hospital	(510) 264-4251
Summit Medical Center	(510) 869-8797
Valley Care Medical Center	(925) 416-6518
Washington Hospital	(510) 608-1367

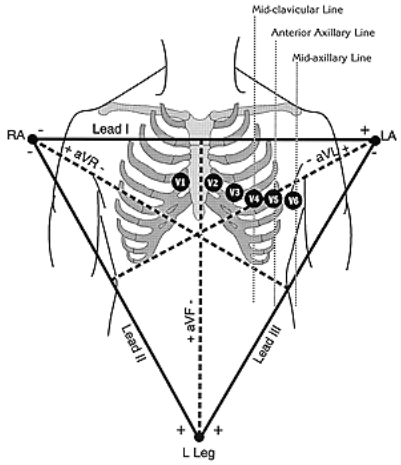
Only ALS personnel who are employed by an agency with an approved 12-lead EKG program and who have received the required training may perform a 12-lead EKG. [See 12-LEAD EKG PROGRAM (#4210)

in the Administrative Manual for training and program requirements]. 12-lead EKG is required for ALS transport providers.

1. INDICATIONS: Any patient with known or suspected Acute Coronary Syndrome (ACS)
►►chest pain
►►discomfort or tightness radiating to the jaw, shoulders or arms
►►nausea
►►ROSC
►►diaphoresis
►►dyspnea
►►anxiety
►►syncope/dizziness
►►other “suspicious symptoms”
►►known treatment for ACS

2. EKG CRITERIA FOR STEMI: convex, “tombstone,” or flat ST segment elevation in two or more contiguous leads. Use the machine reading “acute MI” or the equivalent, as the principal determinant for STEMI assessment.

3. PROCEDURE:
3.1 Attach EKG leads to the patient (limb leads to the upper arms and Ankles, and six chest leads). Perform an EKG as indicated.



►►V1: right 4th intercostal space
►►V2: left 4th intercostal space
►►V3: halfway between V2 and V4
►►V4: left 5th intercostal space, mid-clavicular line
►►V5: horizontal to V4, anterior axillary line
►►V6: horizontal to V5, mid-axillary line
►►V4R: right 5th intercostal space, mid-clavicular line (use in all suspected inferior MIs)

3.2 If the EKG machine is reading “Acute MI” or the equivalent, or definite new left bundle branch block, immediately transmit the EKG and notify the STEMI Receiving Center. Use the machine reading as the principal determinant for STEMI assessment. Use your clinical judgment for situations outside of those listed above

3.3 Include the following information in your report:
►►Age and sex
►►Interpretation of the 12-lead EKG (leads, amount of ST elevation in millimeters, “confidence” in your 12-lead assessment)
►►Location of reciprocal changes (if applicable)
►►Symptoms (including presence or absence of chest pain)

►►Presence of new left bundle branch block. Presence of imposters (early repolarization left bundle branch block, left ventricular hypertrophy, pericarditis or paced rhythms).
►►Significant vital signs and physical findings
►►Time of onset
►►Estimated time of arrival to receiving STEMI Receiving Center

3.4 Transport patients with ST elevation in two or more contiguous leads and symptoms of ACS to the closest, most appropriate STEMI Receiving Center. Personnel should consider traffic and weather conditions, as well as the patient's choice of facility or physician

3.5 Attach a copy of the EKG to the hospital copy and the file copy of the PCR

3.6 Serial 12-lead EKGs, en route, are required in patients with strong symptomology and are encouraged in all other patients

3.7 Follow your agency's procedure for QI purposes

July 2020, a memo was disseminated countywide to ALL EMS field providers by the LEMSA, regrading Patients with Suspected COVID-19: ALCO EMS Suspected COVID-19 Interim Guidance (see attached).

Each Primary Stroke Receiving Center has its own policy/procedure in place to manage suspected/confirmed COVID-19 patients.

Section 5. Field Electrocardiogram (ECG) Transmission/Communication to SRC

The below technologies address and comply with § 100270.123. EMS Personnel and Early Recognition.

5.1 All ALS Paramedic units are equipped with a cardiac monitor that is 12-lead and transmission capable. Early 12-lead acquisition, identification, and transmission of a suspected STEMI to a SRC is strongly encouraged and re-enforced to EMS field personnel through education and training. The early transmission allows for further scrutiny by the SRC ED Physician and on-call cardiology if needed. The early notification by 12-lead transmission also allows the SRC time to mobilize and or re-appropriate resources for patient flow.

5.2 An ALCO EMS designated SRC shall have the electronic ability (computer and software) to receive diagnostic quality 12-lead ECGs transmitted by prehospital personnel prior to suspected STEMI patient arrival at that SRC/CARC (not to be used for consult, unless SRC/CARC is an approved EMS Base Station).

5.3 Radio ring down from transporting ambulance as soon as possible for early SRC notification.

5.4 Designated priority telephone line to be used by prehospital personnel to contact the SRC/CARC regarding patients with suspected STEMI that are being transported to that facility for potential intervention.

Section 6. STEMI Inter-Facility Transfer (IFT) Policy/Protocol

ALCO EMS designated SRC/CARC shall have a plan for emergency transport to a facility capable of ECMO and or Cardiovascular Surgery (cardiopulmonary bypass) that describes steps for timely transfer. A paramedic-staffed ALS ambulance using the 911 system for emergent transfers is strongly recommended, even for patients that require interventions that are out of scope of practice for paramedics. In these cases, a nurse from the transferring center shall accompany the patient and manage the intervention/therapy that is out of paramedic scope of practice: tpA infusion, infusion for

blood pressure control or IABP. A non-911 Critical Care Transport (CCT) ambulance can also be used if appropriate and timely. If 911 EMS ALS ambulance is used, the ALCO EMS Policy shall apply:

Operations: INTERFACILITY TRANSFERS, Modified On: July 24, 2018

Note: This policy pertains to emergency transfers to a higher level of care that come through the 9-1-1 system. See “Scheduled Interfacility Transfers Using Paramedic Personnel” (policy #4605 Administration Policy Manual) for more information.

1. All patient care rendered by prehospital care personnel must be within the defined scope of practice according to Title 22 and Alameda County EMS protocols

2. A paramedic may only take orders from a base hospital physician. (See 5.2 below) There are no provisions for an EMT to take orders from a physician

3. EMT-Bs may only transfer a patient without an emergency medical condition; or, with an emergency medical condition that has been stabilized and has no potential (within reasonable probability) to deteriorate en route

4. Paramedics (in addition to 3) may only transport a patient who has not been stabilized to a facility that provides a higher level of care. The transferring physician must determine if the care that may be required during transport is within the scope of practice of a paramedic. If not, appropriate hospital staff and/or equipment should be sent with the patient

5. Base Contact by Paramedics

> 5.1 Base Contact is required prior to transport if the transferring physician orders any ALS treatment and/or the patient has not been stabilized
>
> 5.2 Paramedics may follow transferring physician's written orders ONLY when 1) the transferring physician speaks to the Base Physician, and they mutually agree on the course of treatment; 2) the proposed treatment plan is within the paramedic's scope of practice
>
> 5.3 Base Physician contact shall be made:
>
> ►►When there is a request to transfer a patient to a higher level of care facility that is not the "closest, most appropriate" higher level of care facility.
>
> 5.4 Base Contact is not required if the patient is stable, and no ALS treatment has been ordered by the transferring physician. If the patient's condition changes during transport, see the appropriate patient care policy, and treat accordingly

6. Base Contact may be made anytime a paramedic has a question regarding patient condition, destination and/or the appropriateness of the transfer

7. An Alameda County Unusual Occurrence (U.O.) form should be completed for any problem-oriented interfacility transfers. The U.O. form should be sent to the EMS office for review. [See Administration Manual UNUSUAL OCCURRENCES (#2300)]

8. Refer to “Interfacility Transfer Guidelines” [see Administration Manual INTERFACILITY TRANSFER GUIDELINES (# 5600)] for transfer approval process

9. Alameda County Critical Medical Patient Hospital Transfers for Specialty and/or Higher Level of Care: to provide a process to facilitate the emergent transfer of medical patients within a hospital, either in the ER or admitted within the facility, for specialty or higher level of care services requiring time sensitive intervention at another facility within Alameda County. (Exhibit C)

Section 7. EMS/SRC Data Collection, Analysis and Reporting

(a) ALCO EMS agency implemented a standardized data collection and reporting process for a STEMI critical care system over a decade ago.

(b) The STEMI Critical Care System includes the collection of both prehospital and hospital patient care data, as determined by ALCO EMS agency and complies with § 100270.126.

(c) The prehospital STEMI patient care elements selected by ALCO EMS are compliant with the most current version of the California EMS Information Systems (CEMSIS) database, and the National EMS Information System (NEMSIS) via ESO Electronic Patient Care Report (ePCR).

(d) All SRCs that receive STEMI patients via ALCO EMS currently participate in the data collection process in accordance with ALCO EMS policies and procedures.

(e) The prehospital care record and the hospital data elements are collected by the ALCO EMS agency and are subsequently submitted to the California EMS Authority. This will be on no less than a quarterly basis and shall include, but not be limited to, the following:

(1) The STEMI patient data elements:
(A) EMS ePCR Number
(B) Facility
(C) Name: Last, First
(D) Date of Birth
(E) Patient Age
(F) Patient Gender
(G) Patient Race
(H) Hospital Arrival Date
(I) Hospital Arrival Time
(J) Dispatch Date
(K) Dispatch Time
(L) Field ECG Performed
(M) 1st ECG Date
(N) 1st ECG Time
(O) Did the patient suffer out-of-hospital cardiac arrest
(P) CATH LAB Activated
(Q) CATH LAB Activation Date
(R) CATH LAB Activation Time
(S) Did the patient go to the CATH LAB
(T) CATH LAB Arrival Date
(U) CATH LAB Arrival Time
(V) PCI Performed
(W) PCI Date
(X) PCI Time
(Y) Fibrinolytic Infusion
(Z) Fibrinolytic Infusion Date
(AA) Fibrinolytic Infusion Time
(BB) Transfer
(CC) SRH ED Arrival Date
(DD) SRH ED Arrival Time
(EE) SRH ED Departure Date
(FF) SRH ED Departure Time
(GG) Hospital Discharge Date
(HH) Patient Outcome
(II) Primary and Secondary Discharge Diagnosis

(2) The STEMI System data elements:

(A) Number of STEMIs treated
(B) Number of STEMI patients transferred
(C) Number and percent of emergency department STEMI patients arriving by private transport (non-EMS)
(D) The false positive rate of EMS diagnosis of STEMI, defined as the percentage of STEMI alerts by EMS that did not show STEMI on ECG reading by the emergency physician
(Exhibit D-E)

(3) In addition, and further specified in Exhibit A, a SRC shall collect on-going aggregate data (de-identified) for patients below, submit and present to Alameda County Emergency Medical Services for quarterly and annual review:

a) Number of patients identified with possible STEMI transported from the field by EMS for intervention
b) Number of patients who received primary PCI
c) Number of patients identified with possible STEMI, transferred (IFT) by EMS from another acute care hospital ED (RH) to SRC for intervention
d) Number of patients who received primary PCI (IFT)
e) Number of SRC walk-in patients identified in ED with possible STEMI
f) Number of patients (walk-in) who received primary PCI
g) For ALL STEMI patients door-to-infusion time (median) for fibrinolysis; and, door-to-intervention time (median) for primary PCI. (EMS, IFT by EMS, SRC walk-in)
h) Provide data to the National Cardiovascular Data Registry (NCDR) using CathPCI and or American Heart Association (AHA) Get with the Guidelines Coronary Artery Disease (GWTG CAD) database
i) Provide ALCO EMS non-specific, de-identified, aggregate NCDR rolling quarterly data via Executive Summary report
PCI volumes (number)/year by Cardiologist (de-identified)

2019-2020 ALCO EMS STEMI System Performance (ESO)

	2019	***2020***
Total number of suspected STEMI patients transported to ALCO SRCs:	***1306***	***1293***
911 call received to Time on-scene:	***8:02***	***8:23***
On-scene to first 12-lead ECG:	***10:13***	***9:08***
At patient to 12-lead ECG:	***8:28***	***7:28***
On scene to depart scene (transport):	***15:51***	***15:13***
Depart scene to Time arrive at hospital:	***11:11***	***10:57***
911 call received to Time arrival at hospital:	***36:49***	***35:14***
911 Call to PCI		***107 Min.***

2021 ALCO EMS STEMI Critical Care System Performance (ESO/GWTG)

Total number of suspected STEMI patients transported to ALCO SRCs:	***1313***
911 call received to Time on-scene:	***9:08***
On-scene to first 12-lead ECG:	***9:50***
At patient to 12-lead ECG:	***8:26***

On scene to depart scene (transport): 16:06
Depart scene to Time arrive at hospital: 11:25
911 call received to Time arrival at hospital: 38:35
911 Call to PCI (median) 101 Min.
EMS First Medical Contact to PCI (median) 86 Min.

False positive rate ~72% by LP15 machine read as the principal determinant for field alert: 3/10 suspected EMS STEMI patients received PCI, 4/10 go for emergent cath

2021 ALCO EMS AHA/GWTG-CAD MISSION LIFELINE STEMI SYSTEM HOSPITAL LEVEL REPORT

Main Category	Sub Category	Health System 2021
Total Number of Records	Total Number of STEMI Receiving Records	535
	Total Number of NSTEMI Records	86
Patient Demographics	Median Age	65
Gender	% Male	75
	% Female	25
	% Unknown	-
Race	% American Indian or Alaska Native	0
	% Black or African American	16
	% Native Hawaiian or Pacific Islander	3
	% White	42
	% UTD	12
	% Asian	28
	% Hispanic Ethnicity	16
12 Lead ECG	% EMS Arrivals with pre-hospital 12 Lead ECG	61
	% STEMI noted on 1st ECG (all arrival mode)	78
	Median time to 1st ECG (all arrival mode)	6
Arrival Mode	% Walk In	31
	% Ambulance	69
	% Air	-
Transfer Status	% Transfer In	24
	% Transfer Out	10
Arrival Mode	% Walk In	31
	% Ambulance	69
	% Air	-
Transfer Status	% Transfer In	24
	% Transfer Out	10
Median Time from Symptom Onset	Time of S/S Onset to Time of 911 Call (Median Time)	38
	To Arrival (Walk In)	167
	To Arrival (EMS)	68
	Overall Median Time	81
	Median Time from Symptom Onset to PCI (Overall)	164
Arrival to Reperfusion	Median Time from Arrival to Primary PCI	68
	Median Time from Arrival to Primary PCI <= 60 minutes (females only)	68
	Median Time from Arrival to Primary PCI <= 60 Minutes (males only)	68
	% Arrival to Primary PCI <= 60 Minutes (overall)	44
Length of Stay (LOS) in ED (Median Time Minutes)	For Patients Transferred Out-Door In Door Out	447
	For Patients Admitted(by EMS)	41
	For Patients Admitted(By Walk In)	47
	For Patients Admitted(overall)	43
Prehospital Cath Lab Activation prior to EMS arrival	EMS FMC to 1st 12 Lead ECG (Median Time)	7
	1st STEMI Positive Pre-Hospital 12 Lead ECG to Hospital Notification (Median Ti...	6
	% Cath Lab activation prior to patient's arrival	48
	Pre-Hospital Notification to Cath Lab Activation (Median Time)	9
EMS FMC to Reperfusion	Time of 911 Call to PCI (Median Time)	101
	EMS FMC to Primary PCI (Median Time)	86
	Arrival at First Facility to Primary PCI (Transfers, Median Time)	93

Transfer In (To STEMI Receiving Center for Primary PCI)	EMS FMC to Arrival at First Facility to transfer for PCI (EMS) (Transfers, Median T....	-
	Walk in Arrival at First Facility to transfer for PCI (Walk in) (Transfers, Median Ti...	88
	% FMC at or Before Arrival to First Facility to Primary PCI (Overall)	94
	Median LOS in ED (Door In Door Out)	45
	% Arrived to First Facility by EMS	35
	% Arrived to First Facility by Walk In	65
	% Arrival to Primary PCI <= 30 Minutes	41
	% with Door In Door Out <= 30 Minutes	21
Reperfusion ALL Patients (at my facility including transfer in)	% Fibrinolytics	-
	% Primary PCI	78
	% Rescue PCI for STEMI (After failed full dose lytics)	-
	% Rescue PCI for STEMI (stable after successful full dose lytics)	-
	% No Reperfusion	13

All seven ALCO EMS SRCs currently participate in AHA/GWTG-CAD Registry for patient and hospital specific performance and outcome data reporting, as well as contribute de-identified performance data for aggregated system level reporting

Section 8. Regional SRC Integration

ALCO EMS includes surrounding county representatives from both EMS and SRCs to Alameda County's STEMI/Cardiac Arrest System QI Meetings and attends out-of-county STEMI System meetings.

ALCO EMS supports the transport of suspected STEMI patients to out-of-county SRCs if appropriate:

"Consider transport to one of the following out-of-county centers, if appropriate. Contact the STEMI center prior to transport."

San Ramon Medical Center, San Ramon (925) 275-8338
Kaiser Hospital, Walnut Creek (925) 939-1788

Section 9. Continued Quality Oversight and Improvement Strategies

The STEMI system quality improvement process was established by Alameda County EMS and includes contractual participation of ALL seven currently designated SRC/CARCs:

> (a) ALCO EMS STEMI Critical Care System shall have a quality improvement process that complies with § 100270.127. Quality Improvement and Evaluation Process and includes, at a minimum but not limited to:
>
> > (1) Evaluation of program structure, process, and outcome
> >
> > (2) Review of STEMI-related deaths, major complications, and transfers
> >
> > (3) A multidisciplinary STEMI Quality Improvement Committee, including both prehospital and hospital members
> >
> > (4) Participation in the QI process by all designated STEMI centers and prehospital providers involved in the STEMI critical care system
> >
> > (5) Evaluation of regional integration of STEMI patient movement
> >
> > (6) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected STEMI cases

(b) ALCO EMS agency is responsible for on-going performance evaluation and quality improvement of the STEMI critical care system by continuing the following strategies that satisfy (1-6) in this section. Criteria for reviews, evaluations and benchmarking are referenced and compared to current evidence-based guidelines and recommendations for recognized standards in STEMI care: the American Heart Association (AHA) and the American College of Cardiology (ACC) described and detailed in EXHIBIT A.

9.1 STEMI/Cardiac Arrest Receiving Center Program staff shall participate in Alameda County EMS quarterly SRC/CARC QI Committee meetings, with a minimum attendance requirement of two/year.

9.2 Hospital shall maintain a written internal quality improvement plan for STEMI, Cardiac Arrest and Post Cardiac Arrest patients that includes, but is not limited to the determination and evaluation of:

a) Death rate
b) Complications
c) Sentinel events
d) System issues
e) Organizational issues and resolution processes

9.3 Hospital shall support EMS Agency QI activities including educational activities for prehospital personnel.

9.4 ALCO EMS is in process of establishing electronic bi-directional Healthcare Data Exchange (HDE) with all Alameda County receiving hospitals: currently, 4/13 acute care facilities, 2/7 SRCs connected.

The purpose of this HDE is to enhance continuity of care between Alameda County Emergency Medical Services (EMS) and system receiving hospitals, provide patient outcomes to EMS providers, and optimize billing practices to reduce insurance claim issues that could financially impact the patient through connecting EMS data with receiving facility data. The platform design is on an encounter specific basis to allow timely bi-directional digital sharing of information pertinent to patient demographics, billing, and clinical care.

HDE allows EMS patient care reports (PCR) to be digitally transferred in the hospital data systems and subsequently into the patient's Electronic Medical Record (EMR) in either a PDF format or by populating established fields within the system as soon as they are completed by the EMS provider. In addition, patient demographics and insurance information would be shared bi-directionally to help assure that both the EMS provider and the receiving facility both have accurate information.

Clinically, beyond the transferring of information into the hospital data collection system, patient outcome information such as diagnosis, admission/discharge status and interventions can be automatically shared with the EMS care providers involved with that specific patient encounter so that they can compare against their evaluations, assessments,

interventions, and treatments in order to enhance their skills as a clinical provider.

Furthermore, the bi-directional sharing of information will allow for more timely and efficient collection and reporting of program specific registry data for both EMS and specialty receiving centers. Additionally, this initiative will enhance system oversight as well as future quality and process improvement strategies.

Section 10. Cardiovascular (CV) Public Education/Awareness Strategies

For the past five years, the ALCO EMS STEMI system has worked collaboratively with the Via Heart Project to improve public awareness in both adolescent and adult populations, regarding the signs and symptoms of Acute Coronary Syndromes. The strategy used for this community outreach initiative has been through co-sponsoring “Screen a Teen” heart screening. These events use personnel from fire, EMS and SRCs to take and review medical histories, measure height and weight, take blood pressures, teach CPR and AED, acquire and review 12-lead electrocardiograms, acquire and review echocardiograms as well as help identify any electrical and/or structural abnormalities found. ALCO EMS also offers a monthly new provider orientation as a venue for SRC staff to provide EMS STEMI education to field personnel.

ALCO EMS INTERIM GUIDANCE FOR SUSPECT/KNOWN COVID-19 PATIENT - revision 2 **7-14-2020**

COVID-19 is a new disease with limited information regarding risk factors for severe disease. Older adults and others of ALL ages who have serious underlying medical conditions might be at higher risk for severe illness:
65 years and older, live in a congregate setting (e.g. skilled nursing facility, homeless encampments), chronic lung disease, asthma, smoking, heart disease/conditions, immunocompromised, obesity, diabetes, kidney disease, liver disease, pregnancy, sickle cell disease.

SYMPTOMS (may appear 2-14 days after exposure to the virus) **fever, cough, fatigue, shortness of breath or difficulty breathing, new loss of taste or smell**, chills, repeated shaking with chills, muscle pain, headache, sore throat, aches and pains, nasal congestion, runny nose, abdominal pain, nausea/vomiting, diarrhea, OR any combination of the above.

UNIVERSAL PRECAUTIONS

- **PPE - PROVIDER** (CDC recommended) Appropriately don face mask (N95 or equivalent) respirator, eye protection (goggles or face shield) gown, gloves, HEPA Filter for use with CPAP, BVM, BV-ET, BV-SGA, ventilator, (head/hair and shoe covers are optional)
- **PPE - PATIENT** Apply surgical mask

OPERATIONS

- Involve least number of EMS personnel required to minimize potential exposures
- Optimize vehicle ventilation to maximize air exchange
- Family members and other contacts of patients should NOT ride in vehicle, if possible. If riding, they should wear a face covering.

ASSESSMENT

- Thorough H & P including SPO2, BP, Pulse, RR, ETCO2, lung sounds, temperature, ECG, 12-Lead if indicated
  - SPO2 may be unusually LOW (< 90%) with minimal distress and may present with LOW ETCO2
- Assess POLST/Advanced Directive status

TREATMENT (All values are guidelines and not substitutes for sound medical judgement.)
***While aerosolizing-generating procedures increase exposure risk, consider these treatments when necessary.**

RESPIRATORY DISTRESS-SOB

- Lung sounds CLEAR
  - SPO2 < 94% - NC up to 6 LPM
  - SPO2 < 90% - NR up to 15 LPM
- Lung sounds – Mild-moderate wheezes with or without crackles
  - Consider Albuterol* 5mg/6ml NS, hand-held, in-line OR
  - Albuterol* MDI with Spacer (patient MDI preferred) if available. (Use with NC, NR, CPAP*)
- Lung sounds – Severe wheezes
  - Consider Albuterol* 5mg/6ml NS
  - Consider Epinephrine 1mg/ml, 0.01mg/kg IM (max dose 0.5mg) for patients with no history of CAD or HTN
- NO improvement with O2 or medication therapies: SPO2 < 90%
  - Consider trial of CPAP*. If ineffective, discontinue CPAP*. **AND/OR**
  - Consider Alternate Positioning
    (*Right or Left Lateral* if tolerated In an **Awake Patient)**
    - ✓ Patient must be able to **self-move** to the Alternate Position
    - ✓ **Discontinue Alternate Positioning if patient's condition deteriorates**

Alternate Positioning

RESPIRATORY DISTRESS-SOB – BP < 90mmHg

- Adult: NS up to 500 ml, Pediatrics: NS up to 10 ml/kg
- Consider Epinephrine 0.01mg/ml, 5 mcg IV/IO push q3 minutes
- Maintain BP > 90 mmHg (suspect sepsis and or cardiogenic shock)

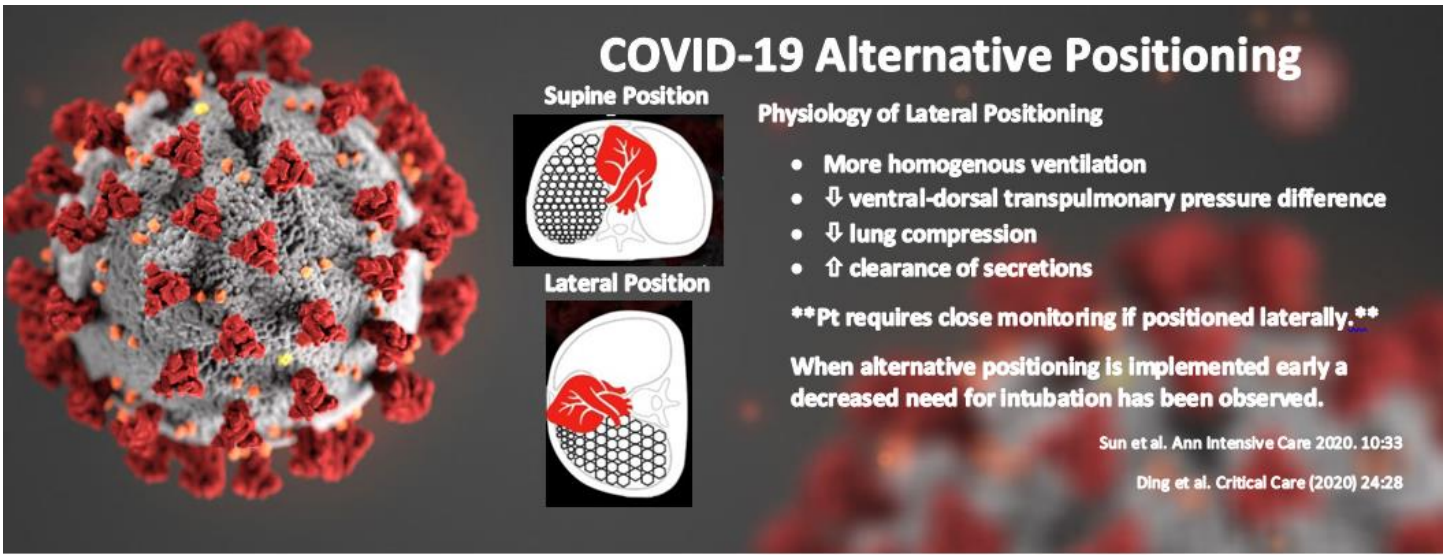
RESPIRATORY FAILURE - LOW SPO2 - ALOC (with increased or lack of breathing effort)

- Proper airway positioning, simple airway adjuncts, suctioning*, BVM* 10 breaths/min.
- Consider advanced airway management* (i-gel preferred)

GI-NAUSEA/VOMITING-DIARRHEA

- Nausea - Zofran 4mg
- Orthostatic, Poor Perfusion, BP < 90 mmHg – NS up to 500ml IV/IO

RECEIVING HOSPITAL	**DECONTAMINATION**
• Notify as **EARLY** as possible to allow for patient care preparations	• Appropriately doff PPE • Clean vehicle and reusable equipment with appropriate disinfectants



EARLY SELF-PRONING IN AWAKE, NON-INTUBATED PATIENTS IN THE EMERGENCY DEPARTMENT: A SINGLE ED'S EXPERIENCE DURING THE COVID-19 PANDEMIC

Nicholas D. Caputo MD, MSc; Reuben J. Strayer MD; Richard Levitan MD
Department of Emergency Medicine, NYC H+H/Lincoln, Bronx NY; Department of Emergency Medicine, Maimonides Medical Center, Brooklyn NY; Department of Emergency Medicine, Littleton Regional Health, Littleton, NH

Abstract

Objective: Prolonged and unaddressed hypoxia can lead to poor patient outcomes. Proning has become a standard treatment in the management of patients with ARDS who have difficulty achieving adequate oxygen saturation. The purpose of this study was to describe the use of early proning of awake, non-intubated patients in the emergency department (ED) during the COVID-19 pandemic.

Methods: This pilot study was carried out in a single urban ED in New York City. We included patients suspected of having COVID19 with hypoxia on arrival. A standard pulse oximeter was used to measure SpO2. SpO2 measurements were recorded at triage and after five minutes of proning. Supplemental oxygenation methods included non-rebreather mask (NRB) and nasal cannula. We also characterized post-proning failure rates of intubation within the first 24 hours of arrival to the ED.

Results: Fifty patients were included. Overall, the median SpO2 at triage was 80% (IQR 69 to 85). After application of supplemental oxygen was given to patients on room air it was 84% (IQR 75 to 90). After 5 minutes of proning was added SpO2 improved to 94% (IQR 90 to 95). Comparison of the pre- to post-median by the Wilcoxon Rank-sum test yielded P=0.001. Thirteen patients (24%) failed to improve or maintain their oxygen saturations and required endotracheal intubation within 24 hours of arrival to the ED

Conclusion: Awake early self-proning in the emergency department demonstrated improved oxygen saturation in our COVID-19 positive patients. Further studies are needed to support causality and determine the effect of proning on disease severity and mortality.

Summary of Changes - Revision 2

- **COVID Risk Factors** – Added smoking, pregnancy, sickle cell disease
- **Symptoms** – Modified **new loss of taste or smell** (increased emphasis in bold)
- **CPAP** – Modified to "Trial of CPAP*. If ineffective, discontinue CPAP*."
- **Limited Fluid Administration** – Added "up to 10ml/kg NS" for pediatric hypotension

Emergency Medical Services

STEMI/Cardiac Arrest Receiving Center

Agreement

County of Alameda

And

"Hospital Name"

Effective Date: January 1, 2020

DEFINITIONS AND ACRONYMS

AED	Automated External Defibrillator
AICD	Automated Implantable Cardiovertor-Defibrillator
ALCO	Alameda County
BHDE	Bidirectional Healthcare Data Exchange
CABG	Coronary Artery Bypass Graph
CARC	Cardiac Arrest Receiving Center: A comprehensive cardiac care center that is able to offer needed basic and advanced life support: Cardiopulmonary Resuscitation and Post Resuscitation Care: Therapeutic Hypothermia, Emergent Primary Coronary Interventions (PCI), Metabolic Support and Rehabilitation to patients suffering from Cardiopulmonary arrest.
CARES	Cardiac Arrest Registry to Enhance Survival
Cardiac Catheterization Laboratory	"Cardiac catheterization laboratory" or "Cath lab" means the setting within the hospital where diagnostic and therapeutic procedures are performed on patients with cardiovascular disease. 22 CCR § 100270.101. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code
Cardiac Catheterization Team	"Cardiac catheterization team" means the specially trained health care professionals that perform percutaneous coronary intervention. It may include, but is not limited to, an interventional cardiologist, mid-level practitioners, registered nurses, technicians, and other health care professionals. 22 CCR § 100270.102. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and

	1797.176, Health and Safety Code.
CCU	Coronary Care Unit
CCT	Critical Care Transport
Clinical Staff	"Clinical staff" means individuals that have specific training and experience in the treatment and management of ST-Elevation Myocardial Infarction (STEMI) patients. This includes, but is not limited to, physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists. 22 CCR § 100270.103. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
CPC	Cerebral Performance Category
ECMO	Extracorporeal Membrane Oxygenation
ECG	Electrocardiogram
EEG	Electroencephalogram
ED	Emergency Department
Emergency Medical Services Authority	"Emergency Medical Services Authority" or "EMS Authority" or "EMSA" means the department in California responsible for the coordination and integration of all state activities concerning EMS. 22 CCR § 100270.104. Note: Authority cited: Sections 1797.1, 1797.107 and 1797.54, Health and Safety Code. Reference: Sections 1797.100, and 1797.103, Health and Safety Code.
GWTG-CAD	Get With The Guidelines Coronary Artery Disease is a registry offered by the American Heart Association to capture data regarding STEMI patients

HIPAA	Health Insurance Portability and Accountability Act
HITECH	Health Information Technology for Economic and Clinical Health Act
ICD	Implantable Cardiac Defibrillator
ICU	Intensive Care Unit
Immediately Available	"Immediately available" means: (a) Unencumbered by conflicting duties or responsibilities. (b) Responding without delay upon receiving notification. (c) Being physically available to the specified area of the hospital when the patient is delivered in accordance with local EMS agency policies and procedures. 22 CCR § 100270.105. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
Implementation	"Implementation," "implemented," or "has implemented" means the development and activation of a STEMI Critical Care System Plan by the local EMS agency, including the prehospital and hospital care components in accordance with the plan. 22 CCR § 100270.106. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
Interfacility Transfer (IFT)	"Interfacility transfer" means the transfer of a STEMI patient from one acute general care facility to another acute general care facility. 22 CCR § 100270.107. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1798.170, Health and Safety Code
IRB	Internal Review Board
Local Emergency Medical Services	"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility

Agency (LEMSA)	for administration of emergency medical services in a county or region and which is designated pursuant Health and Safety Code commencing with section 1797.200. 22 CCR § 100270.108. Note: Authority cited: Sections 1797.107, 1797.200 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
MOU	Memorandum of Understanding
NCDR	National Cardiovascular Data Registry
Percutaneous Coronary Intervention (PCI)	"Percutaneous coronary intervention" or "PCI" means a procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart, usually done on an emergency basis for a STEMI patient. 22 CCR § 100270.109. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
PHI	Protected Health Information
Quality Improvement (QI)	"Quality improvement" or "QI" means methods of evaluation that are composed of structure, process, and outcome evaluations that focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process, and recognize excellence in performance and delivery of care. 22 CCR § 100270.110. Note: Authority cited: Sections 1797.103, 1797.107, 1797.174, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.
RH	Referring Hospital
RN	Registered Nurse

ROSC	Return of Spontaneous Circulation
SCA	Sudden Cardiac Arrest
ST-Elevation Myocardial Infarction (STEMI)	"ST-Elevation Myocardial Infarction" or "STEMI" means a clinical syndrome defined by symptoms of myocardial infarction in association with ST-segment elevation on Electrocardiogram (ECG). 22 CCR § 100270.111. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
STEMI Care	"STEMI care" means emergency cardiac care, for the purposes of these regulations. 22 CCR § 100270.112. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
STEMI Medical Director	"STEMI medical director" means a qualified board-certified physician by the American Board of Medical Specialties (ABMS) as defined by the local EMS agency and designated by the hospital that is responsible for the STEMI program, performance improvement, and patient safety programs related to a STEMI critical care system. 22 CCR § 100270.113. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
STEMI Patient	"STEMI patient" means a patient with symptoms of myocardial infarction in association with ST-Segment Elevation in an ECG. 22 CCR § 100270.114. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.
STEMI Program	"STEMI program" means an organizational component of the hospital specializing in the care of STEMI patients. 22 CCR § 100270.115. Note: Authority cited: Sections 1797.107 and

	1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
STEMI Program Manager	"STEMI program manager" means a registered nurse or qualified individual as defined by the local EMS agency, and designated by the hospital responsible for monitoring, coordinating, and evaluating the STEMI program. 22 CCR § 100270.116. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
STEMI Receiving Center (SRC)	"STEMI receiving center" or "SRC" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.124 and is able to perform PCI. 22 CCR § 100270.117. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.
STEMI Referring Hospital (SRH)	"STEMI referring hospital" or "SRH" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.125. 22 CCR § 100270.118. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.
STEMI Critical Care System	"STEMI critical care system" means a critical care component of the EMS system developed by a local EMS agency that links prehospital and hospital care to deliver treatment to STEMI patients. 22 CCR § 100270.119. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
STEMI Team	"STEMI team" means clinical personnel, support personnel, and administrative staff that function together as part of the hospital's STEMI program.

	22 CCR § 100270.120. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
TTM	Targeted Temperature Management (FKA: Therapeutic Hypothermia)
V/F	Ventricular Fibrillation: life threatening cardiac rhythm
V/T	Ventricular Tachycardia: life threatening cardiac rhythm

Section 1 - Introduction

1.1 Alameda County EMS is the Local Emergency Medical Service Agency (LEMSA) as defined in the California Health and Safety Code Division 2.5, Section 1797.94: responsible for establishing policies and procedures within Alameda County. The LEMSA also has primary responsibility for administration of emergency medical services in a county or region, which is designated under Health and Safety Code commencing with section 1797.200.

1.2 This Agreement, dated as of the first day of January 2020, and in accordance with California Code of Regulations Title 22. Social Security; Division 9. Prehospital Emergency Medical Services; Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System (22 CCR §100270.119.), is by and between the COUNTY OF ALAMEDA, hereinafter referred to as the "COUNTY," and Sutter Bay Hospitals DBA Alta Bates Summit Medical Center, hereinafter referred to as the "Contractor."

1.3 Whereas, CONTRACTOR, in consideration of the COUNTY'S designation of CONTRACTOR as a STEMI (S-T Elevation Myocardial Infarction) Receiving Center (22 CCR § 100270.117) and Cardiac Arrest Receiving Center (SRC/CARC) as described in this document shall perform the services identified in this agreement without interruption, 24 hours per day, 7 days per week, 52 weeks per year for the full term of this Contract, as set forth in Exhibit A. Exceptions would include the lack of technology (equipment) available to perform the procedure: catastrophic plant failure or pre-planned scheduled maintenance.

1.4 Whereas, Contractor is professionally qualified to provide such services and is willing to provide the same to COUNTY.

1.5 Now, therefore it is agreed that COUNTY does hereby designate Contractor to provide STEMI and Cardiac Arrest Resuscitation and Post-Resuscitation Services, and Contractor accepts such designation as specified in this Agreement, and the following described exhibits, all of which are incorporated into this Agreement by this reference:

Exhibit A – Scope of Services

Exhibit B – Data Elements

Exhibit C – Application

Exhibit D – California Regulations: ST-Elevation Myocardial Infarction Critical Care System

1.6 The parties hereby execute the single agreement that will constitute formal designation of Contractor as a STEMI Receiving Center/Cardiac Arrest Receiving Center within the Alameda County EMS system under Health & Safety Code Sections 1797.67, 1798.170 et seq., 1797.107 and 1798.150,

Section 2 - Term

2.1 The term of this Agreement shall be from January 1, 2020, through December 31, 2022.

2.2 The current designation term expires December 31, 2019, at which time contractor shall submit a new SRC/CARC application and provide supporting documentation that reflects compliance with the requirements under 22 CCR § 100270.124. This Agreement is subject to the review and approval of the application by ALCO EMS. There will be NO interruption of service during the COUNTY EMS review/approval process for existing SRC/CARCs that are in good standing with an expired MOU.

2.3 SRC designation term will be for up to three-years with re-designation reviews by local EMS agency or other designated agency conducted at least every three years: (Exhibit D, 22 CCR § 100270.124(a)(14).

2.4 Before SRC re-designation by the local EMS agency at the next regular interval, the SRC shall be re-evaluated to meet the criteria established in these regulations: (Exhibit D, 22 CCR § 100270.124(b).)

2.5 The local EMS agency medical director may stipulate additional requirements: (Exhibit D, 22 CCR § 100270.124(c).)

2.6 LEMSA may suspend or revoke the SRC designation for lack of compliance with this Agreement or applicable laws and regulations.

Section 3 - Services

3.1 Contractor shall provide hospital, equipment, resources, and personnel services as described in Exhibits A and D; data collection and reporting requirements as described in Exhibits A, B and D; quality improvement requirements as described in Exhibits A and D. Contractor shall participate in an annual review and adhere to compliance standards as described in Exhibits A and D. For initial EMS approval, Contractor shall complete and submit a SRC/CARC Application as described in Exhibit C. Contractor shall comply with ALL criteria in accordance with 22 CCR § 100270.124. STEMI Receiving Center Requirements as described in Exhibit D.
(ALCO EMS Policies and protocols for the ALCO SRC/CARC programs will be reviewed and revised as needed).

Section 4 - Required Reports

4.1 Contractor shall provide data specified in Exhibits B and D for individual EMS transported patients (identified) with suspected STEMI. Contractor shall complete data (b-2) entry into GWTG-CAD registry regarding all EMS patients no later than 30 calendar days following the prior month's end. This will allow for timely access by ALCO EMS via established GWTG-CAD "Super User" agreement and must include ALL: EMS transported patients with a diagnosis of STEMI.

4.2 Contractor shall provide identified performance and clinical outcome data specified in Exhibits B (B3-4) and D regarding individual patients transported by EMS with Cardiac Arrest and Post Cardiac Arrest. Patient specific EMSCardiac Arrest, post-cardiac arrest and IFT follow-up data must be available to ALCO EMS and CARES as soon as possible or within 30 calendar days of receipt, request, or prior month's end, and must include:

- EMS transported STEMI patients
- EMS transferred patients from SRH for STEMI and or Post-Cardiac Arrest care.
- EMS Cardiac Arrest and Post Cardiac Arrest patients

4.3 Contractor shall submit aggregate data reports regarding performance and clinical outcomes in the format and timeline established by the EMS Agency in Exhibit B (B1-2). Nothing contained in this Agreement is intended nor shall it be construed to create rights running to the benefit of third parties, unless otherwise expressly provided in this Agreement.

4.4 Contractor shall submit an annual aggregate performance and clinical outcome data report in the format and timeline established by the LEMSA in Exhibit B (B1-2). Said report shall be submitted on LEMSA request for prior year respectively and present said data at requested ALCO EMS SRC/CARC Meeting.

4.5 Any data elements specified in Exhibits B and D are subject to modification/change at any time as agreed upon by the LEMSA and Contractor or otherwise mandated by the State.

Section 5 - Signatory

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

COUNTY OF ALAMEDA

By: _____
Signature

Name: _____
(Printed)

Title: _____

Approved as to Form:

By: _____

K. Joon Oh, Deputy County Counsel

CONTRACTOR

_____
Hospital Name

By: _____
Signature

Name: _____
(Printed)

Title: _____

Date: _____

By signing above, signatory warrants and represents that he/she executed this Agreement in his/her authorized capacity and that by his/her signature on this Agreement, he/she or the entity upon behalf of which he/she acted, executed this Agreement.

EXHIBIT A – SCOPE OF SERVICES

1. SCOPE OF SERVICES: STEMI Receiving Center (SRC)
(Exhibit D22 CCR § 100270.117.)

Contractor shall:

1.1 Provide services as a SRC. "STEMI receiving center" or "SRC" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to 22 CCR § 100270.124 and is able to perform PCI. SRC must be able to provide all services, equipment, and personnel including maintenance of adequate staffing levels, equipment, and facilities according to STEMI/Cardiac Arrest Receiving Center designation criteria which is described in Exhibits A and D.

1.2 Accept all Alameda County EMS patients triaged as having a suspected STEMI and or suffer from Cardiac Arrest and transported to Contractor's facility. Provide appropriate medical management for said patients without regard to the race, color, national origin, religious affiliation, age, sex, or ability to pay.

2. HOSPITAL SERVICES: 22 CCR § 100270.124. STEMI Receiving Center Requirements, in addition, Cardiac Arrest Receiving Center Requirements:

(a) The following minimum criteria shall be used by the local EMS agency for the designation of a STEMI receiving center:

(1) The hospital shall have established protocols for triage, diagnosis, and Cath lab activation following field notification.

(2) The hospital shall have a single call activation system to activate the Cardiac Catheterization Team directly.

(3) Written protocols shall be in place for the identification of STEMI patients.

(A) At a minimum, these written protocols shall be applicable in the intensive care unit/coronary care unit, Cath lab and the emergency department.

(4) The hospital shall be available for treatment of STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.

(5) The hospital shall have a process in place for the treatment and triage of simultaneously arriving STEMI patients.

(6) The hospital shall maintain STEMI team and Cardiac Catheterization Team call rosters.

(7) The Cardiac Catheterization Team, including appropriate staff determined by the local EMS agency, shall be immediately available.

(8) The hospital shall agree to accept all STEMI patients according to the local policy.

(9) STEMI receiving centers shall comply with the requirement for a minimum volume of procedures for designation required by the local EMS agency: 36 PPCI/Year (including EMS transports and walk-ins)

(10) The hospital shall have a STEMI program manager and a STEMI medical director.

(11) The hospital shall have job descriptions and organizational structure clarifying the relationship between the STEMI medical director, STEMI program manager, and the STEMI team.

(12) The hospital shall participate in the local EMS agency quality improvement processes related to a STEMI critical care system.

(13) A STEMI receiving center without cardiac surgery capability on-site shall have a written transfer plan and agreements for transfer to a facility with cardiovascular surgery capability.

(14) A STEMI receiving center shall have reviews by local EMS agency or other designated agency conducted every three years.

(b) A STEMI center designated by the local EMS agency prior to implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, STEMI centers shall be re-evaluated to meet the criteria established in these regulations.

(c) Additional requirements may be stipulated by the local EMS agency medical director.

In addition to abiding by the requirements above, Contractor shall keep in effect the following:

2.1 Licensure under California Health and Safety Code Section 1250 et seq.

2.2 Permit for Basic or Comprehensive Emergency Medical Services pursuant to the provisions of Title 22, Division 5, of the California Code of Regulations,

2.3 Cardiac Catheterization Laboratory as a supplemental service pursuant to the provisions of Title 22, Division 5, of the California Code of Regulations,

2.4 Intra-aortic balloon pump capability with necessary staffing available,

2.5 Electronic ability (computer and software) to receive diagnostic quality 12-lead ECGs transmitted by prehospital personnel prior to suspected STEMI patient arrival at that SRC/CARC (not to be used for consult, unless SRC/CARC is an approved EMS Base Station),

2.6 Designated priority telephone line to be used by prehospital personnel to contact the SRC/CARC regarding patients with suspected STEMI that are being transported to that facility for potential intervention,

2.7 Cardiovascular Surgery availability.

2.7.1 California permit for cardiovascular surgery; or,

2.7.2 A plan for emergency transport to a facility with cardiovascular surgery available that describes steps for timely transfer (within 1 hour).

2.8 Equipment and staffing to provide:

2.8.1 Resuscitation for cardiopulmonary arrest including mechanical options.

2.8.2 Targeted Temperature Management (TTM) in ED and ICU 24/7.

2.8.3 Emergent PCI 24/7.

2.8.4 Post-resuscitation care for cardiac arrest (uniform approach).

2.8.5 Ventilator support/strategies.

2.8.6 EEG monitoring.

2.8.7 Cardiac arrest consultation service (to be determined).

2.8.8 Neurology Consultation (automatic/uniform).

2.8.9 Neurosurgical Consultation (automatic/uniform).

2.8.10 Organ Procurement Consultation (uniform approach);

2.8.12 Electrophysiology Consultation (automatic/uniform).

2.8.13 Social Work Consultation (automatic/uniform).

2.8.14 Inpatient physical and or occupational therapy (automatic/uniform).

2.8.15 Outpatient physical and or occupational therapy (patient specific).

2.8.16 Outpatient neurological réhabilitation.

2.8.17 Outpatient psychological services

2.8.18 CPR training: Professional, community and patient's family on discharge.

3. HOSPITAL PERSONNEL: 22 CCR § 100270.120. STEMI Team

Contractor shall provide program oversight staff and shall have available all staff necessary to perform optimal care for patients with STEMIs, including the following:

3.1 SRC Program Medical Director (Exhibit D, 22 CCR § 100270.113.)

3.1.1. **Qualifications**:

- Board Certified in Cardiology or Cardiothoracic Surgery,
- Board Certified in Interventional Cardiology (desired),
- Credentialed member of medical staff with privileges for primary percutaneous coronary intervention (PCI).

3.1.2. **Responsibilities**:

- Oversight of STEMI program patient care,
- Coordination of staff and services,
- Authority and accountability for quality and performance improvement,
- Participation in protocol development,
- Establish and monitor quality control, including Mortality and Morbidity, and,
- Participation in County STEMI system QI Committee meeting.

3.2 **SRC Program Manager (Exhibit D, 22 CCR § 100270.116.)**

3.2.1. **Qualifications**:

- STEMI patient / program experience (ED, ICU, CCU, Cath. Lab.).

3.2.2. **Responsibilities**:

- Supports SRC Medical Director Functions
- Acts as EMS-STEMI Program Liaison
- Assures EMS-Facility STEMI data sharing
- Manages EMS-Facility STEMI QI activities
- Authority and accountability for QI/PI

3.3 **CARC Program Medical Director**

3.3.1 **Qualifications**:

- Board Certified in Emergency Medicine; or,
- Board Certified in Cardiology; or,
- Board Certified in Intensive Care / Critical Care, or Pulmonology.

3.3.2 **Responsibilities**:

- Oversight of CARC program patient care,
- Coordination of staff and services,
- Authority and accountability for quality and performance improvement,
- Participation in protocol development,
- Establish and monitor quality control, including Mortality and Morbidity, and,
- Participate in County SRC/CARC QI meetings.

3.4 **CARC Program Manager**

3.4.1 **Qualifications**:

- Cardiac Arrest and Post Cardiac Arrest patient experience (ED, ICU, CCU).

3.4.2 **Responsibilities**:

- Supports CARC Medical Director Functions
- Acts as EMS-CARC Program Liaison

- Assures EMS-Facility CARC data sharing
- Manages EMS-Facility CARC QI activities
- Authority and accountability for QI/PI

3.5 **Physician Consultants** - Hospital shall maintain a daily on-call roster of:

3.5.1 Cardiologist(s) with PCI privileges and evidence of training/experience in PCI including primary PCI.

3.5.2 Cardiovascular Surgeon(s) if cardiovascular surgery is a service provided by Hospital.

3.5.3 Intensivist(s) / Critical Care

3.5.4 Neurologist(s)

3.5.5 Neurosurgeon (s) if Neurosurgery is a service provided by Hospital.

3.6 **Additional personnel**:

3.6.1 Intra-aortic balloon pump technician(s) / staff,

3.6.2 Cardiac catheterization lab manager/coordinator

3.6.3 Appropriate cardiac catheterization nursing and support personnel.

4. PERFORMANCE STANDARDS

4.1 Contractor shall strive to meet the following goals and current evidence-based recommendations regarding in caring for patients who present to Hospital with identified STEMI:

- Fibrinolysis within 30 minutes of ED arrival if administered.
- PCI "Door-to-Intervention" time ≤90 minutes of ED arrival at primary SRC.
- Patients that cannot get to the Cath-lab within 30 minutes of arrival at the primary SRC or receive intervention ≤90 minutes require emergent interfacility transfer (IFT) to the next closest SRC. This should preferably be facilitated by 911 or Critical Care Transport (CCT) if immediately available and warranted for transport.
- STEMI patients that present at a non-SRC require emergent interfacility transfer (IFT) to the closest SRC. This should preferably be facilitated by 911 or Critical Care Transport (CCT) if immediately available and warranted for transport. Time from patient ED arrival at SRH to PCI at SRC should be ≤120 minutes.
- SRC establishing written agreements with geographically surrounding non-STEMI hospitals: STEMI Referring Hospital (SRH) in attempt to improve continuity of care and expedite emergent transfer of the STEMI patient.

4.2 Contractor shall strive to meet the current evidence-based recommendations in caring for patients who present to Hospital with Cardiac Arrest or Post-Cardiac Arrest:

a) Resuscitation for cardiopulmonary arrest.

b) Post-resuscitation TTM.

c) Emergent cardiac catheterization for persistent/recurrent cardiac arrest and post cardiac arrest.

d) Hemodynamic/metabolic support and monitoring post cardiac arrest.

e) Prognostication post cardiac arrest interventions. This should include EEG monitoring for comatose patients.

f) Electrophysiology testing and AICD placement as appropriate.

g) Organ procurement/donation.

h) Rehabilitation: cardiac, physical, speech, occupational and others needed.

i) CPR training: Professional, community and hospital discharge (patient's family).

5. HOSPITAL POLICIES AND PROCEDURES (Exhibit D, 22 CCR § 100270.124.)

Contractor shall develop and implement policies and procedures designed to assure that patients presenting to their facility with possible STEMI and or Cardiac Arrest / Post cardiac Arrest receive appropriate care in a timely manner. Such internal policies shall include but are not limited to:

5.1 Definition of patients with defined inclusion criteria that shall receive emergent angiography and patients who shall receive emergent fibrinolysis, based on physician decision for individual patients.

5.2 Processes by which fibrinolytic therapy or PCI (including prompt activation of personnel) can be delivered rapidly to meet Performance Standards identified in this Contract.

5.3 For hospitals without cardiovascular surgery services, written arrangements with a tertiary institution that provides for rapid transfer of patients for any required additional care, including elective or emergency cardiac surgery or PCI.

5.4 Standardized written agreements with referral hospitals by which the expeditious transfer and acceptance of STEMI and or Post-Cardiac Arrest patients can occur.

5.5 Standardized written guidelines / protocol regarding TTM with inclusion criteria for patient selection.

5.6 Standardized written guidelines / protocol regarding emergent PCI with inclusion criteria for post cardiac arrest patients.

5.7 Standardized written order set / protocol for ED and ICU care regarding post ROSC patients.

5.8 Standardized written guidelines / protocol regarding an appropriate process and timing for neurologic prognostication of post cardiac arrest patients.

5.9 Standardized written guidelines / protocol regarding the appropriate use of electrophysiology testing and placement of AICD for post cardiac arrest patients.

5.10 Sharing of EMS patient specific cardiac arrest outcome data with the Alameda County EMS Agency by participating in CARES.

5.11 Required availability of at least ONE mechanical CPR device (preferably LUCAS device with radiolucent back plate for the use in Cath-lab if needed).

5.12 Standardized written guidelines / protocol regarding a comprehensive cardiac arrest consultation service (for patient and family).

5.13 During the term of this contract, the Contractor shall establish a written agreement with at least one Bay Area hospital that agrees to accept and provide ECMO services for warranted patients. These patients may include but are not limited to cardiogenic shock as well as refractory cardiac arrest. If the receiving ECMO facility does not have a formal ECMO-TO-GO program, the contractor may establish a written agreement with a third-party service that can provide timely response, treatment and transfer for patients that require this higher level of specialty critical care. This requirement shall terminate at such time that the Contractor independently provides said service.

6. **DATA MANAGEMENT AND REPORTING (Exhibit D, 22 CCR § 100270.126.)**

(a) The local EMS agency shall implement a standardized data collection and reporting process for a STEMI critical care system.

(b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.

(c) The prehospital STEMI patient care elements selected by the local EMS agency shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database, and the National EMS Information System (NEMSIS).

(d) All hospitals that receive STEMI patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.

(e) The prehospital care record and the hospital data elements shall be collected and submitted to the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis and shall include, but not be limited to, the following:

(1) The STEMI patient data elements:
- (A) EMS ePCR Number.
- (B) Facility.
- (C) Name: Last, First.
- (D) Date of Birth.
- (E) Patient Age.

(F) Patient Gender.
(G) Patient Race.
(H) Hospital Arrival Date.
(I) Hospital Arrival Time.
(J) Dispatch Date.
(K) Dispatch Time.
(L) Field ECG Performed.
(M) 1st ECG Date.
(N) 1st ECG Time.
(O) Did the patient suffer out-of-hospital cardiac arrest.
(P) CATH LAB Activated.
(Q) CATH LAB Activation Date.
(R) CATH LAB Activation Time.
(S) Did the patient go to the CATH LAB.
(T) CATH LAB Arrival Date.
(U) CATH LAB Arrival Time.
(V) PCI Performed.
(W) PCI Date.
(X) PCI Time.
(Y) Fibrinolytic Infusion.
(Z) Fibrinolytic Infusion Date.
(AA) Fibrinolytic Infusion Time.
(BB) Transfer.
(CC) SRH ED Arrival Date.
(DD) SRH ED Arrival Time.
(EE) SRH ED Departure Date.
(FF) SRH ED Departure Time.
(GG) Hospital Discharge Date.
(HH) Patient Outcome.
(II) Primary and Secondary Discharge Diagnosis.

(2) The STEMI System data elements:
(A) Number of STEMIs treated.
(B) Number of STEMI patients transferred.
(C) Number and percent of emergency department STEMI patients arriving by private transport (non-EMS).
(D) The false positive rate of EMS diagnosis of STEMI, defined as the percentage of STEMI alerts by EMS which did not show STEMI on ECG reading by the emergency physician.

6.1 As further specified in Exhibit B, Contractor shall collect on-going aggregate data (de-identified) for patients below, submit and present to Alameda County Emergency Medical Services for annual review:

a) Number of patients identified with possible STEMI transported from the field by EMS for intervention.

b) Number of above patients who received primary PCI.

c) Number of patients identified with possible STEMI, transferred (IFT) by EMS from another acute care hospital ED (RH) to SRC for intervention.

d) Number of above patients who received primary PCI (IFT)

e) Number of SRC walk-in patients identified in ED with possible STEMI.

f) Number of above patients (walk-in) who received primary PCI.

g) For ALL STEMI patients door-to-infusion time (median) for fibrinolysis; and, door-to-intervention time (median) for primary PCI. (EMS, IFT by EMS, SRC walk-in)

h) Contractor shall collect and provide data to the National Cardiovascular Data Registry (NCDR) using CathPCI and or American Heart Association (AHA) Get With The Guidelines Coronary Artery Disease (GWTG CAD) database. Use of GWTG-CAD and ALCO EMS "Super User" "Read-only" access to contractor's GWTG-CAD data is mandatory for CA State EMSA data reporting.

i) Provide ALCO EMS non-specific, de-identified, aggregate NCDR rolling quarterly data via **Executive Summary** report on request.

j) PCI volumes (number)/year by Cardiologist (de-identified).

6.2 Support and facilitate the implementation of future data elements related to STEMI and Cardiac Arrest Resuscitation and Post-Resuscitation system performance and quality improvement strategies.

6.3 Provide data for individual EMS transported patients with suspected STEMI and or Cardiac Arrest. Patient specific Follow-Up data must be available to ALCO EMS as soon as possible after patient encounter or within 30 calendar days of previous months end, and must include ALL data elements required by § 100270.126:

- EMS transported STEMI patients (GWTG-CAD)
- EMS transferred patients from RH for STEMI (GWTG-CAD) and or Post-Cardiac Arrest (CARES).
- EMS Cardiac Arrest and Post Cardiac Arrest patients (CARES)

6.4 As further specified in Exhibit B and in accordance with Contractor's CARES agreement, Contractor shall collect and provide CARES with the following cardiac

arrest hospital outcome data that includes but not limited to current CARES hospital specific data elements:

a) Emergency Department outcome

b) Was hypothermia care initiated/continued in the hospital?

c) Hospital outcome

d) Discharge from the hospital

e) Neurological outcome at discharge from hospital

f) Was final diagnosis acute myocardial infarction?

g) Coronary Angiography performed?

h) Was a cardiac stent placed?

i) CABG performed?

j) Was an ICD placed and/or scheduled?

6.5 Contractor shall allow the use of provided data for IRB approved clinical research without hospital identifiers.

6.6 The data further specified in Exhibits B1-4 shall be provided to the EMS Agency in the timeline and manner defined, until a Bidirectional Healthcare Data Exchange (BHDE) network is established between County EMS and the SRC/CARC Contractor.

6.7 The Contractor and County EMS are both fully committed to establishing a Bidirectional Healthcare Data Exchange (BHDE) during the Term of this Agreement.

6.7.1 The Contractor and County EMS will collaborate and agree in the design, and implementation of the BHDE on an agreed upon timeframe.

6.7.2 The development of the BHDE shall address the Contractor's information security standards.

6.7.3 The cost to establish the BHDE network between County EMS and the Contractor shall be fairly shared by apportionment as agreed upon by both parties.

6.7.4 When BHDE details are finalized, Agreement will be amended to add agreed terms as an appendix to this Agreement.

6.8 The BHDE network established between County EMS and the Contractor must be interoperable with other data systems, including the functionality to exchange electronic patient health information in real-time with other entities in an HL7 format.

6.9 The BHDE network is expected to address the following components (with details to be agreed by the parties):

6.9.1 Search a patient's health record for problems, medications, allergies, and end of life decisions to enhance clinical decision-making;

6.9.2 Alert the receiving hospital regarding the patient's status directly onto a dashboard in the emergency department to provide decision support;

6.9.3 File the EMS Patient Care Report data directly into the patient's electronic health record for timely and longitudinal patient care documentation;

6.9.4 Reconcile the electronic health record information including diagnoses and disposition back into the EMS patient care report for use in ensuring timely provider feedback and enhanced quality improvement strategies for the County EMS system.

6.10 Any access to, or exchange of, individually identifiable health information or protected health information shall comply with the requirements of the Health Insurance Portability and Accountability Act (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HiTECH).

7. QUALITY IMPROVEMENT AND EVALUATION PROCESS (Exhibit D, 22 CCR § 100270.127.)

(a) Each STEMI critical care system shall have a quality improvement process that shall include, at a minimum:

(1) Evaluation of program structure, process, and outcome.

(2) Review of STEMI-related deaths, major complications, and transfers.

(3) A multidisciplinary STEMI Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated STEMI centers and prehospital providers involved in the STEMI critical care system.

(5) Evaluation of regional integration of STEMI patient movement.

(6) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected STEMI cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the STEMI critical care system.

7.1 STEMI/Cardiac Arrest Receiving Center Program staff shall participate in Alameda County EMS quarterly SRC/CARC QI Committee meetings, with a minimum attendance requirement of two / year. Each SRC/CARC shall provide at minimum,

multi-disciplinary representation including one decision-making representative from Emergency Medicine, Cardiology and Critical Care at every meeting attended.

7.2 Hospital shall maintain a written internal quality improvement plan for STEMI, Cardiac Arrest and Post Cardiac Arrest patients that includes, but is not limited to the determination and evaluation of:

a) Death rate
b) Complications
c) Sentinel events
d) System issues
e) Organizational issues and resolution processes

7.3 Hospital shall support EMS Agency QI activities including educational activities for prehospital personnel.

7.4 STEMI/Cardiac Arrest Receiving Center Program staff shall actively participate in system wide consortium meetings of Alameda County Cardiac Arrest Receiving Centers. This consortium will have the mission and intention to standardize clinical strategies and protocols regarding the care of post-OHCA patients. Each SRC/CARC shall provide at minimum, one decision-making representative from the ED, Cardiology, and the ICU at every meeting.

8. COMPLIANCE

8.1 Contractor shall provide continuous Oversight for ALL sections as described in Exhibit A and D

8.2 Contractor shall advise ALCO EMS immediately regarding any changes that would result in non-compliance with any section in Exhibit A.

8.3 Contractor shall participate in an annual review regarding modifications of any and compliance with ALL sections as described in Exhibit A and a three-year review for Exhibit D.

8.4 Material failure by Contractor to comply with any section(s) as described in Exhibit A, B and D may result in the loss of EMS STEMI and or Cardiac Arrest/Post-Cardiac Arrest patients transported to contractor's SRC/CARC for potential intervention until compliance issue(s) is resolved.

9. PREHOSPITAL STEMI CRITICAL CARE SYSTEM REQUIREMENTS (Exhibit D, Article 3. § 100270.123. EMS Personnel and Early Recognition)

(a) The local EMS agency with an established STEMI critical care system shall have protocols for the identification and treatment of STEMI patients, including paramedic performance of a 12-lead ECG and determination of the patient destination.

(b) The findings of 12-lead ECG shall be assessed and interpreted through one or more of the following methods:

(1) Direct paramedic interpretation.

(2) Automated computer algorithm.

(3) Wireless transmission to facility followed by physician interpretation or confirmation.

(c) Notification of prehospital ECG findings of suspected STEMI patients, as defined by the local EMS agency, shall be communicated in advance of the arrival to the STEMI centers according to the local EMS agency's STEMI Critical Care System Plan.

County shall also keep in effect the following:

9.1 Make electronic prehospital patient care records available to Contractor via computer for all STEMI and/or Cardiac Arrest patients taken by 911 ambulance to Contractor's facilities.

9.2 Maintain the confidentiality of all patient information and data (includes de-identified data) provided by Contractor and use such information solely for the local EMS Agency's internal quality improvement, peer review and oversight functions as mandated/authorized by law or regulation. County also agrees to not identify Contractor by name in any aggregate report of the data or release any reports or data showing individual hospital performance unless agreed to by contractor or required by law. Notwithstanding anything in this Agreement to the contrary, the parties acknowledge and agree that Contractor shall not be required to disclose any patient information or other data to the COUNTY to the extent not otherwise permitted or required by applicable laws or regulations.

9.3 Provide to Contractor and/or the STEMI/CARC Quality Improvement Committee prehospital system data, including patient destination data, related to STEMI and Cardiac Arrest/Post- Cardiac Arrest care.

9.4 Meet and consult with Contractor prior to the adoption of any policy or procedure that concerns the administration of the STEMI and Cardiac Arrest/Post-Cardiac Arrest Care System, STEMI/Cardiac Arrest public education efforts or the triage, transport, and treatment of STEMI/Cardiac Arrest/Post-Cardiac Arrest patients.

9.5 In order to improve quality of care, direct 911 ambulance transport providers to inform hospital of identification of patients determined to have STEMI and/or have experienced Cardiac Arrest prior to the patient's arrival at hospital.

9.6 Transport suspected STEMI, Cardiac Arrest and Post-Cardiac Arrest patients to Contractor in accordance with County EMS field assessment, treatment, and transport protocols.

EXHIBIT B – DATA ELEMENTS

As set forth in Section 4 of the Agreement and in Section 6 of Exhibit A to the Agreement, Contractor shall provide the specified data elements in the formats established by the ALCO EMS Agency and included in this Exhibit B: (B-1, B-2, B-3, B-4, etc.)

B-1

Contractor shall collect continuous aggregate (de-identified) performance measures using data elements below, submit and present to ALCO EMS on an annual basis at ALCO SRC/CARC meeting: (6.1.1-6.1.7)

B1

Alameda County EMS SRC Annual Performance Data

1. # of patients identified by EMS STEMI ALERT and transported to SRC?

1a. # of patients identified by EMS STEMI ALERT and transported to SRC who went for emergency angiography?

1b. # of patients identified by EMS STEMI ALERT and transported to SRC who received primary PCI?

1c. Median time to PCI for patients identified by EMS STEMI ALERT and transported to SRC who received primary PCI?

2. # of patients identified by from another acute care hospital ED with possible STEMI and transferred (IFT) to SRC?

2a. # of patients identified by from another acute care hospital ED with possible STEMI and transferred (IFT) to SRC who received primary PCI?

2b. Median time to PCI for patients identified by from another acute care hospital ED with possible STEMI and transferred (IFT) to SRC who received primary PCI?

3. # of walk-in SRC patients identified in ED with possible STEMI?

3a. # of walk-in SRC patients identified in ED with possible STEMI who received primary PCI?

3b. Median time to PCI for walk-in SRC patients identified in ED with possible STEMI who received primary PCI?B-2Contractor shall collect continuous aggregate (de-identified) performance measures using NCDR data elements from either CathPCI and submit to ALCO EMS for review on request via NCDR CathPCI "EXECUTIVE SUMMARY": (6.1.8-6.1.9)

B-2

Contractor shall provide SRC performance and clinical outcome data for individual EMS patients transported with suspected STEMI. Patient specific Follow-Up data shall include but not limited to data elements listed below and required by22 CCR § 100270.126.) and shall be entered into GWTG-CAD registry for timely ALCO EMS "read-only" access via "Super User" agreement. EMS patients shall be identified by a unique incident number provided by EMS and entered by SRC (6).

B2

STEMI Activation / IFT Follow-up

(1) The STEMI patient data elements:
- (A) EMS ePCR Number.
- (B) Facility.
- (C) Name: Last, First.
- (D) Date of Birth.
- (E) Patient Age.
- (F) Patient Gender.
- (G) Patient Race.
- (H) Hospital Arrival Date.
- (I) Hospital Arrival Time.
- (J) Dispatch Date.
- (K) Dispatch Time.
- (L) Field ECG Performed.
- (M) 1st ECG Date.
- (N) 1st ECG Time.
- (O) Did the patient suffer out-of-hospital cardiac arrest.
- (P) CATH LAB Activated.
- (Q) CATH LAB Activation Date.
- (R) CATH LAB Activation Time.
- (S) Did the patient go to the CATH LAB.
- (T) CATH LAB Arrival Date.
- (U) CATH LAB Arrival Time.
- (V) PCI Performed.
- (W) PCI Date.

(X) PCI Time.
(Y) Fibrinolytic Infusion.
(Z) Fibrinolytic Infusion Date.
(AA) Fibrinolytic Infusion Time.
(BB) Transfer.
(CC) SRH ED Arrival Date.
(DD) SRH ED Arrival Time.
(EE) SRH ED Departure Date.
(FF) SRH ED Departure Time.
(GG) Hospital Discharge Date.
(HH) Patient Outcome.
(II) Primary and Secondary Discharge Diagnosis.

Exceptions for delay to PCI:

(V-Fib/D-Fib, Cardiac arrest/CPR, Intubation, CT r/o head bleed, TEE r/o aortic dissection)

EMS Patient Inclusion Criteria (STEMI Activation / ITF follow-up)

All patients who:

have a prehospital ECG interpreted by EMS as suspected STEMI/equivalent and transported to a PCI capable hospital (SRC) for potential intervention; **OR,**

are in the ED of an acute care hospital without PCI capability (RH), have an ECG interpreted as STEMI/equivalent and are transferred by EMS to a PCI-capable hospital (SRC) for potential intervention; **OR,**

have experienced witnessed out-of-hospital sudden cardiac arrest (SCA) of suspected cardiac etiology, or with an initial EMS ECG rhythm of V/F or V/T, or were shocked by AED prior to EMS arrival, or have return of spontaneous circulation with an ECG interpreted as STEMI/equivalent following SCA and transported to a PCI capable hospital (SRC) for potential intervention.

B-4

Contractor shall provide clinical outcome data for individual EMS patients transported with suspected Cardiac Arrest and or Post Cardiac Arrest. Patient specific Follow-Up data shall include but not be limited to data elements listed below and shall be collected and sent to CARES via designated SECURE website as soon as possible following patient encounter or within 30 calendar days of receipt of patient follow-up list sent by CARES. (6.5)

CARES HOSPITAL DATASET FOR CARDIAC ARREST / POST CARDIAC ARREST

EMERGENCY Department OUTCOME

Description

- The final disposition of the patient from the emergency department.
- This variable will be used to quantify the outcome of the patient from emergency department specifically. It will be used to differentiate the outcome in the field (EMS resuscitation) and the outcome from the hospital (hospital survival) from the outcome in the emergency department.

Instructions for Coding

- This variable should not be left blank. All the information from the EMS trip sheet and patient medical record should be used to complete this data field.
- If "Transferred to another acute care facility from the emergency department" (Code 4) is selected, the destination hospital should be documented using the corresponding drop-down menu. If a transfer hospital is not selected, CARES will prompt the user to choose one from the drop-down menu or to type the name of the facility (if not listed) in the comments box.
- Codes for hospitals receiving transfers are established through the CARES registry for each particular EMS Agency. Contact the CARES Coordinator if the correct hospital is not located on the drop-down menu.

Field Values:

Code	Definition
1	Resuscitation terminated in ED
2	Admitted to hospital
3	Transferred to another acute care facility from the emergency department

Examples:

Example	Appropriate Code/Value
Patient was received in the ED after successful resuscitation in the field by EMS personnel. Patient blood pressure was labile upon receiving in the ED and continued to deteriorate…..Patient was pronounced dead in the ED 20 minutes after arrival.	1 – Resuscitation terminated in ED
Patient was received in the ED after successful resuscitation in the field by EMS personnel. Patient blood pressure was adequate upon receiving in the ED and continued to improve after the addition of Dopamine…Patient was transported to the CCU.	2 – Admitted to hospital
Patient was received in the ED with ongoing resuscitation by EMS personnel. Patient was stabilized in the ED after the addition of Dopamine…..Patient was transported to Pine Valley Tertiary Care Hospital for further intervention.	3 – Transferred to another acute care facility from the emergency department

WAS HYPOTHERMIA CARE INITIATED/CONTINUED IN THE HOSPITAL

Description

- Hypothermia care is provided in the hospital if measures were taken to reduce the patient's body temperature by either non-invasive means (administration of cold intravenous saline, external cold pack application to armpits and groin, use of a cooling blanket, torso vest or leg wrap devices) or by invasive means (use of a cooling catheter inserted in the femoral vein).

Instructions for Coding

- Indicate "Yes" or "No"
- Indicate whether hypothermia procedures (e.g. external cooling-ice packs or cooling blankets/pads and internal cooling – cold IV fusion or invasive catheter lines for internal cooling) were performed in ED.
- If the patient is admitted or transferred, then this field is required.
- This field should not be left blank, even if a facility is not providing hypothermia. If hypothermia is not being provided, then "No" should be selected.
- In the case of a transfer, this field should be completed by the original destination hospital.

Field Values:

Code	Definition
1	Yes
2	No

HOSPITAL OUTCOME

Description

- The final disposition of the patient from the hospital.
- This variable will be used to quantify the outcome of the patient from the hospital.

Instructions for Coding

- This variable should not be left blank. All the information from patient medical record and discharge summary should be used to complete this data field.
- If "Transferred to another acute care facility" (Code 4) is selected, the destination hospital should be documented using the corresponding drop-down menu. If a transfer hospital is not selected, CARES will prompt the user to choose one from the drop-down menu or to type the name of the facility (if not listed) in the comments box.
- If "Patient has not been disposed" (Code 8) is selected, the patient will remain in the hospital's inbox until the patient has been discharged and a final outcome has been selected.
- Codes for hospitals receiving transfers are established through the CARES registry for each particular EMS Agency. Contact the CARES Coordinator if the correct hospital is not located on the drop-down menu.

Field Values:

Code	Definition
1	Died in the Hospital
2	Discharged Alive
3	Patient made DNR
	If yes, choose one of the following:
	o Died in the hospital
	o Discharged alive
	o Transferred to another acute care hospital

	○ Not yet determined
4	Transferred to another acute care hospital
8	Not yet determined

Examples:

Example	**Appropriate Code/Value**
Patient was admitted to CCU after successful resuscitation from sudden cardiac arrest. Patient became unstable after 2 days in the CCU. Blood pressure could not be maintained after pharmacological support. Patient arrested at 04:30 after being admitted to the CCU Resuscitation attempts were unsuccessful and patient was pronounced dead at 6:00.	1 – Died in the Hospital
Patient was received in the ED after successful resuscitation in the field by EMS personnel. Patient blood pressure was adequate upon receiving in the ED and continued to improve after the addition of Dopamine…..Patient was transported to the CCU……Patient remained stable, and Dopamine was weaned off in 12 hours. Patient was transferred to the floor and discharged home after one week in the hospital.	2 – Discharged Alive
Patient was admitted to CCU after successful resuscitation from sudden cardiac arrest. Patient is still in the CCU and has not yet been discharged from the hospital.	8 – Patient has not been disposed

DISCHARGE FROM THE HOSPITAL

Description

- This variable will be used to determine the type of destination and the frequency of each destination type for discharged patients.

Instructions for Coding

- If the field "Hospital Outcome" has a value of "Discharged Alive," this variable should not be left blank. All the information from patient medical record and discharge summary should be used to complete this data field.
- Rehabilitation facility is defined as an establishment for "treatment or treatments designed to facilitate the process of recovery from injury, illness, or disease to as normal a condition as possible."
- Skilled nursing facility is defined as "an establishment that houses chronically ill, usually elderly patients, and provides long-term nursing care, rehabilitation, and other services. Also called *long-term care facility*, *nursing home.* Hospice facility is defined as a providing special care for people who are near the end of their life. Note: If a patient is discharged home with hospice care, this should be coded as "Home/residence."

Field Values:

Code	Definition
1	Home/residence
2	Rehabilitation facility
3	Skilled nursing facility/Hospice

Examples:

Example	Appropriate Code/Value
After two weeks in the CCU following sudden cardiac arrest, and a week on the floor, the patient was discharged home with follow up orders.	1 – Home/residence
After 3 weeks in the CCU and 5 weeks on the floor patient was transported to Sunshine Rehabilitation Hospital for further treatment.	2 – Rehabilitation facility
After an extensive stay at Memorial Hospital, the patient was discharged home with severe cerebral disability in hospice care.	3 – Skilled nursing facility/Hospice

NEUROLOGICAL OUTCOME AT DISCHARGE FROM HOSPITAL

Description

- Survival without higher neurological outcome is suboptimal; therefore it is important to attempt to assess neurological outcome at discharge.

- This variable will be used to determine the frequency of neurological outcome in resuscitation survivors at the time of discharge.

Instructions for Coding

- The level of cerebral performance of the patient at the time of discharge from the hospital. The following simple, validated neurological score is referred to as the Cerebral Performance Category, CPC.
- 1 = Good Cerebral Performance – Conscious, alert, able to work and lead a normal life.
- 2 = Moderate Cerebral Disability – Conscious and able to function independently (dress, travel, prepare food), but may have hemiplegia, seizures, or permanent memory or mental changes.
- 3 = Severe Cerebral Disability – Conscious, dependent on others for daily support, functions only in an institution or at home with exceptional family effort.
- 4 = Coma, vegetative state.
- If the field "Hospital Outcome" has a value of "Discharged Alive," this variable should not be left blank. All the information from patient medical record and discharge summary should be used to complete this data field.
- If a record is coded as discharged to a 'Rehabilitation Facility' or 'Skilled Nursing Facility/Hospice' with 'Good Cerebral Performance' at time of discharge, CARES will prompt the use to clarify in the comments box.
- If a record is coded as discharged to 'Home/residence' with 'Severe Cerebral Performance' or 'Coma, vegetative state' at time of discharge, CARES will prompt the user to clarify in the comments box.

Field Values:

Code	Definition
1	Good Cerebral Performance; CPC 1
2	Moderate Cerebral Disability; CPC 2
3	Severe Cerebral Disability; CPC 3
4	Coma, vegetative state; CPC 4

Examples:

Example	Appropriate Code/Value
At discharge, patient was conscious, alert, and able to work and lead a normal life.	1 – Good Cerebral Performance
At discharge, patient was conscious and able to function independently but	2 – Moderate Cerebral

had some permanent memory changes.	Disability
At discharge, patient was unable to function independently with severe cognitive disability,	3 - Severe Cerebral Disability
Patient was in a vegetative state at time of discharge.	4 - Coma, vegetative state

WAS FINAL DIAGNOSIS ACUTE MYOCARDIAL INFARCTION?

Description

- Determine the number of cardiac arrests that were eventually confirmed as a myocardial infarction.

Instructions for Coding

- Indicate "Yes" or "No"
- In the case of a transfer, this field should be completed by the destination hospital.

Field Values:

Code	Definition
1	Yes
2	No

CORONARY ANGIOGRAPHY PERFORMED?

Definition:

- Coronary Angiography is a therapeutic procedure used to treat the stenotic (narrowed) coronary arteries of the heart.
- Indicate whether emergency coronary angiography was performed after patient has ROSC

Coding Instruction:

- If yes, please provide date and time of the coronary angiography

Code	Options
1	Yes
2	No
3	Unknown
	If yes, provide date and time

Examples:

Example	Appropriate Code/Value
Coronary Angiography was performed on the patient.	1 – Yes; provide date and time
Coronary Angiography was not performed on the patient.	2 – No

WAS A CARDIAC STENT PLACED?_____

Definition:

- A cardiac stent is a small mesh tube that is introduced into the coronary artery and is used to prop it open during a PCI procedure

Coding Instruction:

Code	Options
1	Yes
2	No
3	Unknown

Examples:

Example	Appropriate Code/Value
A cardiac stent was placed.	1 – Yes
A cardiac stent was not placed.	2 – No

CABG PERFORMED?

Definition:

- CABG is defined as a coronary artery bypass graft

Coding Instruction:

- Indicate whether CABG was performed after patient has ROSC.

Code	Options
1	Yes
2	No
3	Unknown

Examples:

Example	Appropriate Code/Value
CABG was performed on the patient.	1 – Yes
CABG was not performed on the patient.	2 – No

WAS AN ICD PLACED AND/OR SCHEDULED?

Definition:

- ICD - An implantable cardioverter-defibrillator (ICD) is a small battery powered electrical impulse generator which is implanted in patients who are at risk of sudden cardiac death due to vfib and vtach.

Coding Instructions:

- Indicate "yes" if ICD was placed and/or scheduled.

Code	Options
1	Yes
2	No
3	Unknown

Examples:

Example	Appropriate Code/Value
ICD was placed.	1 – Yes
ICD was not placed.	2 – No

EXHIBIT C – SRC/CARC APPLICATION

HOSPITALS_____ January 1, 2020

STEMI/CARDIAC ARREST RECEIVING CENTER (SRC/CARC) APPLICATION (# 5501)

Hospital Name: **Date:** ____/____/____

Dedicated phone number for paramedic call-ins: (____)____-____

Does your hospital have a special permit for cardiac catheterization? ☐ Yes ☐ No

Number of percutaneous coronary interventions (PCI)[1] per year:

Does your hospital have a special permit for cardiovascular surgery? ☐ Yes ☐ No

Name of proposed SRC program Medical Director:

Meets the requirements for SRC Medical Director in section 3.1? ☐ Yes ☐ No

Name of proposed SRC Program Manager:

Meets the requirements for SRC Program Manager in section 3.2? ☐ Yes ☐ No

Catheterization lab contact: Name: Phone: (____)____-____

Name of proposed CARC program Medical Director:

Meets the requirements for CARC Medical Director in section 3.3? ☐ Yes ☐ No

Name of proposed CARC Program Manager:

Meets the requirements for CARC Program Manager in section 3.4? ☐ Yes ☐ No

CARDIOLOGISTS PROPOSED FOR ON-CALL LIST	
Name:	**Number of PCIs per year[2]:**

Does your hospital participate in the ACC/NCDR and or AHA GWTG-CAD? ☐ Yes ☐ No,
if yes, ☐ CathPCI ☐ GWTG-CAD

Does your hospital have a cardiovascular surgical on-call staff available 24/7? ☐ Yes ☐ No

Does your hospital have the capability to place an intra-aortic balloon pump? ☐ Yes ☐ No

Does your hospital have Intra-aortic balloon pump staff on-call 24/7? ☐ Yes ☐ No

Does your hospital have a policy on the treatment of ST-elevation myocardial infarction that emphasizes rapid treatment and meets the requirements of sections 4 and 5? ☐ Yes ☐ No

Does your hospital collect data and have quality improvement policies that meet the requirements of sections 6 and 7? ☐ Yes ☐ No

Does your hospital have a data system that identifies the time the cath lab team was notified and time of first device deployment? ☐ Yes ☐ No

Does your hospital have the electronic capability to receive diagnostic quality ECGs transmitted by prehospital personnel? ☐ Yes ☐ No

Does your hospital have a designated priority phone line for use by prehospital personnel to contact your facility regarding suspected STEMI patients prior to arrival? ☐ Yes ☐ No

(_____)_____-_____

CARDIAC ARREST AND POST CARDIAC ARREST CARE:

Does your hospital have the capability to provide resuscitation for cardiopulmonary arrest with an ALCO EMS approved radiolucent mechanical CPR device? ☐ Yes ☐ No

Does your hospital have the capability to provide ECMO?
☐ Yes ☐ NO

If no, does your hospital have a written agreement with another facility to prvide

ECMO services? ☐ Yes ☐ NO

Does your hospital have the capability and standardized protocol to provide Targeted Temperature Management in ED and ICU 24/7?	☐ Yes	☐ No
Does your hospital have the capability to provide emergent PCI 24/7?	☐ Yes	☐ No
Does your hospital have the capability to provide post-resucitation care for cardiac arrest?	☐ Yes	☐ No
Does your hospital have the capability to provide ventilator support?	☐ Yes	☐ No
Does your hospital have the capability to provide EEG monitoring?	☐ Yes	☐ No
Does your hospital have the capability to provide cardiac arrest consult service?	☐ Yes	☐ No
Does your hospital have the capability to provide Neurology Consultation?	☐ Yes	☐ No
Does your hospital have the capability to provide Neurosurgical Consultation?	☐ Yes	☐ No
Does your hospital have the capability to provide Organ Bank consultation?	☐ Yes	☐ No
Does your hospital have the capability to provide Electrophysiology Consultation?	☐ Yes	☐ No
Does your hospital have the capability to provide Social Work Consultation?	☐ Yes	☐ No
Does your hospital have the capability to provide Inpatient physical and or occupational therapy?	☐ Yes	☐ No
Does your hospital have the capability to provide Outpatient physical and or occupational therapy?	☐ Yes	☐ No
Does your hospital have the capability to provide Outpatient neurological rehabilitation?	☐ Yes	☐ No
Does your hospital have the capability to provide Outpatient psychological services?	☐ Yes	☐ No
Does your hospital have the capability to provide CPR training: Professional, community and patient's family on discharge?	☐ Yes	☐ No
Is your hospital currently participating in the Cardiac Arrest Registry to Enhance Survival (CARES)?	☐ Yes	☐ No
Does your hospital have the capability to provide ECMO?	☐ Yes	☐ No

If not, does your hospital have an agreement with one that does? ☐ Yes ☐ No

[1] PCI is defined as a therapeutic coronary intervention such as angioplasty, stent placement etc.

[2] Total personally performed PCIs per year at all institutions, not just this center.

This would include any PCI as defined above and not restricted to acute myocardial infarction.

STEMI RECEIVING CENTER (SRC/CARC) APPLICATION (# 5501)

EXHIBIT D – CALIFORNIA REGULATIONS: STEMI SYSYTEM OF CARE

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System
ARTICLE 1. DEFINITIONS

§ 100270.101. Cardiac Catheterization Laboratory
"Cardiac catheterization laboratory" or "Cath lab" means the setting within the hospital where diagnostic and therapeutic procedures are performed on patients with cardiovascular disease.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.102. Cardiac Catheterization Team
"Cardiac catheterization team" means the specially trained health care professionals that perform percutaneous coronary intervention. It may include, but is not limited to, an interventional cardiologist, mid-level practitioners, registered nurses, technicians, and other health care professionals.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.103. Clinical Staff
"Clinical staff" means individuals that have specific training and experience in the treatment and management of ST-Elevation Myocardial Infarction (STEMI) patients. This includes, but is not limited to, physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.104. Emergency Medical Services Authority
"Emergency Medical Services Authority" or "EMS Authority" or "EMSA" means the department in California responsible for the coordination and integration of all state activities concerning EMS.
Note: Authority cited: Sections 1797.1, 1797.107 and 1797.54, Health and Safety Code.
Reference: Sections 1797.100, and 1797.103, Health and Safety Code.

§ 100270.105. Immediately Available
"Immediately available" means:
(a) Unencumbered by conflicting duties or responsibilities.
(b) Responding without delay upon receiving notification.
(c) Being physically available to the specified area of the hospital when the patient is delivered in accordance with local EMS agency policies and procedures.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.106. Implementation
"Implementation," "implemented," or "has implemented" means the development and activation of a STEMI Critical Care System Plan by the local EMS agency, including the prehospital and hospital care components in accordance with the plan.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.107. Interfacility Transfer
"Interfacility transfer" means the transfer of a STEMI patient from one acute general care facility to another acute general care facility.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103, 1797.176 and 1798.170, Health and Safety Code.

§ 100270.108. Local Emergency Medical Services Agency
"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility for administration of emergency medical services in a county or region and which is designated pursuant Health and Safety Code commencing with section 1797.200.
Note: Authority cited: Sections 1797.107, 1797.200 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.109. Percutaneous Coronary Intervention (PCI)
"Percutaneous coronary intervention" or "PCI" means a procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart, usually done on an emergency basis for a STEMI patient.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.110. Quality Improvement
"Quality improvement" or "QI" means methods of evaluation that are composed of structure, process, and outcome evaluations that focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process, and recognize excellence in performance and delivery of care.
Note: Authority cited: Sections 1797.103, 1797.107, 1797.174, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.

§ 100270.111. ST-Elevation Myocardial Infarction (STEMI)
"ST-Elevation Myocardial Infarction" or "STEMI" means a clinical syndrome defined by symptoms of myocardial infarction in association with ST-segment elevation on Electrocardiogram (ECG).
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.112. STEMI Care
"STEMI care" means emergency cardiac care, for the purposes of these regulations.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.113. STEMI Medical Director
"STEMI medical director" means a qualified board-certified physician by the American Board of Medical Specialties (ABMS) as defined by the local EMS agency and designated by the hospital that is responsible for the STEMI program, performance improvement, and patient safety programs related to a STEMI critical care system.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.114. STEMI Patient
"STEMI patient" means a patient with symptoms of myocardial infarction in association with ST-Segment Elevation in an ECG.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.

§ 100270.115. STEMI Program
"STEMI program" means an organizational component of the hospital specializing in the care of STEMI patients.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.116. STEMI Program Manager
"STEMI program manager" means a registered nurse or qualified individual as defined by the local EMS agency, and designated by the hospital responsible for monitoring, coordinating and evaluating the STEMI program.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.117. STEMI Receiving Center (SRC)

"STEMI receiving center" or "SRC" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.124 and is able to perform PCI.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.

§ 100270.118. STEMI Referring Hospital (SRH)
"STEMI referring hospital" or "SRH" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.125.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.

§ 100270.119. STEMI Critical Care System
"STEMI critical care system" means a critical care component of the EMS system developed by a local EMS agency that links prehospital and hospital care to deliver treatment to STEMI patients.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.120. STEMI Team
"STEMI team" means clinical personnel, support personnel, and administrative staff that function together as part of the hospital's STEMI program.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

ARTICLE 2. LOCAL EMS AGENCY STEMI CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.121. STEMI Critical Care System Plan
(a) The local EMS agency may develop and implement a STEMI critical care system.

(b) The local EMS agency implementing a STEMI critical care system shall have a STEMI Critical Care System Plan approved by the EMS Authority prior to implementation.

(c) A STEMI Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all of the following components:

(1) The names and titles of the local EMS agency personnel who have a role in a STEMI critical care system.

(2) The list of STEMI designated facilities with the agreement expiration dates.

(3) A description or a copy of the local EMS agency's STEMI patient identification and destination policies.

(4) A description or a copy of the method of field communication to the receiving hospital specific to STEMI patient, designed to expedite time-sensitive treatment on arrival.

(5) A description or a copy of the policy that facilitates the inter-facility transfer of a STEMI patient.

(6) A description of the method of data collection from the EMS providers and designated STEMI hospitals to the local EMS agency and the EMS Authority.

(7) A policy or description of how the local EMS agency integrates a receiving center in a neighboring jurisdiction.

(8) A description of the integration of STEMI into an existing quality improvement committee or a description of any STEMI specific quality improvement committee.

(9) A description of programs to conduct or promote public education specific to cardiac care.

(d) The EMS Authority shall, within 30-days of receiving a request for approval, notify the requesting local EMS agency in writing of approval or disapproval of its STEMI Critical Care System Plan. If the STEMI Critical Care System Plan is disapproved, the response shall include the reason(s) for the disapproval and any required corrective action items.

(e) The local EMS agency shall provide a corrected plan to the EMS Authority within 60 days of receipt of the disapproval letter.

(f) The local EMS agency currently operating a STEMI critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a STEMI Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180-days of the effective date of these regulations, whichever comes first.

(g) After approval of the STEMI Critical Care System Plan, the local EMS agency shall submit an update to the plan as part of its annual EMS update, consistent with the requirements in Section 100270.122.

(h) No health care facility shall advertise in any manner or otherwise hold itself out to be affiliated with a STEMI critical care system or a STEMI center unless they have been so designated by the local EMS agency, in accordance with this chapter.

Note: Authority cited: Sections 1797.107, 1797.103, 1797.105, 1797.250, 1797.254 and

1798.150, Health and Safety Code. Reference: Section 1797.176 and 1797.220, Health and Safety Code.

§100270.122. STEMI Critical Care System Plan Updates
(a) The local EMS agency shall submit an annual update of its STEMI Critical Care System Plan, as part of its annual EMS plan submittal, which shall include, at a minimum, all the following:

(1) Any changes in a STEMI critical care system since submission of the prior annual plan update or a STEMI Critical Care System Plan addendum.

(2) The status of a STEMI critical care system goals and objectives.

(3) The STEMI critical care system quality improvement activities.

(4) The progress on addressing action items and recommendations provided by the EMS Authority within the STEMI Critical Care System Plan or status report approval letter if applicable.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.176, 1797.250, 1797.254, 1798.150, and 1798.172, Health and Safety Code. Reference: Section 1797.176, 1797.220, 1797.222, 1798.170, Health and Safety Code.

ARTICLE 3. PREHOSPITAL STEMI CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.123. EMS Personnel and Early Recognition
(a) The local EMS agency with an established STEMI critical care system shall have protocols for the identification and treatment of STEMI patients, including paramedic performance of a 12-lead ECG and determination of the patient destination.

(b) The findings of 12-lead ECG shall be assessed and interpreted through one or more of the following methods:

(1) Direct paramedic interpretation.

(2) Automated computer algorithm.

(3) Wireless transmission to facility followed by physician interpretation or confirmation.

(c) Notification of prehospital ECG findings of suspected STEMI patients, as defined by the local EMS agency, shall be communicated in advance of the arrival to the STEMI centers according to the local EMS agency's STEMI Critical Care System Plan.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.114, 1797.176, 1797.206, 1797.214 and 1798.150, Health and Safety Code. Reference: Section 1797.176,

1797.220, 1798, 1798.150 and 1798.170, Health and Safety Code.

ARTICLE 4. STEMI CRITICAL CARE FACILITY REQUIREMENTS

§ 100270.124. STEMI Receiving Center Requirements

(a) The following minimum criteria shall be used by the local EMS agency for the designation of a STEMI receiving center:

(1) The hospital shall have established protocols for triage, diagnosis, and Cath lab activation following field notification.

(2) The hospital shall have a single call activation system to activate the Cardiac Catheterization Team directly.

(3) Written protocols shall be in place for the identification of STEMI patients.

(A) At a minimum, these written protocols shall be applicable in the intensive care unit/coronary care unit, Cath lab and the emergency department.

(4) The hospital shall be available for treatment of STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.

(5) The hospital shall have a process in place for the treatment and triage of simultaneously arriving STEMI patients.

(6) The hospital shall maintain STEMI team and Cardiac Catheterization Team call rosters.

(7) The Cardiac Catheterization Team, including appropriate staff determined by the local EMS agency, shall be immediately available.

(8) The hospital shall agree to accept all STEMI patients according to the local policy.

(9) STEMI receiving centers shall comply with the requirement for a minimum volume of procedures for designation required by the local EMS agency.

(10) The hospital shall have a STEMI program manager and a STEMI medical director.

(11) The hospital shall have job descriptions and organizational structure clarifying the relationship between the STEMI medical director, STEMI program manager, and the STEMI team.

(12) The hospital shall participate in the local EMS agency quality improvement processes related to a STEMI critical care system.

(13) A STEMI receiving center without cardiac surgery capability on-site shall have a written transfer plan and agreements for transfer to a facility with cardiovascular surgery capability.

(14) A STEMI receiving center shall have reviews by local EMS agency or other designated agency conducted every three years.

(b) A STEMI center designated by the local EMS agency prior to implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, STEMI centers shall be re-evaluated to meet the criteria established in these regulations.

(c) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.176, 1797.220, and 1798.150 1798.167 and 1798.172, Health and Safety Code. Reference: Section 1797.176, 1797.220, 1798, 1798.150 and 1798.170 Health and Safety Code.

§ 100270.125. STEMI Referring Hospital Requirements
(a) The following minimum criteria shall be used by the local EMS agency for designation of a STEMI referring hospital:

(1) The hospital shall be committed to supporting the STEMI Program.

(2) The hospital shall be available to provide care for STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.

(3) Written protocols shall be in place to identify STEMI patients and provide an optimal reperfusion strategy, using fibrinolytic therapy .

(4) The emergency department shall maintain a standardized procedure for the treatment of STEMI patients.

(5) The hospital shall have a transfer process through interfacility transfer agreements, and have pre-arranged agreements with EMS ambulance providers for rapid transport of STEMI patients to a SRC.

(6) The hospital shall have a program to track and improve treatment of STEMI patients.

(7) The hospital must have a plan to work with a STEMI receiving center and the local EMS agency on quality improvement processes.

(8) A STEMI referring hospital designated by the local EMS agency shall have a review

conducted every three years.

(b) A STEMI center designated by the local EMS agency prior to implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, STEMI centers shall be re-evaluated to meet the criteria established in these regulations.

(c) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.176, 1797.220, and 1798.150 1798.167 and 1798.172, Health and Safety Code. Reference: Section 1797.176, 1797.220, 1798.150 and 1798.170 Health and Safety Code.

ARTICLE 5. DATA MANAGEMENT, QUALITY IMPROVEMENT AND EVALUATIONS

§ 100270.126. Data Management.
(a) The local EMS agency shall implement a standardized data collection and reporting process for a STEMI critical care system.

(b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.

(c) The prehospital STEMI patient care elements selected by the local EMS agency shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database, and the National EMS Information System (NEMSIS).

(d) All hospitals that receive STEMI patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.
(e) The prehospital care record and the hospital data elements shall be collected and submitted to the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis and shall include, but not be limited to, the following:

(1) The STEMI patient data elements:
(A) EMS ePCR Number.
(B) Facility.
(C) Name: Last, First.
(D) Date of Birth.
(E) Patient Age.
(F) Patient Gender.
(G) Patient Race.
(H) Hospital Arrival Date.
(I) Hospital Arrival Time.

(J) Dispatch Date.
(K) Dispatch Time.
(L) Field ECG Performed.
(M) 1st ECG Date.
(N) 1st ECG Time.
(O) Did the patient suffer out-of-hospital cardiac arrest.
(P) CATH LAB Activated.
(Q) CATH LAB Activation Date.
(R) CATH LAB Activation Time.
(S) Did the patient go to the CATH LAB.
(T) CATH LAB Arrival Date.
(U) CATH LAB Arrival Time.
(V) PCI Performed.
(W) PCI Date.
(X) PCI Time.
(Y) Fibrinolytic Infusion.
(Z) Fibrinolytic Infusion Date.
(AA) Fibrinolytic Infusion Time.
(BB) Transfer.
(CC) SRH ED Arrival Date.
(DD) SRH ED Arrival Time.
(EE) SRH ED Departure Date.
(FF) SRH ED Departure Time.
(GG) Hospital Discharge Date.
(HH) Patient Outcome.
(II) Primary and Secondary Discharge Diagnosis.
(2) The STEMI System data elements:
(A) Number of STEMIs treated.
(B) Number of STEMI patients transferred.
(C) Number and percent of emergency department STEMI patients arriving by private transport (non-EMS).
(D) The false positive rate of EMS diagnosis of STEMI, defined as the percentage of STEMI alerts by EMS which did not show STEMI on ECG reading by the emergency physician.
Note: Authority cited: Sections 1791.102, 1797.103, 1797.107, 1797.176, 1797.204, 1797.220, 1798.150, and 1798.172, Health and Safety Code. Reference: Section 1797.220, 1797.222, 1797.204, Health and Safety Code.

§ 100270.127. Quality Improvement and Evaluation Process
(a) Each STEMI critical care system shall have a quality improvement process that shall include, at a minimum:

(1) Evaluation of program structure, process, and outcome.

(2) Review of STEMI-related deaths, major complications, and transfers.

(3) A multidisciplinary STEMI Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated STEMI centers and prehospital providers involved in the STEMI critical care system.

(5) Evaluation of regional integration of STEMI patient movement.

(6) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected STEMI cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the STEMI critical care system.
Note: Authority cited: Sections 1797.102, 1797.103, 1797.107, 1797.176, 1797.204, 1797.220, 1797.250, 1797.254, 1798.150, and 1798.172, Health and Safety Code.
Reference: Section 1797.104, 1797.176, 1797.204, 1797.220, 1797.222, 1798.170,

Health and Safety Code.

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California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System

ARTICLE 1. DEFINITIONS

§ 100270.101. Cardiac Catheterization Laboratory

"Cardiac catheterization laboratory" or "Cath lab" means the setting within the hospital where diagnostic and therapeutic procedures are performed on patients with cardiovascular disease.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.102. Cardiac Catheterization Team

"Cardiac catheterization team" means the specially trained health care professionals that perform percutaneous coronary intervention. It may include, but is not limited to, an interventional cardiologist, mid-level practitioners, registered nurses, technicians, and other health care professionals.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.103. Clinical Staff

"Clinical staff" means individuals that have specific training and experience in the treatment and management of ST-Elevation Myocardial Infarction (STEMI) patients. This includes, but is not limited to, physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.104. Emergency Medical Services Authority

"Emergency Medical Services Authority" or "EMS Authority" or "EMSA" means the department in California responsible for the coordination and integration of all state activities concerning EMS.

Note: Authority cited: Sections 1797.1, 1797.107 and 1797.54, Health and Safety Code. Reference: Sections 1797.100, and 1797.103, Health and Safety Code.

§ 100270.105. Immediately Available

"Immediately available" means:
(a) Unencumbered by conflicting duties or responsibilities.
(b) Responding without delay upon receiving notification.
(c) Being physically available to the specified area of the hospital when the patient is delivered in accordance with local EMS agency policies and procedures.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.106. Implementation
"Implementation," "implemented," or "has implemented" means the development and activation of a STEMI Critical Care System Plan by the local EMS agency, including the prehospital and hospital care components in accordance with the plan.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.107. Interfacility Transfer
"Interfacility transfer" means the transfer of a STEMI patient from one acute general care facility to another acute general care facility.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1798.170, Health and Safety Code.

§ 100270.108. Local Emergency Medical Services Agency
"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility for administration of emergency medical services in a county or region and which is designated pursuant Health and Safety Code commencing with section 1797.200.

Note: Authority cited: Sections 1797.107, 1797.200 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.109. Percutaneous Coronary Intervention (PCI)
"Percutaneous coronary intervention" or "PCI" means a procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart, usually done on an emergency basis for a STEMI patient.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.110. Quality Improvement
"Quality improvement" or "QI" means methods of evaluation that are composed of structure, process, and outcome evaluations that focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process, and recognize excellence in performance and delivery of care.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.174, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.

§ 100270.111. ST-Elevation Myocardial Infarction (STEMI)
"ST-Elevation Myocardial Infarction" or "STEMI" means a clinical syndrome defined by symptoms of myocardial infarction in association with ST-segment elevation on Electrocardiogram (ECG).

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.112. STEMI Care
"STEMI care" means emergency cardiac care, for the purposes of these regulations.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.113. STEMI Medical Director
"STEMI medical director" means a qualified board-certified physician by the American Board of Medical Specialties (ABMS) as defined by the local EMS agency and designated by the hospital that is responsible for the STEMI program, performance improvement, and patient safety programs related to a STEMI critical care system.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.114. STEMI Patient
"STEMI patient" means a patient with symptoms of myocardial infarction in association with ST-Segment Elevation in an ECG.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.

§ 100270.115. STEMI Program
"STEMI program" means an organizational component of the hospital specializing in the care of STEMI patients.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.116. STEMI Program Manager
"STEMI program manager" means a registered nurse or qualified individual as defined by the local EMS agency, and designated by the hospital responsible for monitoring, coordinating and evaluating the STEMI program.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.117. STEMI Receiving Center (SRC)

"STEMI receiving center" or "SRC" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.124 and is able to perform PCI.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.

§ 100270.118. STEMI Referring Hospital (SRH)
"STEMI referring hospital" or "SRH" means a licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.125.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176 and 1797.220, Health and Safety Code.

§ 100270.119. STEMI Critical Care System
"STEMI critical care system" means a critical care component of the EMS system developed by a local EMS agency that links prehospital and hospital care to deliver treatment to STEMI patients.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.120. STEMI Team
"STEMI team" means clinical personnel, support personnel, and administrative staff that function together as part of the hospital's STEMI program.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

ARTICLE 2. LOCAL EMS AGENCY STEMI CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.121. STEMI Critical Care System Plan

(a) The local EMS agency may develop and implement a STEMI critical care system.

(b) The local EMS agency implementing a STEMI critical care system shall have a STEMI Critical Care System Plan approved by the EMS Authority prior to implementation.

(c) A STEMI Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all of the following components:

(1) The names and titles of the local EMS agency personnel who have a role in a STEMI critical care system.

(2) The list of STEMI designated facilities with the agreement expiration dates.

(3) A description or a copy of the local EMS agency's STEMI patient identification and destination policies.

(4) A description or a copy of the method of field communication to the receiving hospital specific to STEMI patient, designed to expedite time-sensitive treatment on arrival.

(5) A description or a copy of the policy that facilitates the inter-facility transfer of a STEMI patient.

(6) A description of the method of data collection from the EMS providers and designated STEMI hospitals to the local EMS agency and the EMS Authority.

(7) A policy or description of how the local EMS agency integrates a receiving center in a neighboring jurisdiction.

(8) A description of the integration of STEMI into an existing quality improvement committee or a description of any STEMI specific quality improvement committee.

(9) A description of programs to conduct or promote public education specific to cardiac care.

(d) The EMS Authority shall, within 30-days of receiving a request for approval, notify the requesting local EMS agency in writing of approval or disapproval of its STEMI Critical Care System Plan. If the STEMI Critical Care System Plan is disapproved, the response shall include the reason(s) for the disapproval and any required corrective action items.

(e) The local EMS agency shall provide a corrected plan to the EMS Authority within 60 days of receipt of the disapproval letter.

(f) The local EMS agency currently operating a STEMI critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a STEMI Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180-days of the effective date of these regulations, whichever comes first.

(g) After approval of the STEMI Critical Care System Plan, the local EMS agency shall submit an update to the plan as part of its annual EMS update, consistent with the requirements in Section 100270.122.

(h) No health care facility shall advertise in any manner or otherwise hold itself out to be affiliated with a STEMI critical care system or a STEMI center unless they have been so designated by the local EMS agency, in accordance with this chapter.

Note: Authority cited: Sections 1797.107, 1797.103, 1797.105, 1797.250, 1797.254 and

1798.150, Health and Safety Code. Reference: Section 1797.176 and 1797.220, Health and Safety Code.

§100270.122. STEMI Critical Care System Plan Updates

(a) The local EMS agency shall submit an annual update of its STEMI Critical Care System Plan, as part of its annual EMS plan submittal, which shall include, at a minimum, all the following:

(1) Any changes in a STEMI critical care system since submission of the prior annual plan update or a STEMI Critical Care System Plan addendum.

(2) The status of a STEMI critical care system goals and objectives.

(3) The STEMI critical care system quality improvement activities.

(4) The progress on addressing action items and recommendations provided by the EMS Authority within the STEMI Critical Care System Plan or status report approval letter if applicable.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.176, 1797.250, 1797.254, 1798.150, and 1798.172, Health and Safety Code. Reference: Section 1797.176, 1797.220, 1797.222, 1798.170, Health and Safety Code.

ARTICLE 3. PREHOSPITAL STEMI CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.123. EMS Personnel and Early Recognition

(a) The local EMS agency with an established STEMI critical care system shall have protocols for the identification and treatment of STEMI patients, including paramedic performance of a 12-lead ECG and determination of the patient destination.

(b) The findings of 12-lead ECG shall be assessed and interpreted through one or more of the following methods:

(1) Direct paramedic interpretation.

(2) Automated computer algorithm.

(3) Wireless transmission to facility followed by physician interpretation or confirmation.

(c) Notification of prehospital ECG findings of suspected STEMI patients, as defined by the local EMS agency, shall be communicated in advance of the arrival to the STEMI centers according to the local EMS agency's STEMI Critical Care System Plan.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.114, 1797.176, 1797.206, 1797.214 and 1798.150, Health and Safety Code. Reference: Section 1797.176,

1797.220, 1798, 1798.150 and 1798.170, Health and Safety Code.

ARTICLE 4. STEMI CRITICAL CARE FACILITY REQUIREMENTS

§ 100270.124. STEMI Receiving Center Requirements

(a) The following minimum criteria shall be used by the local EMS agency for the designation of a STEMI receiving center:

(1) The hospital shall have established protocols for triage, diagnosis, and Cath lab activation following field notification.

(2) The hospital shall have a single call activation system to activate the Cardiac Catheterization Team directly.

(3) Written protocols shall be in place for the identification of STEMI patients.

(A) At a minimum, these written protocols shall be applicable in the intensive care unit/coronary care unit, Cath lab and the emergency department.

(4) The hospital shall be available for treatment of STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.

(5) The hospital shall have a process in place for the treatment and triage of simultaneously arriving STEMI patients.

(6) The hospital shall maintain STEMI team and Cardiac Catheterization Team call rosters.

(7) The Cardiac Catheterization Team, including appropriate staff determined by the local EMS agency, shall be immediately available.

(8) The hospital shall agree to accept all STEMI patients according to the local policy.

(9) STEMI receiving centers shall comply with the requirement for a minimum volume of procedures for designation required by the local EMS agency.

(10) The hospital shall have a STEMI program manager and a STEMI medical director.

(11) The hospital shall have job descriptions and organizational structure clarifying the relationship between the STEMI medical director, STEMI program manager, and the STEMI team.

(12) The hospital shall participate in the local EMS agency quality improvement processes related to a STEMI critical care system.

(13) A STEMI receiving center without cardiac surgery capability on-site shall have a written transfer plan and agreements for transfer to a facility with cardiovascular surgery capability.

(14) A STEMI receiving center shall have reviews by local EMS agency or other designated agency conducted every three years.

(b) A STEMI center designated by the local EMS agency prior to implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, STEMI centers shall be re-evaluated to meet the criteria established in these regulations.

(c) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.176, 1797.220, and 1798.150 1798.167 and 1798.172, Health and Safety Code. Reference: Section 1797.176, 1797.220, 1798, 1798.150 and 1798.170 Health and Safety Code.

§ 100270.125. STEMI Referring Hospital Requirements

(a) The following minimum criteria shall be used by the local EMS agency for designation of a STEMI referring hospital:

(1) The hospital shall be committed to supporting the STEMI Program.

(2) The hospital shall be available to provide care for STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.

(3) Written protocols shall be in place to identify STEMI patients and provide an optimal reperfusion strategy, using fibrinolytic therapy .

(4) The emergency department shall maintain a standardized procedure for the treatment of STEMI patients.

(5) The hospital shall have a transfer process through interfacility transfer agreements, and have pre-arranged agreements with EMS ambulance providers for rapid transport of STEMI patients to a SRC.

(6) The hospital shall have a program to track and improve treatment of STEMI patients.

(7) The hospital must have a plan to work with a STEMI receiving center and the local EMS agency on quality improvement processes.

(8) A STEMI referring hospital designated by the local EMS agency shall have a review

conducted every three years.

(b) A STEMI center designated by the local EMS agency prior to implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, STEMI centers shall be re-evaluated to meet the criteria established in these regulations.

(c) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.103, 1797.107, 1797.176, 1797.220, and 1798.150 1798.167 and 1798.172, Health and Safety Code. Reference: Section 1797.176, 1797.220, 1798.150 and 1798.170 Health and Safety Code.

ARTICLE 5. DATA MANAGEMENT, QUALITY IMPROVEMENT AND EVALUATIONS

§ 100270.126. Data Management.

(a) The local EMS agency shall implement a standardized data collection and reporting process for a STEMI critical care system.

(b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.

(c) The prehospital STEMI patient care elements selected by the local EMS agency shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database, and the National EMS Information System (NEMSIS).

(d) All hospitals that receive STEMI patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.

(e) The prehospital care record and the hospital data elements shall be collected and submitted to the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis and shall include, but not be limited to, the following:

(1) The STEMI patient data elements:

(A) EMS ePCR Number.
(B) Facility.
(C) Name: Last, First.
(D) Date of Birth.
(E) Patient Age.
(F) Patient Gender.
(G) Patient Race.
(H) Hospital Arrival Date.
(I) Hospital Arrival Time.

(J) Dispatch Date.
(K) Dispatch Time.
(L) Field ECG Performed.
(M) 1st ECG Date.
(N) 1st ECG Time.
(O) Did the patient suffer out-of-hospital cardiac arrest.
(P) CATH LAB Activated.
(Q) CATH LAB Activation Date.
(R) CATH LAB Activation Time.
(S) Did the patient go to the CATH LAB.
(T) CATH LAB Arrival Date.
(U) CATH LAB Arrival Time.
(V) PCI Performed.
(W) PCI Date.
(X) PCI Time.
(Y) Fibrinolytic Infusion.
(Z) Fibrinolytic Infusion Date.
(AA) Fibrinolytic Infusion Time.
(BB) Transfer.
(CC) SRH ED Arrival Date.
(DD) SRH ED Arrival Time.
(EE) SRH ED Departure Date.
(FF) SRH ED Departure Time.
(GG) Hospital Discharge Date.
(HH) Patient Outcome.
(II) Primary and Secondary Discharge Diagnosis.

(2) The STEMI System data elements:

(A) Number of STEMIs treated.
(B) Number of STEMI patients transferred.
(C) Number and percent of emergency department STEMI patients arriving by private transport (non-EMS).
(D) The false positive rate of EMS diagnosis of STEMI, defined as the percentage of STEMI alerts by EMS which did not show STEMI on ECG reading by the emergency physician.

Note: Authority cited: Sections 1791.102, 1797.103, 1797.107, 1797.176, 1797.204, 1797.220, 1798.150, and 1798.172, Health and Safety Code. Reference: Section 1797.220, 1797.222, 1797.204, Health and Safety Code.

§ 100270.127. Quality Improvement and Evaluation Process

(a) Each STEMI critical care system shall have a quality improvement process that shall include, at a minimum:

(1) Evaluation of program structure, process, and outcome.

(2) Review of STEMI-related deaths, major complications, and transfers.

(3) A multidisciplinary STEMI Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated STEMI centers and prehospital providers involved in the STEMI critical care system.

(5) Evaluation of regional integration of STEMI patient movement.

(6) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected STEMI cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the STEMI critical care system.

Note: Authority cited: Sections 1797.102, 1797.103, 1797.107, 1797.176, 1797.204, 1797.220, 1797.250, 1797.254, 1798.150, and 1798.172, Health and Safety Code. Reference: Section 1797.104, 1797.176, 1797.204, 1797.220, 1797.222, 1798.170, Health and Safety Code.

ALAMEDA COUNTY EMS AGENCY

Alameda County Critical Medical Patient Hospital Transfers for Specialty and/or Higher Level of Care

Purpose:

To provide a process to facilitate the emergent transfer of medical patients within a hospital, either in the ER or admitted within the facility, for specialty or higher level of care services requiring time sensitive intervention at another facility within Alameda County.

Medical Patient Identified Requiring Emergent Transfer for Time Sensitive Intervention

→

Facility within Alameda County with Specialty or Higher Level of Care Identified and Patient Accepted for Transfer.

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Contact Interfacility Ambulance Service to Provide Patient Transport				
Company	Contact #	BLS	CCT-Paramedic	CCT-RN
American Medical Response	530-457-5062	X	X	X
Arcadia	408-666-4722	X		
Bay Medic	925-489-4852	X		X
Eagle Ambulance	800-304-6985 x 1	X		X
Falcon Ambulance	510-628-6042	X		X
LifeWest Ambulance	707-974-8646	X		X
NorCal Ambulance	886-755-3400	X		X
ProTransport-1	800-650-4003	X		X
Royal Ambulance	510-993-5684	X		X
United Ambulance	650-242-2977	X		X
WestMed Ambulance	949-981-0299	X		X

BLS

Basic Transport with ability to monitor vitals. Unable to take patients with medication drips or provide cardiac monitoring unless supplemented with hospital equipment and staff. If hospital equipment and staff is provided, hospital staff can perform at full scope of care during transport.

CRITICAL CARE PARAMEDIC

Transport with the increased ability to perform cardiac monitoring and utilize IV pump, thoracic drains, and ventilators. Able to monitor and maintain infusions of blood, blood products, glycoprotein inhibitors, heparin, nitroglycerin, norepinephrine, and thrombolytics as well as parenteral nutrition.

RN

Transport with ability to perform all skills listed under critical care paramedic with the ability to monitor additional medications as ordered by the transferring physician.

↓

YES

ETA < 30 mins

NO

Schedule Transport

Contact Dispatch for 9-1-1 Ambulance*

↓

In City of Berkeley, call 510-981-5911.

In any other cities, call ACRECC at 925-447-4257.

Calls will be triaged and prioritized by dispatcher. Transport provider leadership will be notified when appropriate.

All uses of this process will be reviewed and audited.

*** NOTE: Utilization of 9-1-1 resources for interfacility transfer shall only occur as a last resort in situations when failure to do so places patient safety in jeopardy. Use of 9-1-1 resources may require hospital staff and equipment to accompany the patient to maintain care and the hospital will be responsible to facilitate their return to the sending facility.**

Alameda County
Critical Medical Patient
Transfer Checklist

This checklist is to help facilities validate that they have completed all steps to ensure that the transfer of these patients occur in the most efficient and expeditious manner.

****ALL PATIENTS TRANSFERS CONDUCTED UNDER THIS POLICY WILL BE REVIEWED and AUDITED****

TO FACILITATE AN EXPEDITIOUS AND EFFICIENT TRANSFER, PLEASE COMPLETE THE FOLLOWING:

☐ **1. Patient Identified for Transfer**
Patient requires emergent transfer for time sensitive intervention. The patients may include but are not limited to Stroke, STEMI, or emergent surgical cases beyond the scope of the sending facility.

☐ **2. Acceptance at Receiving Facility**
Physician at receiving facility has accepted the patient and is expecting their arrival at the facility.

☐ **3. Bed is Secured at Receiving Facility**
Bed for offload of patient at receiving facility has been identified and is ready to accept patient upon arrival without delay. This patient shall bypass triage.

☐ **4. Patient Ready for Transfer**
Paperwork completed, ongoing treatment prepped, and patient belongings gathered so that patient is ready for immediate transport. ***After arrival, ambulance should be able to leave with the patient in 10 minutes or less.***

☐ **5. Hospital Staff, Medication and Equipment Available for Transport**
If equipment and/or medication are needed to maintain patient care is not within the Alameda County EMS EMT or paramedic scope of practice, the facility shall have staff and equipment immediately ready to transport the patient when the ambulance arrives.

☐ **6. Ensure Plan in Place to Retrieve Staff and Equipment Post-Transport.**
It is the responsibility of the sending facility to arrange the return of their staff and equipment. ***Ambulance providers are not responsible to facilitate their return.***

☐ **7. Permitted Interfacility Transfer (IFT) Provider Contacted for Transport.**
All contact information is listed below and in policy. ***BLS can facilitate all transfers if hospital staff, medications, and equipment is available to accompany patient.***

☐ **8. If ETA by IFT is >30mins, contact 9-1-1 for transport.**
Call will be triaged and prioritized by dispatcher. ***Use of 9-1-1 should be a last resort for critical patients where their health or safety is in imminent danger if not transferred immediately.***

PERMITTED INTERFACILITY AMBULANCE TRANSPORT PROVIDER INFORMATION

Contact Interfacility Ambulance Service to Provide Patient Transport				
Company	Contact #	BLS	CCT-Paramedic	CCT-RN
American Medical Response	530-457-5062	X	X	X
Arcadia	408-666-4722	X		
Bay Medic	925-489-4852	X		X
Eagle Ambulance	800-304-6985 x 1	X		X
Falcon Ambulance	510-628-6042	X		X
LifeWest Ambulance	707-974-8646	X		X
NorCal Ambulance	886-755-3400	X		X
ProTransport-1	800-650-4003	X		X
Royal Ambulance	510-993-5684	X		X
United Ambulance	650-242-2977	X		X
WestMed Ambulance	949-981-0299	X		X

Print All 21 Tabs

Mission: Lifeline Hospital Level Report

Alameda County EMS Initiative - GWTG - CAD: January 2021 - 2021 (Annual)

American Heart Association. Mission:Lifeline

Main Category	Sub Category	Health System 2021
Total Number of Records	Total Number of STEMI Receiving Records	535
	Total Number of NSTEMI Records	86
Patient Demographics	Median Age	65
Gender	% Male	75
	% Female	25
	% Unknown	-
Race	% American Indian or Alaska Native	0
	% Black or African American	16
	% Native Hawaiian or Pacific Islander	3
	% White	42
	% UTD	12
	% Asian	28
	% Hispanic Ethnicity	16
12 Lead ECG	% EMS Arrivals with pre-hospital 12 Lead ECG	61
	% STEMI noted on 1st ECG (all arrival mode)	78
	Median time to 1st ECG (all arrival mode)	6
Arrival Mode	% Walk In	31
	% Ambulance	69
	% Air	-
Transfer Status	% Transfer In	24
	% Transfer Out	10
Median Time from Symptom Onset	Time of S/S Onset to Time of 911 Call (Median Time)	38
	To Arrival (Walk In)	167
	To Arrival (EMS)	68
	Overall Median Time	81
	Median Time from Symptom Onset to PCI (Overall)	164
Arrival to Reperfusion	Median Time from Arrival to Primary PCI	68
	Median Time from Arrival to Primary PCI <= 60 minutes (females only)	68
	Median Time from Arrival to Primary PCI <= 60 Minutes (males only)	68
	% Arrival to Primary PCI <= 60 Minutes (overall)	44
Length of Stay (LOS) in ED (Median Time Minutes)	For Patients Transferred Out-Door In Door Out	447
	For Patients Admitted(by EMS)	41
	For Patients Admitted(By Walk In)	47
	For Patients Admitted(overall)	43
Prehospital Cath Lab Activation prior to EMS arrival	EMS FMC to 1st 12 Lead ECG (Median Time)	7
	1st STEMI Positive Pre-Hospital 12 Lead ECG to Hospital Notification (Median Ti...	6
	% Cath Lab activation prior to patient's arrival	48
	Pre-Hospital Notification to Cath Lab Activation (Median Time)	9
EMS FMC to Reperfusion	Time of 911 Call to PCI (Median Time)	101
	EMS FMC to Primary PCI (Median Time)	86
	Arrival at First Facility to Primary PCI (Transfers, Median Time)	93
Transfer In (To STEMI Receiving Center for Primary PCI)	EMS FMC to Arrival at First Facility to transfer for PCI (EMS) (Transfers, Median T...	-
	Walk in Arrival at First Facility to transfer for PCI (Walk in) (Transfers, Median Ti...	88
	% FMC at or Before Arrival to First Facility to Primary PCI (Overall)	94
	Median LOS in ED (Door In Door Out)	45
	% Arrived to First Facility by EMS	35
	% Arrived to First Facility by Walk In	65
	% Arrival to Primary PCI <= 30 Minutes	41
	% with Door In Door Out <= 30 Minutes	21
Reperfusion ALL Patients (at my facility including transfer in)	% Fibrinolytics	-
	% Primary PCI	78
	% Rescue PCI for STEMI (After failed full dose lytics)	-
	% Rescue PCI for STEMI (stable after successful full dose lytics)	-
	% No Reperfusion	13

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
EMERGENCY MEDICAL SERVICES

2019-2022
STOKE CRITICAL CARE SYSTEM PLAN (Update)

September 2022

(All 2019-2021 Updates in Arial Black Bold Italic Font)

DEFINITIONS AND ACRONYMS

§ 100270.200. Acute Stroke Ready Hospital	"Acute stroke-ready hospitals" or "Satellite stroke centers" means a hospital able to provide the minimum level of critical care services for stroke patients in the emergency department, and are paired with one or more hospitals with a higher level of stroke services. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.
AHS	Acute Hemorrhagic Stroke
AIS	Acute Ischemic Stroke
ALCO	Alameda County
BHDE	Bidirectional Healthcare Data Exchange
§ 100270.201. Board-certified	"Board-certified" means a physician who has fulfilled all the Accreditation Council for Graduate Medical Education (ACGME) requirements in a specialty field of practice, and has been awarded a certification by an American Board of Medical Specialties (ABMS) approved program. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.202. Board-eligible	"Board-eligible" means a physician who has applied to a specialty board examination and has completed the requirements and is approved to take the examination by ABMS. Board certification must

	be obtained within the allowed time by ABMS from the first appointment. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
CPSS	Cincinnati Prehospital Stroke Scale
§ 100270.204. Clinical Stroke Team	"Clinical stroke team" means a team of healthcare professionals who provide care for the stroke patient and may include, but is not limited to, neurologists, neuro interventionalists, neurosurgeons, anesthesiologists, emergency medicine physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.203. Comprehensive Stroke Center	"Comprehensive stroke center" means a hospital with specific abilities to receive, diagnose and treat all stroke cases and provide the highest level of care for stroke patients. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.
CT	Computed Tomography
Dx	Diagnosis
ED	Emergency Department
EMS	Emergency Medical Services
§ 100270.205. Emergency Medical Services Authority (EMSA)	"Emergency Medical Services Authority" or "EMS Authority" means the department in California that is responsible for the coordination and the integration of all state activities concerning emergency medical services (EMS).

	Note: Authority cited: Section 1797.107 Health and Safety Code. Reference: Sections 1797.54, 1797.100, and 1797.103, Health and Safety Code.
§ 100270.206. Local Emergency Medical Services Agency (LEMSA)	"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility for administration of emergency medical services in a county and which is designated pursuant Health and Safety Code section 1797.200. Note: Authority cited: Sections 1797.107, 1797.176, Health and Safety Code. Reference: Sections 1797.94 and 1797.200, Health and Safety Code.
HIPAA	Health Insurance Portability and Accountability Act
HITECH	Health Information Technology for Economic and Clinical Health Act
IA	Intra-arterial
IR	Interventional Radiology
JC	The Joint Commission
MRI	Magnetic Resonance Imaging
§ 100270.207. Primary Stroke Center	"Primary stroke center" means a hospital that treats acute stroke patients, and identifies patients who may benefit from transfer to a higher level of care when clinically warranted. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.
§ 100270.208. Protocol	"Protocol" means a predetermined, written medical care guideline, which may include standing orders.

	Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
PSRC	Primary Stroke Receiving Center designation by Alameda County for patients transported via the 9-1-1 system with suspected possible Stroke who may benefit by rapid assessment and timely treatment with fibrinolytic if warranted.
§ 100270.209. Quality Improvement (QI)	"Quality improvement" or "QI" means methods of evaluation that are composed of a structure, process, and outcome evaluations which focus on improvement efforts to identify causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process and recognize excellence in performance and delivery of care. Note: Authority cited: Sections 1797.107, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.103, 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.
§ 100270.210. Stroke	"Stroke" means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction, most commonly through vascular occlusion or hemorrhage. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
§ 100270.211. Stroke Call Roster	"Stroke call roster" means a schedule of licensed health professionals available twenty- four (24) hours a day, seven (7) days a week for the care of stroke patients. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.220, Health and Safety Code.
§ 100270.212. Stroke Care	"Stroke care" means emergency transport, triage, diagnostic evaluation, acute intervention and other acute care services for stroke patients that potentially require immediate medical or surgical intervention treatment, and may include education, primary prevention, acute intervention, acute and subacute management,

	prevention of complications, secondary stroke prevention, and rehabilitative services. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
100270.213. Stroke Critical Care System	"Stroke critical care system" means a subspecialty care component of the EMS system developed by a local EMS agency. This critical care system links prehospital and hospital care to deliver optimal treatment to the population of stroke patients. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
§ 100270.214. Stroke Medical Director	"Stroke medical director" means a board-certified physician in neurology or neurosurgery or another board with sufficient experience and expertise dealing with cerebrovascular disease as determined by the hospital credentialing committee that is responsible for the stroke service, performance improvement, and patient safety programs related to a stroke critical care system. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
§ 100270.215. Stroke Program Manager	"Stroke program manager" means a registered nurse or qualified individual designated by the hospital with the responsibility for monitoring and evaluating the care of stroke patients and the coordination of performance improvement and patient safety programs for the stroke center in conjunction with the stroke medical director. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
§ 100270.216. Stroke Program	"Stroke program" means an organizational component of the hospital specializing in the care of stroke patients. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.217. Stroke Team	"Stroke team" means the personnel, support personnel, and administrative staff that function together as part of the hospital's stroke program. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
§ 100270.218. Telehealth	"Telehealth" means the mode of delivering health care services and public health via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code. California Business and Professions Code Sec. 2290.5
§ 100270.219. Thrombectomy-Capable Stroke Center	"Thrombectomy-capable stroke center" means a primary stroke center with the ability to perform mechanical thrombectomy for the ischemic stroke patient when clinically warranted. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103, and 1797.176, Health and Safety Code.
TIA	Transient Ischemic Accident
tpA	Tissue Plasminogen Activator

This document is the Stroke Critical Care System plan intended for submission to the EMS Authority for approval and in accordance with California Code of Regulations Title 22. Social Security Division 9. Prehospital Emergency Medical Services Chapter 7.2 Stroke Critical Care System: ARTICLE 2. LOCAL EMS AGENCY STEMI CRITICAL CARE SYSTEM REQUIREMENTS, § 100270.220. Stoke Critical Care System Plan.

NOTE: § 100270.220. Stoke Critical Care System Plan. (a) The local EMS agency may develop and implement a stroke critical care system. (b) The local EMS agency implementing a stroke critical care system shall have a Stroke Critical Care System Plan approved by the EMS Authority prior to implementation. (c) The Stroke Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all of the following components:

(1) The names and titles of the local EMS agency personnel who have a role in a stroke critical care system.

(2) The list of stroke designated facilities with the agreement expiration dates.

(3) A description or a copy of the local EMS agency's stroke patient identification and destination policies.

(4) A description or a copy of the method of field communication to the receiving hospital-specific to stroke patients, designed to expedite time-sensitive treatment on arrival.

(5) A description or a copy of the policy that facilitates the inter-facility transfer of stroke patients.

(6) A description of the method of data collection from the EMS providers and designated stroke hospitals to the local EMS agency and the EMS Authority.

(7) A policy or description of how the Local EMS agency integrates a receiving center in a neighboring jurisdiction.

(8) A description of the integration of stroke into an existing quality improvement committee or a description of any stroke-specific quality improvement committee.

(9) A description of programs to conduct or promote public education specific to stroke.

(d) The EMS Authority shall, within 30 days of receiving a request for approval, notify the requesting local EMS agency in writing of approval or disapproval of its Stroke Critical Care System Plan. If the Stroke Critical Care System Plan is disapproved, the response shall include the reason(s) for the disapproval and any required corrective action items.

(e) The local EMS agency shall provide an amended plan to the EMS Authority within 60 days of receipt of the disapproval letter.

(f) The local EMS agency currently operating a stroke critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a Stroke Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180 days of the effective date of these regulations, whichever comes first.

(g) Any stroke center designated by the local EMS agency before implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, stroke centers shall be re-evaluated to meet the criteria established in these regulations.

(h) No health care facility shall advertise in any manner or otherwise hold itself out to be affiliated with a stroke critical care system or a stroke center unless they have been designated by the local EMS agency, in accordance with this chapter.

Note: Authority cited: Sections 1797.105, 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.105, 1797.173, 1797.176, 1797.220, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

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Exhibit D 2021 Stroke System Performance Summary Data (AHA-GWTG-Stroke)

STROKE SYSTEM OF CARE SUMMARY

Section 1. Introduction / Background / MOU

Alameda County (ALCO) EMS began establishing a countywide Stroke System of Care in 2008 by designating hospitals three as EMS Primary Stroke receiving Centers (PSRC) that were already certified or were in process with The Joint Commission to obtain Primary Stroke Center status. ALCO Paramedics recognizing a possible Stroke patient using the Cincinnati Prehospital Stroke Scale (CPSS) transport to the most geographically desirable / closest facility and or the hospital of patient prior care or medical record if EMS designated. In 2011, three more receiving hospitals achieved JC certification within the county and became PSRC's and by 2013, two more centers had designation. Over the past five, one hospital let their JC certification expire without renewal. Recently, one new designated center currently reflects eight of twelve adult receiving hospitals in Alameda County as being recognized EMS Primary Stroke Receiving Centers.

The first written agreements: Memorandums of Understanding (MOU) executed between ALCO EMS and the eight designated PSRCs' occurred in 2013. Active MOUs are in place with all JC approved Primary Stroke Centers as a designation requirement for a facility to receive EMS suspected Stroke patients.

The initial purpose of developing a Stroke system was to assure preparation, timely response and definitive care for people that present with suspected Stroke in Alameda County. A decade later, the goal and objectives remain unchanged. The rapidly evolving science surrounding Stroke treatment strategies and time of symptom onset has had significant impact regarding inclusion for treatment, as these advancements have extended the window of opportunity for many. The many changes influencing the health care delivery systems in the Unites States over the years have not had a negative impact on the Stroke system within the County. The fact is that the desire of hospitals and geographic needs of the community have supported the increase for more Stroke Receiving Centers over the past ten years. The fundamental components of the Stroke system design remain intact with consistent continuity and continue to improve performance and meet the needs of the residents and visitors to Alameda County.

Section 2. ALCO EMS Design / Administration

Alameda County is approximately 739 square miles of land and 82 of water, located in the center of the San Francisco Bay Area, with a diverse demographic and socioeconomic population of 1.6 million. The EMS system design and configuration consists of a countywide Advanced Life Support (ALS) model for first responders and transport: five First Responder ALS (FRALS) Fire Departments, four ALS Transport

Fire Departments with FRALS, one private ALS transport provider agency and one Basic Life Support (BLS) First responder Fife Department.

Within the county, currently thirteen hospitals exist as emergency receiving centers for ambulance transport: 12 adult and 1 pediatric. Of the twelve adult hospitals, eight are LEMSA designated Primary Stroke Receiving Centers with three being thrombectomy capable.

The EMS Agency is responsible for oversight of the countywide Stroke System of Care including operations, performance, quality improvement, administration, and compliance monitoring of designated PSRC MOUs. ALCO EMS leadership consists of the Director-Lauri McFadden, Deputy Director- William McClurg, Medical Director - Karl Sporer MD and EMS Coordinator (Specialty Systems of Care) – Michael Jacobs, Paramedic.

Section 3. ALCO EMS Designated Primary Stroke Receiving Centers / MOU

ALCO EMS currently has eight designated Primary Stroke Receiving Centers (PSRC), all have JC Certification as Primary Stroke Centers under the existing MOU. ***ALL designated PSRCs are on the same three-year agreement cycle: current term is 1/1/2020-12/31/2022, next agreement cycle will be 1/1/2023-12/31/2025.***

- Alameda Health System Alameda Hospital-(Alameda)
- Alta Bates Summit Medical Center-(Oakland)
- Sutter Eden Medical Center-(Castro Valley)
- Kaiser Permanente-(Fremont)
- Kaiser Permanente-(Oakland)
- Kaiser Permanente-(San Leandro)
- Stanford Health Care Valley Care Medical Center-(Pleasanton)
- Washington Hospital Health System-(Fremont)

Section 4. EMS Stroke Identification and Destination Policy/Protocol

The identification of a suspected Stroke starts in Dispatch: below are both Medical Priority Dispatch CARD 28 for CVA / TIA and ALCO EMS Field Assessment / Treatment Protocol for suspected Stroke.

1. Is s/he **completely alert** (responding appropriately)?
2. Is s/he **breathing normally**?
3. **(No STROKE symptoms mentioned yet)**
   Tell me **why** you think it's a **STROKE**.
   - Sudden **speech** problems
   - Sudden **weakness** or **numbness** (one side)
   - Sudden **paralysis** or **facial droop** (one side)
   - Sudden **loss of balance** or **coordination**
   - Sudden **vision** problems
   - Sudden onset of **severe headache**

*** Start the Stroke Diagnostic now (use the pullout card).** →

4. Exactly **what time** did these symptoms (problem) **start**?
   a. **(Unknown)** When was the **last time** s/he was **seen** to be **normal**?
5. Has s/he ever had a **STROKE** before?

a. I'm sending the **paramedics** (ambulance) to help you now. **Stay on the line** and I'll tell you **exactly** what to do next.

* Provide **hospital staff** with the **Stroke Diagnostic Tool results**, the **symptom onset time**, and the **name and phone number** of any person(s) who **witnessed the onset** of STROKE symptoms.

DLS *** Link to ☎ X-1 unless:**

- **Unconscious** — **NABC-1**
- **INEFFECTIVE BREATHING** and **Not** alert — **NABC-1**
- **Not** alert and **snoring** — **NABC-1**

LEVELS	#	DETERMINANT DESCRIPTORS ✚ SEE ADDITIONAL INFO	CODES	RESPONSES	MODES
C	**1**	**Not** alert	**28-C-1**		
	2	**Abnormal** breathing	**28-C-2**		
	3	Sudden **speech** problems	**28-C-3**		
	4	Sudden **weakness** or **numbness** (one side)	**28-C-4**		
	5	Sudden **paralysis** or **facial droop** (one side)	**28-C-5**		
	6	Sudden **loss of balance** or **coordination**	**28-C-6**		
	7	Sudden **vision** problems	**28-C-7**		
	8	Sudden onset of **severe headache**	**28-C-8**		
	9	**STROKE** history	**28-C-9**		
	10	**TIA** (mini-stroke) history	**28-C-10**		
	11	Breathing **normally ≥ 35**	**28-C-11**		
	12	**Unknown** status/**Other** codes **not** applicable	**28-C-12**		
A	**1**	Breathing **normally < 35**	**28-A-1**		

When the **Stroke Diagnostic Tool is completed**, its recommendation is paired with the time frame of symptom onset, generating 12 combination suffixes.

COMPLETED Stroke Diagnostic Tool

- **C** = **PARTIAL** evidence (**Less** than **"T"** hrs)
- **D** = **PARTIAL** evidence (**Greater** than **"T"** hrs)
- **E** = **PARTIAL** evidence (**Unknown** time frame)
- **F** = **STRONG** evidence (**Less** than **"T"** hrs)
- **H** = **STRONG** evidence (**Greater** than **"T"** hrs)
- **I** = **STRONG** evidence (**Unknown** time frame)
- **J** = **CLEAR** evidence (**Less** than **"T"** hrs)
- **K** = **CLEAR** evidence (**Greater** than **"T"** hrs)
- **M** = **CLEAR** evidence (**Unknown** time frame)
- **X** = **No** test evidence (**Less** than **"T"** hrs)
- **Y** = **No** test evidence (**Greater** than **"T"** hrs)
- **Z** = **No** test evidence (**Unknown** time frame)

NOT COMPLETED or NOT USED Tool

- **L** = **Less** than **"T"** hours (since the symptoms started)
- **G** = **Greater** than **"T"** hours (since the symptoms started)
- **U** = **Unknown** (when the symptoms started)

STROKE

Disruption of blood flow to the brain or part of the brain due to a **blood clot** or **hemorrhage**. Hemorrhage causes increased pressure within the skull and is more likely to cause a decreased level of consciousness (alertness), unconsciousness, or death.

A temporary interruption of blood supply to an area of the brain, sometimes called a "**mini-stroke**." It is usually caused by a small blood clot and results in a **sudden, brief decrease in brain function and STROKE-like symptoms**. These symptoms usually last 1 or 2 hours, but no more than 24 hours.

STROKE Treatment Time Window

The **time of symptom onset** is determined in **Key Questions**. Hospital and/or responder notification of this finding plays an important part in preparing the patient's therapy. The suffix codes for **STROKE** include a **locally defined** treatment time window: **Less** than **"T"** hrs, **Greater** than **"T"** hrs, and **Unknown**.

"T" = Time window set by local Medical Control:

Approval signature of local Medical Control — Date approved

Rules

1. **STROKE must receive an immediate response that is not subject to delay.** Lights-and-siren are **not recommended**; however, there should be a sense of urgency.
2. Because there is **no way in the prehospital environment** to tell whether symptoms are **from a TIA or an acute STROKE**, EMDs should assume that **all STROKE-like symptoms signal an emergency** and need prompt evaluation.

cerebrovascular accident (CVA) and "brain attack" are commonly used terms for **STROKE**.

2. Alert **STROKE** patients should be treated as if they can hear and are aware of their surroundings. If the patient is conscious but not talking, **verbal reassurance may be helpful**.
3. Once a **patient has had a STROKE**, their chance of **having another STROKE increases**.
4. Some **younger people have STROKES** (often fatal) from a ballooned blood vessel called a berry aneurysm that expands and then breaks. This condition is present from birth (congenital). Early symptoms include a sudden, severe headache.
5. The Stroke Diagnostic Tool enables EMDs to **notify stroke centers early** in an effort to **decrease the time from symptom onset to definitive treatment**. The dispatcher's report of Stroke Diagnostic Tool results, symptom onset time, and witnessing persons' contact information **helps hospitals prepare and improves patient outcomes**.

STROKE Symptoms

Select Protocol 28 for the conscious and breathing patient when **the caller initially reports "stroke"** or the **sudden onset** of one or more of the following **symptoms**:

- Sudden **speech** problems
- Sudden **weakness**, **numbness**, or **paralysis** of the face, arm, or leg **on one side** of the body
- Sudden **loss of balance** or **coordination**
- Sudden **trouble seeing** in one or both eyes
- Sudden, **severe headache** with no known cause

While **symptoms** such as trouble speaking, trouble understanding, or confusion may be caused by a **STROKE**, they may also be due to a decreased level of consciousness (priority symptom) caused by many other problems. The **Chief Complaint** should be very **carefully evaluated** at the **"Tell me exactly what happened"** point in Case Entry to determine

PURPOSE: To identify acute stroke patients who may be candidates for thrombolysis and specialized care at a certified stroke center. Information in this policy is based on the Cincinnati Prehospital Stroke Scale (CPSS). The CPSS evaluates using FASTT criteria (Facial droop, Arm drift, Speech abnormalities, Time of onset/Transport)

JC Certified Stroke Centers: The following hospitals have been EMS designated as JC certified stroke centers. If possible, patient should be transported to the patient's regular source of hospitalization and/or healthcare.

Alameda Hospital, Alameda
Eden Medical Center, Castro Valley
Kaiser Hospital, Fremont
Kaiser Hospital, Oakland
Kaiser Hospital. San Leandro
Stanford Valley Care, Pleasanton
Summit Medical Center, Oakland
Washington Hospital, Fremont

Consider transport to one of the following out-of-county centers, if appropriate. Contact the stroke center prior to transport.

. San Ramon Medical Center, San Ramon
. Stanford University Medical Center, Palo Alto
. John Muir Medical Center, Walnut Creek
. Kaiser Hospital, Walnut Creek
. Regional Medical Center, San Jose

Assessment and transport of suspected Acute Stroke patient: Provide routine medical care including pulse oximetry
Obtain blood glucose
Assess the patient using the Cincinnati Prehospital Stroke Scale

Note: Early transport is essential if CPSS is positive

Cincinnati Prehospital Stroke Scale

Sign/Symptom	**How Tested**	**Normal**	**Abnormal**
Facial Droop	Have the patient show their teeth or smile	Both sides of the face move equally	One side of the face does not move as well as the other
Arm Drift	The patient closes their eyes and extends both arms straight out for 10 seconds	Both arms move the same, or both do not move at all.	One arm either does not move, or one arm drifts downward com-pared to the other.
Speech	The patient repeats "The sky is blue in Cincinnati".	The patient says correct words with no slurring of words.	The patient slurs words, says the wrong words, or is unable to speak
Time of Onset	must be within **4** hours, observed by a reliable witness or reported by a reliable patient (for thrombolysis)		
Transport	The patient is considered a <u>possible</u> Acute Stroke patient if <u>any</u> of the tested signs/symptoms are abnormal and		

must be transported to the closest, most appropriate certified stroke center. If possible, patient should be transported to the patient's regular source of hospitalization and/or healthcare.

The patient may be a candidate for thrombolysis if all the following are true: One or more of the CPSS signs/symptoms are present. CPSS signs/symptoms were initially observed within **4 hours** of contact by a reliable witness or reported by a reliable patient.

Please note: Ask when the patient was last seen at normal baseline **and** when the onset of new stroke signs and symptoms appeared. Normal blood glucose level is obtained.

Make sure to either:
transport the witness to the stroke center in the ambulance (PREFERRED); OR,
if driving, tell him/her to leave immediately and meet you at the stroke center; AND,
obtain a contact number where the witness can be reached by the attending physician

Treatment and support guidelines (to be done en route)
Transport patient in supine position. If this position is not tolerated or there is evidence of increasing intracranial pressure/intracranial hemorrhage transport in semi fowlers with no more than 30° head elevation

O2 – titrate to 94-99% SpO2

Establish IV access en route using an 18 gauge (no smaller than 20 gauge) proximal to wrist (AC preferred). No more than 1 AC attempt and no more than 2 IV attempts total. Maintain with a saline lock or IV infusion set TKO

Obtain a 12-Lead EKG en route when a dysrhythmia or ACS symptoms are present (specifically watch for STEMI and/or atrial fibrillation)

Immediately call the designated stroke center via phone and/or radio and notify them that you are transporting a "possible Acute
Stroke patient by the Cincinnati Prehospital Stroke Scale (CPSS), ETA ____ minutes". (Reminder: See "Diversion Criteria" or the information on page v of the field manual regarding CT Diversion)

Document the results of the assessment on the PCR and specifically describe any of the CPSS signs and/or symptoms that were abnormal

July 2020, a memo was disseminated countywide to ALL EMS field providers by the LEMSA, regrading Patients with Suspected COVID-19: ALCO EMS Suspected COVID-19 Interim Guidance (see attached).

Each Primary Stroke Receiving Center has its own policy/procedure in place to manage suspected/confirmed COVID-19 patients.

Section 5. EMS Communication to PSRC

a) Radio ring down from transporting ambulance as soon as possible for early PSRC notification.

b) Designated priority telephone line to be used by prehospital personnel to contact the PSRC regarding patients with suspected Stroke that are being transported to that facility for potential intervention.

Section 6. Stroke Inter-Facility Transfer (IFT) Policy/Protocol

ALCO EMS designated PSRC shall have a plan for emergency transport to a facility with neurovascular intervention and or Neurosurgery availability that describes steps for timely transfer. A Paramedic staffed ALS ambulance using the 911 system for emergent transfers is strongly recommended, even for patients that require interventions that are out of scope of practice for Paramedics. In these cases, a nurse from the transferring center shall accompany the patient, oversee as well as manage the intervention/therapy that is out of Paramedic scope of practice: tpA infusion and or infusion for blood pressure control. A non-911 Critical Care Transport (CCT) ambulance can also be used if appropriate and timely. If 911 EMS ALS ambulance is used, the ALCO EMS Policy shall apply:

Operations: INTERFACILITY TRANSFERS, Modified On: July 24, 2018

Note: This policy pertains to emergency transfers to a higher level of care that come through the9-1-1 system. See “Scheduled Interfacility Transfers Using Paramedic Personnel” (policy #4605 Administration Policy Manual) for more information.

1. All patient care rendered by prehospital care personnel must be within the defined scope of practice according to Title 22 and Alameda County EMS protocols

2. A paramedic may only take orders from a base hospital physician. (See 5.2 below) There are no provisions for an EMT to take orders from a physician

3. EMT-Bs may only transfer a patient without an emergency medical condition; or, with an emergency medical condition that has been stabilized and has no potential (within reasonable probability) to deteriorate en route

4. Paramedics (in addition to 3) may only transport a patient who has not been stabilized to a facility that provides a higher level of care. The transferring physician must determine if the care that may be required during transport is within the scope of practice of a paramedic. If not, appropriate hospital staff and/or equipment should be sent with the patient

5. Base Contact by Paramedics

5.1 Base Contact is required prior to transport if the transferring physician orders any ALS treatment and/or the patient has not been stabilized

5.2 Paramedics may follow transferring physician's written orders ONLY when 1) the transferring physician speaks to the Base Physician, and they mutually agree on the course of treatment; 2) the proposed treatment plan is within the paramedic's scope of practice

5.3 Base Physician contact shall be made:

►►When there is a request to transfer a patient to a higher level of care facility that is not the "closest, most appropriate" higher level of care facility.

5.4 Base Contact is not required if the patient is stable, and no ALS treatment has been ordered by the transferring physician. If the patient's condition changes during transport, see the appropriate patient care policy and treat accordingly

6. Base Contact may be made anytime a paramedic has a question regarding patient condition, destination and/or the appropriateness of the transfer

7. An Alameda County Unusual Occurrence (U.O.) form should be completed for any problem-oriented interfacility transfers. The U.O. form should be sent to the EMS office for review. [See Administration Manual UNUSUAL OCCURRENCES (#2300)]

8. Refer to “Interfacility Transfer Guidelines” [see Administration Manual INTERFACILITY TRANSFER GUIDELINES (# 5600)] for transfer approval process

9. Alameda County Critical Medical Patient Hospital Transfers for Specialty and/or Higher Level of Care: to provide a process to facilitate the emergent transfer of medical patients within a hospital, either in the ER or admitted within the facility, for specialty or higher level of care services requiring time sensitive intervention at another facility within Alameda County. (Exhibit C)

Section 7. EMS/PSRC Data Collection, Analysis and Reporting

(a) ALCO EMS agency implemented a standardized data collection and reporting process for a Stoke critical care system over a decade ago.

(b) The Stroke critical care system includes the collection of both prehospital and hospital patient care data, as determined by ALCO EMS agency and complies with § 100270.228.

(c) The prehospital Stroke patient care elements selected by ALCO EMS are compliant with the most current version of the California EMS Information Systems (CEMSIS) database, and the National EMS Information System (NEMSIS) via ESO Electronic Patient Care Report (ePCR).

(d) The hospital stroke patient care elements shall be consistent with the U.S. Centers for Disease Control and Prevention, Paul Coverdell National Acute Stroke Program Resource Guide, dated October 24, 2016, which is hereby incorporated by reference. All ALCO EMS designated PSRCs’ participate in patient centric clinical performance and outcome data entry using the American Heart Association (AHA) Get With The Guidelines (GWTG) Stroke registry, which ALCO EMS has “Super User” access via Data Use Agreement (DUA).

(e) All hospitals that receive stroke patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.

(f) The prehospital care record and the hospital data elements shall be collected and submitted by the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis.

Note: Authority cited: Sections. 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.204, 1797.220, 1797.222, 1797.227, and 1798.172, Health and Safety Code.

7.1 PSRC shall collect on-going aggregate data (de-identified) for patients below and forward to Alameda County Emergency Medical Services review: annual or on EMS request:

a) Number of EMS “Stroke Alerts”.
b) Number patients with diagnosis of Non-Stroke.
c) Number of patients with diagnosis of AHS.

d) Number of patients with diagnosis of TIA.
e) Number of patients with diagnosis of AIS.
f) Number of AIS patients treated with systemic (IV) TPA or ***TNK***.
g) Percentage of AIS patients treated with TPA or ***TNK*** ≤60 minutes of arrival.
h) Median "Door-to-Drug" time for AIS patients treated with TPA or ***TNK***.
i) Number of AIS patients that received an acute IR Approach.
j) Number of AIS patients treated with systemic (IV) TPA or ***TNK*** and transferred to an IR (thrombectomy) capable facility for further diagnostics and treatment.
k) Number of Non-EMS patients diagnosed in ED with AIS diagnosis (Dx).
l) Number of Non-EMS patients treated with systemic (IV) TPA or ***TNK***.
m) Percentage of Non-EMS patients treated with TPA or ***TNK*** ≤60 minutes of Dx.
n) Median "Door-to-Drug" time for Non-EMS AIS patients treated with TPA or ***TNK***.
o) Number of Non-EMS AIS patients that received an acute IR Approach.
p) Number of Non-EMS AIS patients treated with systemic (IV) TPA or ***TNK*** and transferred to an IR (thrombectomy) capable facility for further diagnostics and treatment.

7.2 Provide data for ALL EMS transported patients (identified) with suspected Stroke. Patient specific Follow-Up data must be accessible to ALCO EMS as soon as possible or within 30 calendar days of previous months end.

7.3 PSRC shall facilitate implementation of future data elements related to Stroke system performance improvement activities.

7.4 PSRC shall allow the use of provided data for IRB approved clinical research without hospital identifiers.

2019-2020 ALCO EMS CVA/TIA Assessed/Transported/Treated at ALCO PSRCs

	2019	***2020***
All CVA/TIA Dx at ALCO PSRC (GWTG):	***2622***	***2473***
EMS transports with CVA/TIA Dx (GWTG):	***1370***	***1315***
EMS transports that received TX (GWTG):	***946***	***952***
EMS Documentation of CVA/TIA (ESO):	***1620 (Q3-4)***	***2803***
EMS CSS Stroke Exam (ESO):	***94%***	***92%***
EMS Blood Glucose (ESO):	***92%***	***87%***

ALCO EMS Performance Median Times

	2019	***2020***
911 call received to Time on-scene:	***8:45***	***8:42***
On-scene to Cincinnati Stroke Scale:	***3:27***	***3:09***
On scene to Time depart scene (transport):	***15:34***	***15:47***
Depart scene to Time arrive at hospital:	***12:10***	***10:56***

911 call received to Time arrival at hospital: 37:44 36:43

2019-2020 ALCO EMS Stroke Critical Care System AHA/GWTG-Target Stroke Reports

Alameda County Emergency Medical Services-2019

Data For: Diagnosis
Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.

Benchmark Group	Time Period	Ischemic stroke	Transient ischemic attack (<24 hours)	Subarachnoid Hemorrhage	Intracerebral Hemorrhage	Stroke not otherwise specified	No stroke related diagnosis	Elective Carotid Intervention only	Blank ("Missing diagnosis")	Total
Alameda County Emergency Medical Services	2019	1778 (67.8%)	345 (13.2%)	90 (3.4%)	350 (13.3%)	28 (1.1%)	8 (0.3%)	11 (0.4%)	12 (0.5%)	2622

Alameda County Emergency Medical Services-2020

Data For: Diagnosis
Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.

Benchmark Group	Time Period	Ischemic stroke	Transient ischemic attack (<24 hours)	Subarachnoid Hemorrhage	Intracerebral Hemorrhage	Stroke not otherwise specified	No stroke related diagnosis	Elective Carotid Intervention only	Blank ("Missing diagnosis")	Total
Alameda County Emergency Medical Services	2020	1708 (69.1%)	331 (13.4%)	76 (3.1%)	294 (11.9%)	13 (0.5%)	7 (0.3%)	44 (1.8%)	0 (0%)	2473

Alameda County Emergency Medical Services-2019

Data For: Distribution of Door-in-Door-Out Times at First Hospital Prior to Transfer for Acute Therapy
Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.

Benchmark Group	Time Period	0-15 minutes	16-30 minutes	31-45 minutes	46-60 minutes	61-75 minutes	76-90 minutes	91-105 minutes	106-120 minutes	> 120 minutes	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Services	2019	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	2 (4.9%)	4 (9.8%)	34 (82.9%)	41	577.9	2227.1	219	71 - 14649

Alameda County Emergency Medical Services-2020

Data For: Distribution of Door-in-Door-Out Times at First Hospital Prior to Transfer for Acute Therapy
Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.

Benchmark Group	Time Period	0-15 minutes	16-30 minutes	31-45 minutes	46-60 minutes	61-75 minutes	76-90 minutes	91-105 minutes	106-120 minutes	> 120 minutes	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Services	2020	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2%)	2 (3.9%)	5 (9.8%)	4 (7.8%)	39 (76.5%)	51	209.3	137.8	175	70 - 887

Alameda County Emergency Medical Services-2019

Data For: Thrombolytic Therapies Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.									
Benchmark Group	Time Period	IV alteplase initiated at this hospital for ED patients	IV alteplase initiated at this hospital for Inpatients	IV alteplase initiated at outside hospital and not initiated at this hospital	IA catheter-based reperfusion at this hospital for ED patients	IA catheter-based reperfusion at this hospital for Inpatients	IA catheter-based reperfusion at outside hospital	Any thrombolytic therapy	Total
Alameda County Emergency Medical Services	2019	279 (15.7%)	10 (0.6%)	54 (3%)	97 (5.5%)	10 (0.6%)	4 (0.2%)	378 (21.3%)	1774

Alameda County Emergency Medical Services-2020

Data For: Thrombolytic Therapies Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.									
Benchmark Group	Time Period	IV alteplase initiated at this hospital for ED patients	IV alteplase initiated at this hospital for Inpatients	IV alteplase initiated at outside hospital and not initiated at this hospital	IA catheter-based reperfusion at this hospital for ED patients	IA catheter-based reperfusion at this hospital for Inpatients	IA catheter-based reperfusion at outside hospital	Any thrombolytic therapy	Total
Alameda County Emergency Medical Services	2020	248 (14.6%)	10 (0.6%)	28 (1.6%)	93 (5.5%)	4 (0.2%)	4 (0.2%)	343 (20.2%)	1702

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 60 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	2019	217	234	92.7%

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 60 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	2020	197	219	90.0%

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 45 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	2019	163	223	73.1%

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 45 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	2020	143	199	71.9%

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 30 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	2019	72	220	32.7%

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 30 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	2020	63	170	37.1%

Alameda County Emergency Medical Services-2019

Data For: Time to Intravenous Thrombolytic Therapy Times
Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.

Benchmark Group	Time Period	0-10 min.	11-20 min.	21-30 min.	31-40 min.	41-50 min.	51-60 min.	61-70 min.	71-80 min.	81-90 min.	91-100 min.	101-110 min.	111-120 min.	121-130 min.	131-140 min.	141-150 min.	>150 min.	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Service	2019	0 (0%)	12 (5.1%)	60 (25.6%)	64 (27.4%)	46 (19.7%)	35 (15%)	5 (2.1%)	7 (3%)	1 (0.4%)	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	1 (0.4%)	1 (0.4%)	234	40.6	19.2	36.5	16 - 178

Alameda County Emergency Medical Services-2020

Data For: Time to Intravenous Thrombolytic Therapy Times
Note: Time periods at the end of the graph and data table have been omitted because there were no patient records during that time.

Benchmark Group	Time Period	0-10 min.	11-20 min.	21-30 min.	31-40 min.	41-50 min.	51-60 min.	61-70 min.	71-80 min.	81-90 min.	91-100 min.	101-110 min.	111-120 min.	121-130 min.	131-140 min.	141-150 min.	>150 min.	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Service	2020	1 (0.5%)	11 (5%)	51 (23.3%)	56 (25.6%)	48 (21.9%)	30 (13.7%)	8 (3.7%)	4 (1.8%)	0 (0%)	2 (0.9%)	2 (0.9%)	0 (0%)	2 (0.9%)	0 (0%)	2 (0.9%)	2 (0.9%)	219	43.3	23.9	39	0 - 190

2021 ALCO EMS CVA/TIA Assessed/Transported/Treated at ALCO PSRCs

	2021
All CVA/TIA Dx at ALCO PSRC (GWTG):	***2607***
EMS transports with CVA/TIA Dx (GWTG):	***1346***
EMS transports that received TX (GWTG):	***952***
EMS Documentation of CVA/TIA (ESO):	***3203***
EMS CSS Stroke Exam (ESO):	***93%***
EMS Blood Glucose (ESO):	***86%***

2021 ALCO EMS Performance Median Times

	2021
911 call received to Time on-scene:	***8:40***
On-scene to Cincinnati Stroke Scale:	***3:12***
On scene to Time depart scene (transport):	***15:45***
Depart scene to Time arrive at hospital:	***11:12***
911 call received to Time arrival at hospital:	***36:52***

2021 ALCO EMS Stroke Critical Care System AHA/GWTG-Target Stroke Report

Alameda County Emergency Medical Services-01/01/2021 - 12/31/2021

Data For: Diagnosis

Benchmark Group	Time Period	Ischemic stroke	Transient ischemic attack (<24 hours)	Subarachnoid Hemorrhage	Intracerebral Hemorrhage	Stroke not otherwise specified	No stroke related diagnosis	Elective Carotid Intervention only	Blank ("Missing diagnosis")	Total
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	1767 (67.8%)	313 (12%)	111 (4.3%)	316 (12.1%)	13 (0.5%)	43 (1.6%)	43 (1.6%)	1 (0%)	2607

Date of report: 05/24/2022 11:24:23 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services-01/01/2021 - 12/31/2021

Data For: Distribution of Door-in-Door-Out Times at First Hospital Prior to Transfer for Acute Therapy

Benchmark Group	Time Period	0-15 minutes	16-30 minutes	31-45 minutes	46-60 minutes	61-75 minutes	76-90 minutes	91-105 minutes	106-120 minutes	> 120 minutes	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Services	01/01/20 - 12/31/20	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1.2%)	2 (2.5%)	5 (6.2%)	7 (8.8%)	65 (81.2%)	80	220.5	121.1	191	74 - 820

Date of report: 05/24/2022 11:24:24 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services-01/01/2021 - 12/31/2021

Data For: Thrombolytic Therapies

Benchmark Group	Time Period	IV alteplase initiated at this hospital for ED patients	IV alteplase initiated at this hospital for Inpatients	IV alteplase initiated at outside hospital and not initiated at this hospital	IA catheter-based reperfusion at this hospital for ED patients	IA catheter-based reperfusion at this hospital for Inpatients	IA catheter-based reperfusion at outside hospital	Any thrombolytic therapy	Total
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	262 (14.9%)	10 (0.6%)	23 (1.3%)	57 (3.2%)	4 (0.2%)	7 (0.4%)	334 (18.9%)	1763

Date of report: 05/24/2022 11:24:24 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 60 min

Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	187	206	90.8%

Date of report: 05/24/2022 11:24:25 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 45 min

Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	155	193	80.3%

Date of report: 05/24/2022 11:24:25 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services

Data For: Time to Intravenous Thrombolytic Therapy - 30 min

Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	66	165	40.0%

Date of report: 05/24/2022 11:24:25 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services-01/01/2021 - 12/31/2021

Data For: Time to Intravenous Thrombolytic Therapy Times

Benchmark Group	Time Period	0-10 min.	11-20 min.	21-30 min.	31-40 min.	41-50 min.	51-60 min.	61-70 min.	71-80 min.	81-90 min.	91-100 min.	101-110 min.	111-120 min.	121-130 min.	131-140 min.	141-150 min.	>150 min.	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Service	01/01/2021 - 12/31/	0 (0%)	12 (5.8%)	54 (26.2%)	60 (29.1%)	41 (19.9%)	20 (9.7%)	7 (3.4%)	4 (1.9%)	2 (1%)	4 (1.9%)	1 (0.5%)	1 (0.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	206	40	17.6	36	14 - 120

Date of report: 05/24/2022 11:24:25 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Alameda County Emergency Medical Services

Data For: IV Thrombolytic Arrive by 3.5 Hour, Treat by 4.5 Hour

Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	238	247	96.4%

Date of report: 05/24/2022 11:24:26 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

911 Call to Drug Tx

2019 = 74 Minutes

2020 = 76 Minutes

2021 = 73 Minutes

All eight ALCO EMS PSRCs currently participate in AHA/GWTG-Stroke Registry for patient and hospital specific performance and outcome data reporting, as well as contribute de-identified performance data for aggregated system level reporting

Section 8. Regional PSRC Integration

ALCO EMS has been involved with a Bay Area Stroke Coordinators group for the past five years. We meet approximately once per year with attendees from both EMS and Stroke Receiving Centers as well as industry (Pharmaceutical and Technology). ALCO EMS includes surrounding county representatives from both EMS and SRCs to Alameda County's Stroke System QI Meetings and as well attends out-0of-county Stroke System meetings.

ALCO EMS supports the transport of suspected stroke patients to out-of-county SRCs' if appropriate:

"Consider transport to one of the following out-of-county centers, if appropriate. Contact the stroke center prior to transport."

San Ramon Medical Center, San Ramon
Stanford University Medical Center, Palo Alto
John Muir Medical Center, Walnut Creek
Kaiser Hospital, Walnut Creek
Regional Medical Center, San Jose

Section 9. Continued Quality Oversight / Improvement Strategies / Compliance

The Stroke quality improvement process was established by Alameda County EMS and includes contractual participation of ALL eight currently designated PSRCs'.

(a) ALCO EMS Stroke critical care system shall have a quality improvement process that complies with § 100270.229. Quality Improvement and Evaluation Process. This QI process includes, at a minimum but not limited to:

(1) Evaluation of program structure, process, and outcome.

(2) Review of stroke-related deaths, major complications, and transfers.

(3) A multidisciplinary Stroke Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated stroke centers and prehospital providers involved in the stroke critical care system.

(5) Evaluation of regional integration of stroke patient movement.

(6) Participation in the stroke data management system.

(7) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected stroke cases.

(b) ALCO EMS agency is responsible for on-going performance evaluation and quality improvement of the Stroke critical care system by continuing the following strategies that satisfy

(1-7) in this section. Criteria for reviews, evaluations and benchmarking are referenced and compared to current evidence-based guidelines and recommendations for recognized standards in Stroke care: the American Heart Association (AHA) / American Stroke Association (ASA) and the Joint Commission (JC).

7.1 PSRC Program staff shall participate in Alameda County EMS PSRC QI Committee meetings, with a minimum requirement of two / year.

7.2 PSRC shall maintain a written internal quality improvement plan for Stroke patients that includes, but is not limited to the determination and evaluation of:

a) Death rate
b) Complications
c) Sentinel events
d) System issues
e) Organizational issues and resolution processes

7.3 PSRC shall support EMS Agency QI activities including educational activities for prehospital personnel.

7.4 PSRC shall provide continuous Oversight for ALL sections as described in MOU.

7.5 PSRC shall advise/up-date EMS immediately regarding any changes to any section as described in MOU.

7.6 PSRC shall participate in an annual review (on request by EMS) regarding modifications of any and compliance with ALL sections as described in MOU.

7.7 PSRC shall comply with ALL sections required by California Code of Regulations Title 22. Social Security Division 9. Prehospital Emergency Medical Services Chapter 7.2 Stroke Critical Care System: ARTICLE 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS.

7.8 PSRC shall comply with ALL sections described and agreed upon in ALCO EMS MOU:

- Scope of services
- Hospital services
- Hospital personnel
- Performance standards
- Hospital policies and procedures
- Data collection and required reports
- Quality improvement
- Compliance

7.9 Failure by PSRC to comply with any section(s) as defined or described in California Code of Regulations Title 22. Social Security Division 9. Prehospital Emergency Medical Services Chapter 7.2 Stroke Critical Care System: ARTICLE 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS or ALCO EMS MOU may result in the loss of EMS

Stroke patients transported to PSRC for potential intervention until compliance issue(s) is resolved.

8.0 ALCO EMS is in process of establishing electronic bi-directional Healthcare Data Exchange (HDE) with all Alameda County receiving hospitals: currently, 4/13 acute care facilities, 1/8 PSRCs connected.

The purpose of this HDE is to enhance continuity of care between Alameda County Emergency Medical Services (EMS) and system receiving hospitals, provide patient outcomes to EMS providers, and optimize billing practices to reduce insurance claim issues that could financially impact the patient through connecting EMS data with receiving facility data. The platform design is on an encounter specific basis to allow timely bi-directional digital sharing of information pertinent to patient demographics, billing, and clinical care.

HDE allows EMS patient care reports (PCR) to be digitally transferred in the hospital data systems and subsequently into the patient's Electronic Medical Record (EMR) in either a PDF format or by populating established fields within the system as soon as they are completed by the EMS provider. In addition, patient demographics and insurance information would be shared bi-directionally to help assure that both the EMS provider and the receiving facility both have accurate information.

Clinically, beyond the transferring of information into the hospital data collection system, patient outcome information such as diagnosis, admission/discharge status and interventions can be automatically shared with the EMS care providers involved with that specific patient encounter so that they can compare against their evaluations, assessments, interventions and treatments in order to enhance their skills as a clinical provider.

Furthermore, the bi-directional sharing of information will allow for more timely and efficient collection and reporting of program specific registry data for both EMS and specialty receiving centers. Additionally, this initiative will enhance system oversight as well as future quality and process improvement strategies.

Section 10. Cardiovascular (CV) Public Education - Awareness / EMS Education

For the past five years, the ALCO EMS Stroke system has worked collaboratively with the Pacific Stroke Association out of San Mateo County in effort to improve public awareness regarding the signs and symptoms of stroke. The strategy used for this community outreach initiative has been using personnel from Fire, EMS, and PSRCs' to hand-out "FAST" cards at selected BART stations in Alameda County. Health Fairs, Churches and Festivals have also been as venues for public dissemination of the

informational cards. ALCO EMS also offers a monthly new provider orientation as a venue for PSRC stroke team staff to provide EMS Stroke education to field personnel.

ALCO EMS INTERIM GUIDANCE FOR SUSPECT/KNOWN COVID-19 PATIENT - revision 2 **7-14-2020**

COVID-19 is a new disease with limited information regarding risk factors for severe disease. Older adults and others of ALL ages who have serious underlying medical conditions might be at higher risk for severe illness:
65 years and older, live in a congregate setting (e.g. skilled nursing facility, homeless encampments), chronic lung disease, asthma, smoking, heart disease/conditions, immunocompromised, obesity, diabetes, kidney disease, liver disease, pregnancy, sickle cell disease.

SYMPTOMS (may appear 2-14 days after exposure to the virus) **fever, cough, fatigue, shortness of breath or difficulty breathing, new loss of taste or smell**, chills, repeated shaking with chills, muscle pain, headache, sore throat, aches and pains, nasal congestion, runny nose, abdominal pain, nausea/vomiting, diarrhea, OR any combination of the above.

UNIVERSAL PRECAUTIONS

- **PPE - PROVIDER** (CDC recommended) Appropriately don face mask (N95 or equivalent) respirator, eye protection (goggles or face shield) gown, gloves, HEPA Filter for use with CPAP, BVM, BV-ET, BV-SGA, ventilator, (head/hair and shoe covers are optional)
- **PPE - PATIENT** Apply surgical mask

OPERATIONS

- Involve least number of EMS personnel required to minimize potential exposures
- Optimize vehicle ventilation to maximize air exchange
- Family members and other contacts of patients should NOT ride in vehicle, if possible. If riding, they should wear a face covering.

ASSESSMENT

- Thorough H & P including SPO2, BP, Pulse, RR, ETCO2, lung sounds, temperature, ECG, 12-Lead if indicated
  - SPO2 may be unusually LOW (< 90%) with minimal distress and may present with LOW ETCO2
- Assess POLST/Advanced Directive status

TREATMENT (All values are guidelines and not substitutes for sound medical judgement.)
***While aerosolizing-generating procedures increase exposure risk, consider these treatments when necessary.**

RESPIRATORY DISTRESS-SOB

- Lung sounds CLEAR
  - SPO2 < 94% - NC up to 6 LPM
  - SPO2 < 90% - NR up to 15 LPM
- Lung sounds – Mild-moderate wheezes with or without crackles
  - Consider Albuterol* 5mg/6ml NS, hand-held, in-line OR
  - Albuterol* MDI with Spacer (patient MDI preferred) if available. (Use with NC, NR, CPAP*)
- Lung sounds – Severe wheezes
  - Consider Albuterol* 5mg/6ml NS
  - Consider Epinephrine 1mg/ml, 0.01mg/kg IM (max dose 0.5mg) for patients with no history of CAD or HTN
- NO improvement with O2 or medication therapies: SPO2 < 90%
  - Consider trial of CPAP*. If ineffective, discontinue CPAP*. **AND/OR**
  - Consider Alternate Positioning
    (*Right or Left Lateral* if tolerated In an **Awake Patient)**
    - ✓ Patient must be able to **self-move** to the Alternate Position
    - ✓ **Discontinue Alternate Positioning if patient's condition deteriorates**

Alternate Positioning

RESPIRATORY DISTRESS-SOB – BP < 90mmHg

- Adult: NS up to 500 ml, Pediatrics: NS up to 10 ml/kg
- Consider Epinephrine 0.01mg/ml, 5 mcg IV/IO push q3 minutes
- Maintain BP > 90 mmHg (suspect sepsis and or cardiogenic shock)

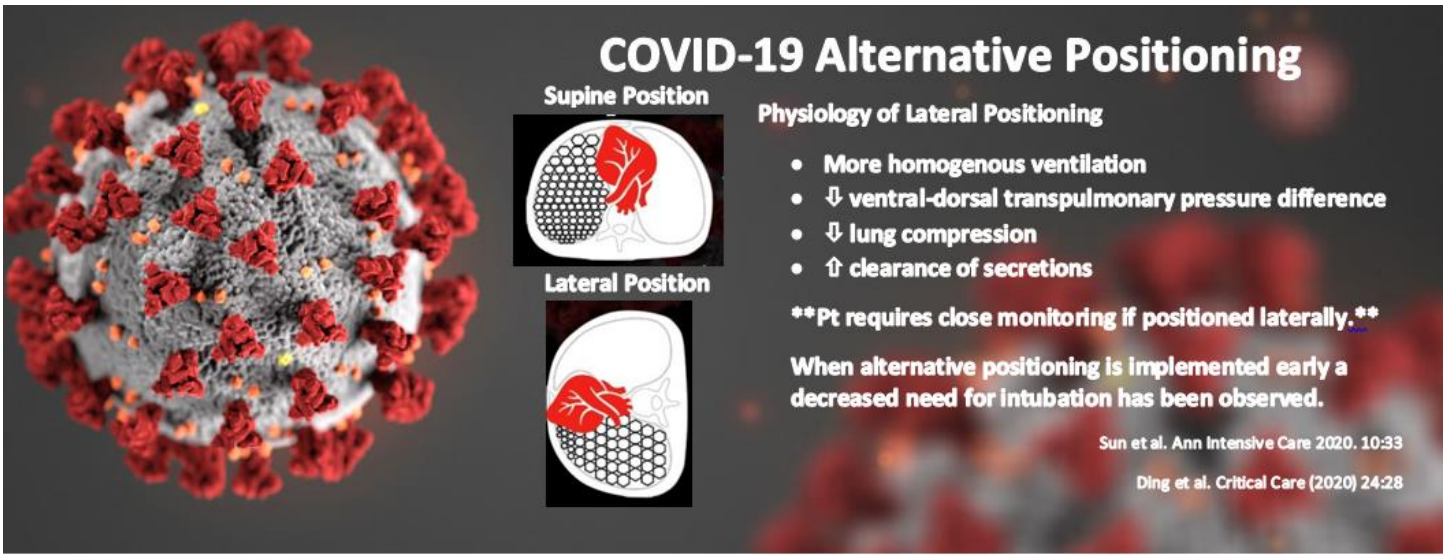
RESPIRATORY FAILURE - LOW SPO2 - ALOC (with increased or lack of breathing effort)

- Proper airway positioning, simple airway adjuncts, suctioning*, BVM* 10 breaths/min.
- Consider advanced airway management* (i-gel preferred)

GI-NAUSEA/VOMITING-DIARRHEA

- Nausea - Zofran 4mg
- Orthostatic, Poor Perfusion, BP < 90 mmHg – NS up to 500ml IV/IO

RECEIVING HOSPITAL	**DECONTAMINATION**
• Notify as **EARLY** as possible to allow for patient care preparations	• Appropriately doff PPE • Clean vehicle and reusable equipment with appropriate disinfectants



EARLY SELF-PRONING IN AWAKE, NON-INTUBATED PATIENTS IN THE EMERGENCY DEPARTMENT: A SINGLE ED'S EXPERIENCE DURING THE COVID-19 PANDEMIC

Nicholas D. Caputo MD, MSc; Reuben J. Strayer MD; Richard Levitan MD
Department of Emergency Medicine, NYC H+H/Lincoln, Bronx NY; Department of Emergency Medicine, Maimonides Medical Center, Brooklyn NY; Department of Emergency Medicine, Littleton Regional Health, Littleton, NH

Abstract

Objective: Prolonged and unaddressed hypoxia can lead to poor patient outcomes. Proning has become a standard treatment in the management of patients with ARDS who have difficulty achieving adequate oxygen saturation. The purpose of this study was to describe the use of early proning of awake, non-intubated patients in the emergency department (ED) during the COVID-19 pandemic.

Methods: This pilot study was carried out in a single urban ED in New York City. We included patients suspected of having COVID19 with hypoxia on arrival. A standard pulse oximeter was used to measure SpO2. SpO2 measurements were recorded at triage and after five minutes of proning. Supplemental oxygenation methods included non-rebreather mask (NRB) and nasal cannula. We also characterized post-proning failure rates of intubation within the first 24 hours of arrival to the ED.

Results: Fifty patients were included. Overall, the median SpO2 at triage was 80% (IQR 69 to 85). After application of supplemental oxygen was given to patients on room air it was 84% (IQR 75 to 90). After 5 minutes of proning was added SpO2 improved to 94% (IQR 90 to 95). Comparison of the pre- to post-median by the Wilcoxon Rank-sum test yielded P=0.001. Thirteen patients (24%) failed to improve or maintain their oxygen saturations and required endotracheal intubation within 24 hours of arrival to the ED

Conclusion: Awake early self-proning in the emergency department demonstrated improved oxygen saturation in our COVID-19 positive patients. Further studies are needed to support causality and determine the effect of proning on disease severity and mortality.

Summary of Changes - Revision 2

- **COVID Risk Factors** – Added smoking, pregnancy, sickle cell disease
- **Symptoms** – Modified **new loss of taste or smell** (increased emphasis in bold)
- **CPAP** – Modified to "Trial of CPAP*. If ineffective, discontinue CPAP*."
- **Limited Fluid Administration** – Added "up to 10ml/kg NS" for pediatric hypotension

Contract No. _____

Emergency Medical Services

Primary Stroke Receiving Center

Agreement

County of Alameda

and

"[Insert Hospital Name]"

Effective Date: January 1, 2020

DEFINITIONS AND ACRONYMS

Acute Stroke Ready Hospital	"Acute stroke-ready hospitals" or "Satellite stroke centers" means a hospital able to provide the minimum level of critical care services for stroke patients in the emergency department, and are paired with one or more hospitals with a higher level of stroke services. 22 CCR § 100270.200. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.
AHS	Acute Hemorrhagic Stroke
AIS	Acute Ischemic Stroke
ALCO	Alameda County
BHDE	Bidirectional Healthcare Data Exchange
Board-certified	"Board-certified" means a physician who has fulfilled all the Accreditation Council for Graduate Medical Education (ACGME) requirements in a specialty field of practice, and has been awarded a certification by an American Board of Medical Specialties (ABMS) approved program. 22 CCR § 100270.201. Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
Board-eligible	"Board-eligible" means a physician who has applied to a specialty board examination and has completed the requirements and is approved to take the examination by ABMS. Board certification must be obtained within the allowed time by ABMS from the first appointment. 22 CCR § 100270.202. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
Clinical Stroke Team	"Clinical stroke team" means a team of healthcare professionals who provide care for the stroke patient and may include, but is not limited to, neurologists, neuro interventionalists, neurosurgeons, anesthesiologists, emergency medicine physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists. 22 CCR § 100270.204. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

Comprehensive Stroke Center	"Comprehensive stroke center" means a hospital with specific abilities to receive, diagnose and treat all stroke cases and provide the highest level of care for stroke patients. 22 CCR § 100270.203. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.
CT	Computed Tomography
Dx	Diagnosis
ED	Emergency Department
EMS	Emergency Medical Services
Emergency Medical Services Authority (EMSA)	"Emergency Medical Services Authority" or "EMS Authority" means the department in California that is responsible for the coordination and the integration of all state activities concerning emergency medical services (EMS). 22 CCR § 100270.205. Note: Authority cited: Section 1797.107 Health and Safety Code. Reference: Sections 1797.54, 1797.100, and 1797.103, Health and Safety Code.
Local Emergency Medical Services Agency (LEMSA)	"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility for administration of emergency medical services in a county and which is designated pursuant Health and Safety Code section 1797.200. 22 CCR § 100270.206. Note: Authority cited: Sections 1797.107, 1797.176, Health and Safety Code. Reference: Sections 1797.94 and 1797.200, Health and Safety Code.
GWTG-Stroke	Get With The Guidelines Stroke is a registry offered by the American Heart Association to capture data regarding Stroke patients
HIPAA	Health Insurance Portability and Accountability Act
HITECH	Health Information Technology for Economic and Clinical Health Act
IA	Intra-arterial
IFT	"Interfacility transfer" means the transfer of a Stroke patient from one acute general care facility to another acute general care facility.

IR	Interventional Radiology
JC	The Joint Commission
MRI	Magnetic Resonance Imaging
Primary Stroke Center	"Primary stroke center" means a hospital that treats acute stroke patients, and identifies patients who may benefit from transfer to a higher level of care when clinically warranted. 22 CCR § 100270.207. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.
Protocol	"Protocol" means a predetermined, written medical care guideline, which may include standing orders. 22 CCR § 100270.208. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
PSRC or **Primary Stroke Receiving Center**	Designation by Alameda County of a hospital as a primary stroke center, thrombectomy-capable stroke center, and/or comprehensive stroke center where patients with suspected possible Stroke who may benefit by rapid assessment and timely treatment with fibrinolytic if warranted are to be are to be transported to via the 9-1-1 system.
Quality Improvement (QI)	"Quality improvement" or "QI" means methods of evaluation that are composed of a structure, process, and outcome evaluations which focus on improvement efforts to identify causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process and recognize excellence in performance and delivery of care. 22 CCR § 100270.209. Note: Authority cited: Sections 1797.107, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.103, 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.
Stroke	"Stroke" means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction, most commonly through vascular occlusion or hemorrhage. 22 CCR § 100270.210. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.
Stroke Call Roster	"Stroke call roster" means a schedule of licensed health professionals available twenty- four (24) hours a day, seven (7) days a week for the care of stroke patients. 22 CCR § 100270.211. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections

	1797.103 and 1797.220, Health and Safety Code.
Stroke Care	**"**Stroke care" means emergency transport, triage, diagnostic evaluation, acute intervention and other acute care services for stroke patients that potentially require immediate medical or surgical intervention treatment, and may include education, primary prevention, acute intervention, acute and subacute management, prevention of complications, secondary stroke prevention, and rehabilitative services. 22 CCR § 100270.212. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
Stroke Critical Care System	**"**Stroke critical care system" means a subspecialty care component of the EMS system developed by a local EMS agency. This critical care system links prehospital and hospital care to deliver optimal treatment to the population of stroke patients. 22 CCR § 100270.213. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
Stroke Medical Director	"Stroke medical director" means a board-certified physician in neurology or neurosurgery or another board with sufficient experience and expertise dealing with cerebrovascular disease as determined by the hospital credentialing committee that is responsible for the stroke service, performance improvement, and patient safety programs related to a stroke critical care system. 22 CCR § 100270.214. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
Stroke Program Manager	"Stroke program manager" means a registered nurse or qualified individual designated by the hospital with the responsibility for monitoring and evaluating the care of stroke patients and the coordination of performance improvement and patient safety programs for the stroke center in conjunction with the stroke medical director**.** 22 CCR § 100270.215. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
Stroke Program	"Stroke program" means an organizational component of the hospital specializing in the care of stroke patients. 22 CCR § 100270.216. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

Stroke Team	"Stroke team" means the personnel, support personnel, and administrative staff that function together as part of the hospital's stroke program. 22 CCR § 100270.217. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.
Telehealth	"Telehealth" means the mode of delivering health care services and public health via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site. 22 CCR § 100270.218. Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code. California Business and Professions Code Sec. 2290.5
Thrombectomy-Capable Stroke Center	"Thrombectomy-capable stroke center" means a primary stroke center with the ability to perform mechanical thrombectomy for the ischemic stroke patient when clinically warranted. 22 CCR § 100270.219. Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103, and 1797.176, Health and Safety Code.
TIA	Transient Ischemic Accident
tpA	Tissue Plasminogen Activator

Section 1 – Introduction

1.1 Alameda County is designated as the Local Emergency Medical Service Agency (LEMSA) as defined in the California Health and Safety Code Division 2.5, Sections 1797.94, 1797.67, 1798, and 1798.170. Responsible for establishing policies and procedures within its jurisdiction. The LEMSA also has primary responsibility for administration of emergency medical services in a county or region, which is designated pursuant Health and Safety Code commencing with section 1797.200.

1.2 This Agreement, dated as of the first day of January 2020, and in accordance with California Code of Regulations Title 22. Social Security; Division 9. Prehospital Emergency Medical Services; Chapter 7.2 Stroke Critical Care System (§ 100270.213.), is by and between the COUNTY OF ALAMEDA, hereinafter referred to as the "COUNTY", and[Insert Hospital Name] hereinafter referred to as the "Contractor".

1.3 Whereas, COUNTY, in consideration of the County's PSRC designation of Contractor as a primary stroke center (22 CCR § 100270.207.) as described in ALCO EMS field assessment, treatment and transport protocol. Contractor shall perform the services identified in this agreement without interruption, 24 hours per day, 7 days per week, 52 weeks per year for the full term of this Contract, as set forth in Exhibit A. Exceptions would include, the lack of technology (equipment) available to perform appropriate diagnostics: catastrophic plant or equipment failure (CT and or MRI) or pre-planned scheduled maintenance.

1.4 Whereas, Contractor is professionally qualified to provide such services and is willing to provide the same to COUNTY.

1.5 Now, therefore it is agreed that COUNTY does hereby designate Contractor to provide Primary Stroke Services, and Contractor accepts such designation as specified in this Agreement, and the following described exhibits, all of which are incorporated into this Agreement by this reference:

Exhibit A – Scope of Services

Exhibit B – Data Elements

Exhibit C – Application

Exhibit D – California Regulations: Stroke Critical Care System

Exhibit E – Paul Coverdell National Acute Stroke Program Resource Guide, dated October 24, 2016: https://emsa.ca.gov/wp-content/uploads/sites/71/2019/02/USCDCP-Paul-Coverdell-Nation-Acute-Stroke-Prog-Resource-Guide-10-24-16.pdf

1.6 The parties hereby execute this single agreement that will constitute formal designation of Contractor as a Primary Stroke Receiving Center within the Alameda County EMS system under Health & Safety Code Sections 1797.67 and 1798.170 et seq.

Section 2 – Term

2.1 The term of this Agreement shall be from January 1, 2020 through December 31, 2023.

2.2 The current designation term expires December 31, 2019 , at which time contractor shall submit a new PSRC application and provide supporting documentation demonstrating compliance with the requirements under 22 CCR§ 100270.225. This Agreement is subject to the review and approval of the application by ALCO EMS. There will be NO interruption of service during the COUNTY EMS review/approval process for existing PSRCs that are in good standing with an expired MOU.

2.3 The term for the PSRC designation will be for up to three-years, with re-designation reviews by LEMSA conducted at least every three years.

2.4 At minimum, Contractor shall maintain JC Certification as a Primary Stroke Center to continue designation as a PSRC, even if thrombectomy capable.

2.5 Current PSRCs that offer IR services for thromectomy shall obtain Thromectomy-Capable Stroke Center status by JC during the term of this Agreement.

2.6 Before PRSC re-designation by the LEMSA at the next regular interval, the Contractor shall be re-evaluated to meet the criteria established in these regulations: Exhibit D, Article 4. (22 CCR § 100270.225.)

2.7 The LEMSA medical director may stipulate additional requirements: Exhibit D, Article 4. (§ 100270.225.–18b)

2.8 LEMSA may suspend or revoke the PSRC designation for lack of compliance with this Agreement or applicable laws and regulations.

Section 3 – Services

3.1 Contractor shall provide hospital, equipment, resources and personnel services as described in Exhibits A and D; data collection and reporting requirements as described in Exhibits A, B, D and E; quality improvement requirements as described in Exhibits A and D. Contractor shall participate in an annual review and adhere to compliance standards as described in Exhibits A and D. For initial EMS approval, Contractor shall complete and submit a PSRC Application as described in Exhibit C. Contractor shall comply with ALL criteria in accordance with ARTICLE 4. § 100270.225. Primary Stroke Center Requirements as described in Exhibit D. Currently designated ALCO EMS PSRCs' that offer IR services for thrombectomy, shall at minimum, comply with ALL criteria in accordance with ARTICLE 4. § 100270.224. Thrombectomy-Capable Stroke Centers.
(ALCO EMS Policies and protocols for the ALCO PSRC program will be reviewed and revised as needed).

Section 4 – Required Reports

4.1 Contractor shall provide data specified in Exhibits B, D, and E for individual EMS transported patients (identified) with suspected Stroke. Contractor shall complete data (b-2) entry into GWTG-Stroke registry regarding all EMS patients no later than 30 calendar days following the prior month's end. This will allow for timely access by ALCO EMS via established GWTG-Stroke "Super User" agreement and must include ALL: EMS transported patients with a diagnosis of stroke (AHS, AIS, TIA).

4.2 Contractor shall submit an annual aggregate performance data report in the format established by the LEMSA in Exhibit B (B-1). Said report shall be submitted on LEMSA request for prior year respectively and present said data at requested ALCO EMS PSRC Meeting.

4.3 Any and all data elements specified in Exhibits B, D and E are subject to modification/change at any time as agreed upon by the LEMSA and Contractor or otherwise mandated by the State.

Section 5 – Signatory

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

COUNTY OF ALAMEDA

By: _____
Signature

Name: _____
(Printed)

Title: _____

Approved as to Form:

By: _____

K. Joon Oh, Deputy County Counsel

CONTRACTOR

_____
Hospital Name

By: _____
Signature

Name: _____
(Printed)

Title: _____

Date: _____

By signing above, signatory warrants and represents that he/she executed this Agreement in his/her authorized capacity and that by his/her signature on this Agreement, he/she or the entity upon behalf of which he/she acted, executed this Agreement.

EXHIBIT A – SCOPE OF SERVICES

1. SCOPE OF SERVICES: Primary Stroke Center
(Exhibit D, Article 1. § 100270.207.)

Contractor shall:

1.1 Meet and maintain minimum requirements as a Primary Stroke Center defined in § 100270.225 and maintain current JC certification as a Primary Stroke Center to be designated by ALCO EMS as a Primary Stroke Receiving Center (PSRC) for EMS transported patients with suspected stroke. This means a licensed general acute care facility that meets the minimum hospital Stroke Care requirements pursuant to and defined in 22 CCR § 100270.212. Patients with suspected "Stroke" means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction, most commonly through vascular occlusion or hemorrhage § 100270.210. In addition, Contractor is able to provide all services, equipment, and personnel including maintenance of adequate staffing levels, equipment, and facilities according to PSRC designation criteria described in Exhibits A and D.

At minimum, be currently certified as a Primary Stroke Center and without interruption provide all services according to Joint Commission (JC) requirements for Disease-Specific Care (DSC) Advanced Certification Program for Primary Stroke Center (PSC), and if applicable, Thrombectomy-Capable Stroke Center (TSC) or Comprehensive Stroke Center (CSC).

1.2 Accept all Alameda County EMS patients triaged as having suspected Stroke, transported to Contractor's facility, and provide appropriate medical management for said patients without regard to race, color, national origin, religious affiliation, age, sex, or ability to pay.

2. HOSPITAL SERVICES: 22 CCR § 100270.225. Primary Stroke Centers
(Exhibit D, Article 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS)

(a) Hospitals designated by the local EMS agency as a primary stroke center shall meet all the following minimum criteria:

(1) Adequate staff, equipment, and training to perform rapid evaluation, triage, and treatment for the stroke patient in the emergency department.

(2) Standardized stroke care protocol/order set.

(3) Stroke diagnosis and treatment capacity twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(5) Continuing education in stroke care provided for staff physicians, staff nurses, staff allied health personnel, and EMS personnel.

(6) Public education on stroke and illness prevention.

(7) A clinical stroke team, available to see in person or via telehealth, a patient identified as a potential acute stroke patient within 15 minutes following the patient's arrival at the hospital's emergency department or within 15 minutes following a diagnosis of a patient's potential acute stroke.

(A) At a minimum, a clinical stroke team shall consist of:

(i) A neurologist, neurosurgeon, interventional neuro-radiologist, or emergency physician who is board certified or board eligible in neurology, neurosurgery, endovascular neurosurgical radiology, or other board-certified physician with sufficient experience and expertise in managing patients with acute cerebral vascular disease as determined by the hospital credentials committee.

(ii) A registered nurse, physician assistant or nurse practitioner capable of caring for acute stroke patients that has been designated by the hospital who may serve as a stroke program manager.

(8) Written policies and procedures for stroke services that shall include written protocols and standardized orders for the emergency care of stroke patients. These policies and procedures shall be reviewed at least every three (3) years, revised as needed, and implemented.

(9) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(10)Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days per year, such that imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(11) CT scanning or equivalent neuro-imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(12) Other imaging shall be available within a clinically appropriate timeframe and shall, at a minimum, include:

(A) MRI.

(B) CTA and / or Magnetic resonance angiography (MRA).

(C) TEE or TTE.

(13) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty- five (45) minutes of emergency department arrival.

(i) For the purpose of this subsection, a qualified radiologist shall be board certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board certified by the American Board of Neurological Surgery.

(14) Laboratory services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that services may be performed within forty-five (45) minutes following emergency department arrival.

(15) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombectomy-capable, comprehensive or other stroke center with neurosurgical services, within two (2) hours following the arrival of acute stroke patients to the primary stroke center.

(16) Acute care rehabilitation services.

(17) Transfer arrangements with one or more higher level of care centers when clinically warranted or for neurosurgical emergencies.

(18) There shall be a stroke medical director of a primary stroke center, who may also serve as a physician member of a stroke team, who is board-certified in neurology or neurosurgery or another board-certified physician with sufficient experience and expertise dealing with cerebral vascular disease as determined by the hospital credentials committee.

(b) Hospitals designated by the local EMS agency as a primary stroke center shall meet additional requirements that may be stipulated by the LEMSA medical director, including the following:

Contractor shall keep in effect the following:

a) Licensure under California Health and Safety Code Section 1250 et seq.

b) Permit for Basic or Comprehensive Emergency Medical Services pursuant to the provisions of Title 22, Division 5, of the California Code of Regulations,

c) Designated priority telephone line to be used by prehospital personnel to contact the PSRC regarding patients with suspected Stroke that are being transported to that facility for potential intervention,

d) Neurovascular intervention and Neurosurgical availability.

i. Neurovascular intervention and or neurosurgery; or,

ii. A plan for emergency transport to a facility with neurovascular intervention and or Neurosurgery availability that describes steps for timely transfer.

3. 22 CCR § 100270.224. Thrombectomy-Capable Stroke Centers

(Exhibit D, Article 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS)

(a) Hospitals designated as a thrombectomy-capable stroke center by the local EMS agency shall meet the following minimum criteria:

(1) Satisfy all the requirements of a primary stroke center as provided in § 100270.225.

(2) The ability to perform mechanical thrombectomy for the treatment of ischemic stroke twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(3) Dedicated neuro-intensive care unit beds to care for acute ischemic stroke patients twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(4) Satisfy all the following staff qualifications:

(A) A qualified physician, board certified by the American Board of Radiology, American osteopathic Board of Radiology, American Board of Psychiatry and Neurology, or the American osteopathic Board of Neurology and Psychiatry, with neuro-interventional angiographic training and skills on staff as deemed by the hospital's credentialing committee.

(B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(C) A qualified vascular neurologist, board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry, or with appropriate education and experience as defined by the hospital credentials committee.

(D) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(5) The ability to perform advanced imaging twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include, but not be limited to, the following:

(A) Computed tomography angiography (CTA).

(B) Diffusion-weighted MRI or CT Perfusion.

(C) Catheter angiography.

(D) Magnetic resonance angiography (MRA).

(E) And the following modalities available when clinically necessary:

(i) Carotid duplex ultrasound.

(ii) Transesophageal echocardiography (TEE).

(iii) Transthoracic Echocardiography (TTE).

(6) A process to collect and review data regarding adverse patient outcomes following mechanical thrombectomy.

(7) Written transfer agreement with at least one comprehensive stroke center.

(b) Hospitals designated as a thrombectomy-capable stroke center by the local EMS agency shall meet additional requirements may be stipulated by the local EMS agency medical director.

4. HOSPITAL PERSONNEL

Contractor shall provide program oversight staff and shall have available all staff necessary to perform optimal care for patients with Stroke, including the following:

4.1 PSRC Program Medical Director: (Exhibit D, 22 CCR § 100270.214.)

4.1.1 Qualifications:

- Board Certified in ether Internal Medicine, Cardiology, or Neurology and have preferred knowledge and expertise in the diagnosis and treatment of cardiovascular disease and stroke.

4.1.2 Responsibilities:

- Oversight of PSRC program patient care,
- Coordination of staff and services,
- Authority and accountability for quality and performance improvement,
- Participation in protocol development,
- Establishes and monitors quality control, including Mortality and Morbidity, and,
- Participation in County PSRC QI Committee.

4.2 PSRC Program Manager: (Exhibit D, 22 CCR § 100270.215.)

4.2.1 Qualifications:

- Experience with monitoring and evaluating the care of stroke patients and/or the coordination of performance improvement and patient safety programs (ED, ICU, CCU).

4.2.2 Responsibilities:

- Supports PSRC Medical Director Functions
- Acts as EMS-PSRC Program Liaison
- Assures EMS-PSRC data sharing
- Manages EMS-PSRC QI activities
- Authority and accountability for quality oversight and performance improvement.

4.3 Physician–Consultants - Hospital shall maintain a daily on-call schedule for: Neurologist(s) (on-site or remote); Radiologist(s) (on-site or remote); and

Interventional Neurologist(s), Neurosurgeon(s) if these services are provided by Hospital.

4.4 Stroke Team / Additional personnel: (**Exhibit D, 22 CCR § 100270.217.)**

a) Emergency department (ED)

b) Interventional radiology (IR)

c) Neurosurgery

d) Nursing

e) Computed tomography (CT)

f) Laboratory

g) Pharmacy

h) Rehabilitation

i) Inpatient units

5. PERFORMANCE STANDARDS

Contractor shall follow current science/evidence based recommendations regarding the assessment and treatment of acute ischemic stroke as well as acute hemorrhagic (American Heart Association /American Stroke Association); and strive to meet the following recommended timelines in caring for patients who present to hospital with identified acute ischemic stroke and meet inclusion criteria for treatment:

5.1 Systemic Fibrinolytic within 4.5 hours of symptom onset if administered.

5.2 Systemic Fibrinolytic within 60 minutes of ED arrival if administered.

5.3 Timely IFT to a thrombectomy-capable center if necessary.

6. HOSPITAL POLICIES AND PROCEDURES

Contractor shall:

6.1 Develop and implement policies and procedures designed to ensure that patients presenting to hospital with possible Stroke receive appropriate care in a timely manner. Such internal policies shall include Program Management (DSPR), Delivering or Facilitating Clinical Care (DSDF), Supporting Self-Management (DSSE), Clinical Information Management (DSCT), and Performance Measurement (DSPM) as defined and specified by The Joint Commission requirements for Disease-Specific Care (DSC) Advanced Certification Program for Primary Stroke Center Certification Manual (Current standards for PSRC JC Certification cycle).

7. DATA MANAGEMENT AND REPORTING: (Exhibit D, 22 CCR § 100270.228.)

Data Requirements

(a) The local EMS agency shall implement a standardized data collection and reporting process for stroke critical care systems.

(b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.

(c) The prehospital stroke patient care elements shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database and the National EMS Information System (NEMSIS) database.

(d) The hospital stroke patient care elements shall be consistent with the U.S. Centers for Disease Control and Prevention, Paul Coverdell National Acute Stroke Program Resource Guide, dated October 24, 2016, which is hereby incorporated by reference (Exhibit-E).

(e) All hospitals that receive stroke patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.

(f) The prehospital care record and the hospital data elements shall be collected and submitted by the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis.

Contractor in addition shall provide:

7.1 As further specified in Exhibit B, Contractor shall collect on-going aggregate data (de-identified) for patients below and forward to ALCO EMS review: annual or on ALCO EMS request:

a) Number of EMS "Stroke Alerts".
b) Number of above patients (a) with diagnosis of Non-Stroke.
c) Number of above patients (a) with diagnosis of AHS.
d) Number of above patients (a) with diagnosis of TIA.
e) Number of above patients (a) with diagnosis of AIS.
f) Number of above AIS patients (e) treated with systemic (IV) TPA.
g) % of above AIS patients (f) treated with TPA ≤60 minutes of arrival.
h) Median "Door-to-Drug" time of above AIS patients (f) treated with TPA.
i) Number of AIS patients (e) that received an acute IR Approach.
j) Number of AIS patients (f) treated with systemic (IV) TPA and transferred to an IR capable facility for further diagnostics and treatment.
k) Number of Non-EMS patients diagnosed in ED with AIS diagnosis (Dx).
l) Number of above Non-EMS patients (k) treated with systemic (IV) TPA.
m) % of above Non-EMS patients (l) treated with TPA ≤60 minutes of Dx.
n) Median "Door-to-Drug" time of above AIS patients (l) treated with TPA.
o) Number of AIS patients (k) that received an acute IR Approach.
p) Number of AIS patients (l) treated with systemic (IV) TPA and transferred to an IR capable facility for further diagnostics and treatment.

7.2 Provide data for ALL EMS transported patients (identified) with suspected possible Stroke. Patient specific Follow-Up data must be accessible to ALCO EMS via GWTG Super-User account as soon as possible or within 30 calendar days of previous months end or date of request received.

7.3 At minimum, participate by providing data to a National Stroke Registry using American Heart Association Get with the Guidelines Stroke (GWTG) database and be willing to participate in other data sharing strategies that may include but are not limited to the California Stroke Registry and or the Coverdell National Acute Stroke Registry on request by County (ALCO EMS). Facilitate implementation of future data elements related to Stroke system performance and quality improvement.

7.4 Contractor shall allow the use of provided data for IRB approved clinical research without hospital identifiers.

7.5 The data further specified in Exhibits B and D shall be provided to the EMS Agency in the timeline and manner defined, until a real time Bidirectional Healthcare Data Exchange (BHDE) network is established between County EMS and the PSRC Contractor.

7.6 At some point in time (to be determined at the discretion of EMS) during the term of this MOU, the contractor will establish a Bidirectional Healthcare Data Exchange (BHDE) network with County EMS.

7.7 The cost to establish the BHDE network between County EMS and the Contractor shall be fairly shared by apportionment as agreed upon by both parties.

7.8 The BHDE network established between County EMS and the Contractor must be interoperable with other data systems, including the functionality to exchange electronic patient health information in real-time with other entities in an HL7 format.

7.9 The minimum requirements and capability of the BHDE network established between County EMS and the Contractor shall include but are not limited to:

7.10 Search a patient's health record for problems, medications, allergies, and end of life decisions to enhance clinical decision-making;

7.10.1 Alert the receiving hospital regarding the patient's status directly onto a dashboard in the emergency department to provide decision support;

7.10.2 File the EMS Patient Care Report data directly into the patient's electronic health record for timely and longitudinal patient care documentation;

7.10.3 Reconcile the electronic health record information including diagnoses and disposition back into the EMS patient care report for use in ensuring timely provider feedback and enhanced quality improvement strategies for the County EMS system.

7.10.4 Any access to, or exchange of, individually identifiable health information or protected health information shall comply with the requirements of HIPAA and HITECH.

8. QUALITY IMPROVEMENT AND EVALUATION PROCESS: (Exhibit D, 22 C 100270.229.)

(a) Each stroke critical care system shall have a quality improvement process that shall include a minimum:

(1) Evaluation of program structure, process, and outcome.

(2) Review of stroke-related deaths, major complications, and transfers.

(3) A multidisciplinary Stroke Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated stroke centers and prehospital providers involved in the stroke critical care system.

(5) Evaluation of regional integration of stroke patient movement.

(6) Participation in the stroke data management system.

(7) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected stroke cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the stroke critical care system.

Contractor shall provide the following:

8.1 PSRC Program staff shall participate in Alameda County EMS PSRC QI Committee meetings, with a minimum requirement of two / year. Each PSRC shall provide at minimum, multi-disciplinary representation including one decision-making representative from Emergency Medicine and Neurology at every meeting attended.

8.2 PSRC shall maintain a written internal quality improvement plan for Stroke patients that includes, but is not limited to the determination and evaluation of:

a) Death rate
b) Complications
c) Sentinel events
d) System issues
e) Organizational issues and resolution processes

8.3 PSRC shall support EMS Agency QI activities including educational activities for prehospital personnel.

9. COMPLIANCE

9.1 Contractor shall provide continuous Oversight for compliance with ALL sections in Exhibit A.

9.2 Contractor shall advise ACLO EMS immediately regarding any changes that would result in non-compliance with any section in Exhibit A.

9.3 Contractor shall participate in an annual review (on request by ALCO EMS) regarding modifications of any and compliance with ALL sections as described in Exhibit A and D.

9.4 Failure by Contractor to comply with any section(s) as described in this Agreement, including in Exhibits A or B, may result in the loss of EMS Stroke patients transported to Contractor's hospital for potential intervention until compliance issue(s) is resolved.

10. PREHOSPITAL STROKE CRITICAL CARE SYSTEM REQUIREMENTS

(Exhibit D, Article 3. § 100270.222. EMS Personnel and Early Recognition)

(a) The local EMS agency shall establish prehospital care protocols related to the early recognition, assessment, treatment, and transport of stroke patients for prehospital emergency medical care personnel as determined by the local EMS agency.

(b) The local EMS agency shall require the use of a validated prehospital stroke- screening algorithm for early recognition and assessment.

(c) The local EMS agency's protocols for the use of online medical direction shall be used to determine the most appropriate stroke center to transport a patient in cases of confusing or complex findings.

(d) The prehospital treatment policies for stroke-specific basic life support (BLS), advanced life support (ALS), and limited advanced life support (LALS) shall be developed according to the scope of practice and€cal accreditation.

(e) Notification of prehospital findings of suspected stroke patients shall be communicated in advance of the arrival to the stroke centers according to the local EMS agency's Stroke Critical Care System Plan.

County shall also keep in effect the following:

10.1 Make electronic prehospital patient care records available to Contractor via computer for all Stroke patients taken by 911 ambulance to Contractor's facilities.

10.2 Maintain the confidentiality of all patient information and data (includes de-identified data) provided by Contractor and use such information solely for the local EMS Agency's internal quality improvement, peer review and oversight functions as mandated/authorized by law or regulation. County also agrees to not identify Contractor by name in any aggregate report of the data or release any reports or data showing individual hospital performance unless agreed to by Contractor or required by law or regulation. Notwithstanding anything in this Agreement to the contrary, the parties acknowledge and agree that Contractor shall not be required to disclose any patient information or other data to the COUNTY to the extent not otherwise permitted or required by applicable laws or regulations.

10.3 Provide to Contractor and/or the PSRC Quality Improvement Committee prehospital system data, including patient destination data, related to Stroke care.

10.4 Meet and consult with Contractor prior to the adoption of any policy or procedure that concerns the administration of the Stroke Critical Care System, Stroke public education efforts or the triage, transport and treatment of Stroke patients.

10.5 In order to improve quality of care, direct 911 ambulance transport providers to inform hospital of identification of patients determined to have suspected Stroke prior to the patient's arrival at hospital.

10.6 Transport suspected Stroke patients to Contractor in accordance with County EMS field assessment, treatment and transport protocols. .

EXHIBIT B – DATA ELEMENTS

As defined in Section 6 of Exhibit A and as further specified in this Exhibit B, Contractor shall provide the specified data elements required by the State of California and in the reporting formats established by the Alameda County EMS Agency.

B-1

Contractor shall collect continuous aggregate (de-identified) performance measures using data elements below, submitted on ALCO EMS request and presented to Alameda County Emergency Medical Services on an annual basis at ALCO PSRC meeting. (Ex. A, Sec. 7.1)

Alameda County EMS PSRC Annual Performance Data

1. **Number of EMS "Stroke Alerts".**
   1a. Number of above patients (1) with diagnosis of Non-Stroke.
   1b. Number of above patients (1) with diagnosis of AHS.
   1c. Number of above patients (1) with diagnosis of TIA.
   1d. Number of above patients (1) with diagnosis of AIS.

2. **Number of above AIS patients (1d) treated with systemic (IV) TPA.**
   2a. % of above AIS patients (2) treated with TPA ≤60 minutes of arrival.
   2b. Median "Door-to-Drug" time of above AIS patients (2) treated with TPA.
   2c. Number of AIS patients (1d) that received an acute IR Approach.
   2d. Number of AIS patients (2) treated with systemic (IV) TPA and transferred to an IR capable facility for further diagnostics and treatment.

3. **Number of Non-EMS patients diagnosed in ED with AIS diagnosis (Dx).**
   3a. Number of above Non-EMS patients (3) treated with systemic (IV) TPA.
   3b. % of above Non-EMS patients (3a) treated with TPA ≤60 minutes of Dx.
   3c. Median "Door-to-Drug" time of above AIS patients (3a) treated with TPA.
   3d. Number of AIS patients (3) that received an acute IR Approach.
   3e. Number of AIS patients (3a) treated with systemic (IV) TPA and transferred to an IR capable facility for further diagnostics and treatment

B-2

Contractor shall provide PSRC performance and clinical outcome data for individual EMS patients transported with suspected Stroke via GWTG-Stroke Registry and allow "Super User" access by ALCO EMS through a signed Data Use Agreement. Patient specific follow-up data shall include but not be limited to data elements below and shall be accessible to ALCO EMS as soon as possible or within

30 calendar days following the prior month's end or on receipt of request by ALCO EMS.

EMS Patient Inclusion Criteria (Stroke Alert follow-up)

All patients who:

Have **one or more** positive finding(s): signs/symptoms are present when assessed with the Cincinnati Prehospital Stroke Scale (CPSS), has a normal blood glucose level when obtained and CPSS signs/symptoms were initially observed within **4 hours** of contact by a valid historian. **Please note**: ask when the patient was last seen at normal baseline **and** when the onset of new stroke signs and symptoms appeared, and interpreted by EMS as suspected Stroke and transported to a PSRC for potential intervention**. (Data collection tool B2: GWTG-Stroke)**

Data collection tool B2 captured in GWTG-Stroke:

EMS STROKE ALERT /IFT FOLLOW-UP

- **Was the patient a "Stroke Alert" by EMS?**
- **Stroke confirmed at hospital: if yes, (ischemic, hemorrhagic or TIA)**
- **Was patient transported by EMS to your PSRC, NOT "Stroke Alerted" and diagnosed with Stroke?**
- **Did EMS record "TIME patient last known normal or at base-line"?**
- **Was a Systemic (IV) fibrinolytic (tpA) administered at PSRC?**
- **If yes, was the systemic (IV) fibrinolytic (tpA) administered within 4.5 hours of symptom onset?**
- **Was the (IV) systemic fibrinolytic (tpA) administered within 60 minutes of EMS ED arrival?**
- **If a systemic fibrinolytic (tpA) was NOT administered (reason)?**
- **Did the patient receive an Acute IR approach (if PSRC capable)?**
- **Was the patient transferred from your PSRC to another hospital for further IR diagnostics and or treatment?**
- **Diagnoses ?**

Contract No. _____

EXHIBIT C – PSRC APPLICATION

Alameda County EMS Primary Stroke Receiving Center (PSRC) Designation

(To complete this form electronically tab through the fields and then save it.)

Objective: To assess the interest and capabilities of Alameda County hospitals for designation as an Alameda County EMS Primary Stroke Receiving Center ("PSRC").

Definition: A PSRC is a hospital that receives suspected stroke patients pre-screened by Alameda County EMS and is certified as a Primary Stroke Center, Thrombectomy-Capable Stroke Center, or Comprehensive Stroke Center by the Joint Commission.

In the future, ALCO EMS may further designate PSRCs to include "enhanced" capabilities for the treatment of stroke patients. These interventions include but are not restricted to Invasive Radiologic Approaches: intra-arterial fibrinolytics, mechanical thrombectomy or other invasive surgical procedures.

Facility Name: Phone ext

Address:

street city zip

Name of the person completing the form: Title:

email: Phone: ext:

Is your facility currently certified as a primary stroke center (PSC), Thrombectomy-Capable Stroke Center (TSC), or Comprehensive Stroke Center (CSC) by Joint Commission (JC)? ☐ Yes ☐ No

If yes, what level of JC certification? ☐ PSC ☐ TSC ☐ CSC

If **yes**, what is the date of certification expiration? ____/____/_____

If **no**, are you in the process of applying? ☐ Yes ☐ No

(Note: Joint Commission certification visit on *"ENTER DATE"*, Evidence of Standards Compliance submission pending).

If **yes**, when do you anticipate certification? ____/____/_____

If **no**, please keep EMS informed if you change your mind in the future. You do not need to complete the remainder of this form – thank you.

If your facility is currently JC Certified as a PSC or in process, please fill out below:

Name of stroke center Medical Director?

email: Phone: ext:

Contract No. _____

Name of stroke center Nurse Coordinator?	
email:	Phone: ext:
Name of stroke center Administrative Liaison?	
email:	Phone: ext:
Name of Liaison for data collection, analysis, and reporting?	Phone: ext:
email:	Phone: ext:
What is the dedicated phone number for EMS stroke patient notification?	Phone: ext:
Does your facility participate in the American Heart Association (AHA) Get With The Guidelines (GWTG) Stroke registry?	☐ Yes ☐ No
If your facility participates in any additional stroke registries, please list:	

If your facility is certified by Joint Commission as a Primary Stroke Center and you wish to be designated as a PSRC by ACLO EMS, or your facility is renewing its status with ALCO EMS, please complete this form and, save it and email as an attachment, or print and mail or fax to:

Karl Sporer, MD or, **Michael Jacobs, Paramedic**

1000 San Leandro Blvd. San Leandro, CA 94577

Karl.sporer@acgov.org or, michael.jacobs@acgov.org

(510) 618.2050 fax: (510) 618-2099

We will contact you to schedule a site visit. Thank you for your interest and support!

EXHIBIT D – CALIFORNIA STATE STROKE REGULATIONS

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System

ARTICLE 1. DEFINITIONS

§ 100270.200. Acute Stroke Ready Hospital

"Acute stroke-ready hospitals" or "Satellite stroke centers" means a hospital able to provide the minimum level of critical care services for stroke patients in the emergency department, and are paired with one or more hospitals with a higher level of stroke services.
Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

§ 100270.201. Board-certified

"Board-certified" means a physician who has fulfilled all the Accreditation Council for Graduate Medical Education (ACGME) requirements in a specialty field of practice, and has been awarded a certification by an American Board of Medical Specialties (ABMS) approved program.
Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.202. Board-eligible

"Board-eligible" means a physician who has applied to a specialty board examination and has completed the requirements and is approved to take the examination by ABMS. Board certification must be obtained within the allowed time by ABMS from the first appointment.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.203. Comprehensive Stroke Center

"Comprehensive stroke center" means a hospital with specific abilities to receive, diagnose and treat all stroke cases and provide the highest level of care for stroke patients.
Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

§ 100270.204. Clinical Stroke Team

"Clinical stroke team" means a team of healthcare professionals who provide care for the stroke patient and may include, but is not limited to, neurologists, neuro- interventionalists, neurosurgeons, anesthesiologists, emergency medicine physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.205. Emergency Medical Services Authority
"Emergency Medical Services Authority" or "EMS Authority" means the department in California that is responsible for the coordination and the integration of all state activities concerning emergency medical services (EMS).
Note: Authority cited: Section 1797.107 Health and Safety Code. Reference: Sections 1797.54, 1797.100, and 1797.103, Health and Safety Code.

§ 100270.206. Local Emergency Medical Services Agency
"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility for administration of emergency medical services in a county and which is designated pursuant Health and Safety Code section 1797.200.
Note: Authority cited: Sections 1797.107, 1797.176, Health and
Safety Code. Reference: Sections 1797.94 and 1797.200, Health and Safety Code.

§ 100270.207. Primary Stroke Center
"Primary stroke center" means a hospital that treats acute stroke patients, and identifies patients who may benefit from transfer to a higher level of care when clinically warranted.
Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

§ 100270.208. Protocol
"Protocol" means a predetermined, written medical care guideline, which may include standing orders.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.209. Quality Improvement
"Quality improvement" or "QI" means methods of evaluation that are composed of a structure, process, and outcome evaluations which focus on improvement efforts to identify causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process and recognize excellence in performance and delivery of care.
Note: Authority cited: Sections 1797.107, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.103, 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.

§ 100270.210. Stroke
"Stroke" means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction, most commonly through vascular occlusion or hemorrhage.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.211. Stroke Call Roster
"Stroke call roster" means a schedule of licensed health professionals available twenty- four (24) hours a day, seven (7) days a week for the care of stroke patients.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.220, Health and Safety Code.

§ 100270.212. Stroke Care
"Stroke care" means emergency transport, triage, diagnostic evaluation, acute intervention and other acute care services for stroke patients that potentially require immediate medical or surgical intervention treatment, and may include education, primary prevention, acute intervention, acute and subacute management, prevention of complications, secondary stroke prevention, and rehabilitative services.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.213. Stroke Critical Care System
"Stroke critical care system" means a subspecialty care component of the EMS system developed by a local EMS agency. This critical care system links prehospital and hospital care to deliver optimal treatment to the population of stroke patients.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.214. Stroke Medical Director
"Stroke medical director" means a board-certified physician in neurology or neurosurgery or another board with sufficient experience and expertise dealing with cerebrovascular disease as determined by the hospital credentialing committee that is responsible for the stroke service, performance improvement, and patient safety programs related to a stroke critical care system.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.215. Stroke Program Manager
"Stroke program manager" means a registered nurse or qualified individual designated by the hospital with the responsibility for monitoring and evaluating the care of stroke patients and the coordination of performance improvement and patient safety programs for the stroke center in conjunction with the stroke medical director**.**
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.216. Stroke Program
"Stroke program" means an organizational component of the hospital specializing in the care of stroke patients.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.217. Stroke Team
"Stroke team" means the personnel, support personnel, and administrative staff that function together as part of the hospital's stroke program.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.218. Telehealth
"Telehealth" means the mode of delivering health care services and public health via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site.
Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code. California Business and Professions Code Sec. 2290.5

§ 100270.219. Thrombectomy-Capable Stroke Center
"Thrombectomy-capable stroke center" means a primary stroke center with the ability to perform mechanical thrombectomy for the ischemic stroke patient when clinically warranted.
Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103, and 1797.176, Health and Safety Code.

ARTICLE 2. LOCAL EMS AGENCY STROKE CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.220. Stroke Critical Care System Plan

(a) The local EMS agency may develop and implement a stroke critical care system.

(b) The local EMS agency implementing a stroke critical care system shall have a Stroke Critical Care System Plan approved by the EMS Authority prior to implementation.

(c) The Stroke Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all of the following components:

(1) The names and titles of the local EMS agency personnel who have a role in a stroke critical care system.

(2) The list of stroke designated facilities with the agreement expiration dates.

(3) A description or a copy of the local EMS agency's stroke patient identification and destination policies.

(4) A description or a copy of the method of field communication to the receiving hospital-specific to stroke patients, designed to expedite time-sensitive treatment on arrival.

(5) A description or a copy of the policy that facilitates the inter-facility transfer of stroke patients.

(6) A description of the method of data collection from the EMS providers and designated stroke hospitals to the local EMS agency and the EMS Authority.

(7) A policy or description of how the Local EMS agency integrates a receiving center in a neighboring jurisdiction.

(8) A description of the integration of stroke into an existing quality improvement committee or a description of any stroke-specific quality improvement committee.

(9) A description of programs to conduct or promote public education specific to stroke.

(d) The EMS Authority shall, within 30 days of receiving a request for approval, notify the requesting local EMS agency in writing of approval or disapproval of its

Stroke Critical Care System Plan. If the Stroke Critical Care System Plan is disapproved, the response shall include the reason(s) for the disapproval and any required corrective action items.

(e) The local EMS agency shall provide an amended plan to the EMS Authority within 60 days of receipt of the disapproval letter.

(f) The local EMS agency currently operating a stroke critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a Stroke Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180 days of the effective date of these regulations, whichever comes first.

(g) Any stroke center designated by the local EMS agency before implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, stroke centers shall be re-evaluated to meet the criteria established in these regulations.

(h) No health care facility shall advertise in any manner or otherwise hold itself out to be affiliated with a stroke critical care system or a stroke center unless they have been designated by the local EMS agency, in accordance with this chapter.

Note: Authority cited: Sections 1797.105, 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.105, 1797.173, 1797.176, 1797.220, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

§ 100270.221. Stroke Critical Care System Plan Updates

(a) The local EMS agency shall submit an annual update of its Stroke Critical Care System Plan, as part of its annual EMS plan submittal, which shall include, at a minimum, all the following:

(1) Any changes in a stroke critical care system since submission of the prior annual plan update or the Stroke Critical Care System Plan addendum.

(2) The status of the Stroke Critical Care System Plan goals and objectives.

(3) Stroke critical care system performance improvement activities.

(4) The progress on addressing action items and recommendations provided by the EMS Authority within the Stroke Critical Care System Plan or status report approval letter, if applicable.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

ARTICLE 3. PREHOSPITAL STROKE CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.222. EMS Personnel and Early Recognition

(a) The local EMS agency shall establish prehospital care protocols related to the early recognition, assessment, treatment, and transport of stroke patients for prehospital emergency medical care personnel as determined by the local EMS agency.

(b) The local EMS agency shall require the use of a validated prehospital stroke- screening algorithm for early recognition and assessment.

(c) The local EMS agency's protocols for the use of online medical direction shall be used to determine the most appropriate stroke center to transport a patient in cases of confusing or complex findings.

(d) The prehospital treatment policies for stroke-specific basic life support (BLS), advanced life support (ALS), and limited advanced life support (LALS) shall be developed according to the scope of practice and local accreditation.

(e) Notification of prehospital findings of suspected stroke patients shall be communicated in advance of the arrival to the stroke centers according to the local EMS agency's Stroke Critical Care System Plan.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.92, 1797.103, 1797.176, 1797.189, 1797.206, 1797.214, 1797.220, 1798.150, and 1798.170, Health and Safety Code.

ARTICLE 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS

§ 100270.223. Comprehensive Stroke Care Centers

(a) Hospitals designated as a comprehensive stroke center by the local EMS agency shall meet the following minimum criteria:

(1) Satisfy all the requirements of a thrombectomy-capable and primary stroke center as provided in this chapter.

(2) Neuro-endovascular diagnostic and therapeutic procedures available twenty-four (24) hours a day, seven (7) days a week.

(3) Advanced imaging, available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include but not be limited to:

(A) All imaging requirements for thrombectomy-capable centers.

(B) Diffusion-weighted magnetic resonance imaging (MRI) and computed tomography (CT) perfusion imaging.

(4) Transcranial Doppler (TCD) shall be available in a timeframe that is clinically appropriate.

(5) Intensive care unit (ICU) beds with licensed independent practitioners with the expertise and experience to provide neuro-critical care twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five days (365) days per year.

(6) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(7) A stroke patient research program.

(8) Satisfy all the following staff qualifications:

(A) A neurosurgical team capable of assessing and treating complex stroke and stroke- like syndromes.

(B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(C) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(D) Written call schedule for attending neurointerventionalist, neurologist, neurosurgeon providing availability twenty-four (24) hours a day seven (7) days a week.

(9) Provide comprehensive rehabilitation services either on-site or by written transfer agreement with another health care facility licensed to provide such services.

(10)Written transfer agreements with primary stroke centers in the region to accept the transfer of patients with complex strokes when clinically warranted.

(11) A comprehensive stroke center shall at a minimum, provide guidance and continuing stroke-specific medical education to hospitals designated as a primary stroke center with which they have transfer agreements.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety

Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

§ 100270.224. Thrombectomy-Capable Stroke Centers

(a) Hospitals designated as a thrombectomy-capable stroke center by the local EMS agency shall meet the following minimum criteria:

(1) Satisfy all the requirements of a primary stroke center as provided in this chapter.

(2) The ability to perform mechanical thrombectomy for the treatment of ischemic stroke twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(3) Dedicated neuro-intensive care unit beds to care for acute ischemic stroke patients twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(4) Satisfy all the following staff qualifications:

(A) A qualified physician, board certified by the American Board of Radiology, American osteopathic Board of Radiology, American Board of Psychiatry and Neurology, or the American osteopathic Board of Neurology and Psychiatry, with neuro-interventional angiographic training and skills on staff as deemed by the hospital's credentialing committee.

(B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(C) A qualified vascular neurologist, board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry, or with appropriate education and experience as defined by the hospital credentials committee.

(D) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(5) The ability to perform advanced imaging twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include, but not be limited to, the following:

(A) Computed tomography angiography (CTA).

(B) Diffusion-weighted MRI or CT Perfusion.

(C) Catheter angiography.

(D) Magnetic resonance angiography (MRA).

(E) And the following modalities available when clinically necessary:

(i) Carotid duplex ultrasound.

(ii) Transesophageal echocardiography (TEE).

(iii) Transthoracic Echocardiography (TTE).

(6) A process to collect and review data regarding adverse patient outcomes following mechanical thrombectomy.

(7) Written transfer agreement with at least one comprehensive stroke center.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

§ 100270.225. Primary Stroke Centers

(a) Hospitals designated by the local EMS agency as a primary stroke center shall meet all the following minimum criteria:

(1) Adequate staff, equipment, and training to perform rapid evaluation, triage, and treatment for the stroke patient in the emergency department.

(2) Standardized stroke care protocol/order set.

(3) Stroke diagnosis and treatment capacity twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(5) Continuing education in stroke care provided for staff physicians, staff nurses, staff allied health personnel, and EMS personnel.

(6) Public education on stroke and illness prevention.

(7) A clinical stroke team, available to see in person or via telehealth, a patient identified as a potential acute stroke patient within 15 minutes following the patient's arrival at the hospital's emergency department or within 15 minutes following a diagnosis of a patient's potential acute stroke.

(A) At a minimum, a clinical stroke team shall consist of:

(i) A neurologist, neurosurgeon, interventional neuro-radiologist, or emergency physician who is board certified or board eligible in neurology, neurosurgery, endovascular neurosurgical radiology, or other board-certified physician with sufficient experience and expertise in managing patients with acute cerebral vascular disease as determined by the hospital credentials committee.

(ii) A registered nurse, physician assistant or nurse practitioner capable of caring for acute stroke patients that has been designated by the hospital who may serve as a stroke program manager.

(8) Written policies and procedures for stroke services which shall include written protocols and standardized orders for the emergency care of stroke patients. These policies and procedures shall be reviewed at least every three (3) years, revised as needed, and implemented.

(9) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(10)Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days per year, such that imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(11) CT scanning or equivalent neuro-imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(12) Other imaging shall be available within a clinically appropriate timeframe and shall, at a minimum, include:

(A) MRI.

(B) CTA and / or Magnetic resonance angiography (MRA).

(C) TEE or TTE.

(13) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification

requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty- five (45) minutes of emergency department arrival.

(i) For the purpose of this subsection, a qualified radiologist shall be board certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board certified by the American Board of Neurological Surgery.

(14) Laboratory services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that services may be performed within forty-five (45) minutes following emergency department arrival.

(15) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombectomy-capable, comprehensive or other stroke center with neurosurgical services, within two (2) hours following the arrival of acute stroke patients to the primary stroke center.

(16) Acute care rehabilitation services.

(17) Transfer arrangements with one or more higher level of care centers when clinically warranted or for neurosurgical emergencies.

(18) There shall be a stroke medical director of a primary stroke center, who may also serve as a physician member of a stroke team, who is board-certified in neurology or neurosurgery or another board-certified physician with sufficient experience and expertise dealing with cerebral vascular disease as determined by the hospital credentials committee.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Sections 1797.102, 1797.103, 1797.104, 1797.176, and 1797.204, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

§ 100270.226. Acute Stroke Ready Hospitals

(a) Hospitals designated by the local EMS agency as an acute stroke ready hospital shall meet all the following minimum criteria:

(1) A clinical stroke team available to see, in person or via telehealth, a patient identified as a potential acute stroke patient within twenty (20) minutes following the patient's arrival at the hospital's emergency department.

(2) Written policies and procedures for emergency department stroke services that are reviewed, revised as needed, and implemented at least every three (3) years.

(3) Emergency department policies and procedures shall include written protocols and standardized orders for the emergency care of stroke patients.

(4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(5) Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that imaging shall be performed and reviewed by a physician within forty-five (45) minutes following emergency department arrival.

(6) Neuro-imaging services shall, at a minimum, include CT or MRI, or both.

(7) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty-five (45) minutes of emergency department arrival.

(i) For the purpose of this subsection, a qualified radiologist shall be board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board-

certified by the American Board of Neurological Surgery.

(8) Laboratory services shall, at a minimum, include blood testing, electrocardiography and x-ray services, and be available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, and able to be completed and reviewed by physician within sixty (60) minutes following emergency department arrival.

(9) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombecotomy-capable, primary or comprehensive stroke center, within three (3) hours following the arrival of acute stroke patients to an acute stroke-ready hospital.

(10) Provide IV thrombolytic treatment and have transfer arrangements with one or more thrombectomy-capable, primary or comprehensive stroke center(s) that facilitate the transfer of patients with strokes to the stroke center(s) for care when clinically warranted.

(11) There shall be a medical director of an acute stroke-ready hospital, who may also serve as a member of a stroke team, who is a physician or advanced practice nurse who maintains at least four (4) hours per year of educational time in cerebrovascular disease;

(12) Clinical stroke team for an acute stroke-ready hospital at a minimum shall consist of a nurse and a physician with training and expertise in acute stroke care.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

§ 100270.227. EMS Receiving Hospitals (Non-designated for Stroke Critical Care Services)

(a) An EMS receiving hospital that is not designated for stroke critical care services shall do the following, at a minimum and in cooperation with stroke receiving centers and the local EMS agency in their jurisdictions:

(1) Participate in the local EMS agency’s quality improvement system, including data submission as determined by the local EMS agency medical director.

(2) Participate in the inter-facility transfer agreements to ensure access to a stroke critical care system for a potential stroke patient.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.88, 1797.103, 1797.176, 1797.220, 1798.100, 1798.150, 1798.170, and 1798.172, Health and Safety Code.

ARTICLE 5. DATA MANAGEMENT, QUALITY IMPROVEMENT AND EVALUATION

§ 100270.228. Data Management Requirements

(a) The local EMS agency shall implement a standardized data collection and reporting process for stroke critical care systems.

(b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.

(c) The prehospital stroke patient care elements shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database and the National EMS Information System (NEMSIS) database.

(d) The hospital stroke patient care elements shall be consistent with the U.S. Centers for Disease Control and Prevention, Paul Coverdell National Acute Stroke Program Resource Guide, dated October 24, 2016, which is hereby incorporated by reference.

(e) All hospitals that receive stroke patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.

(f) The prehospital care record and the hospital data elements shall be collected and submitted by the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis.

Note: Authority cited: Sections. 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.204, 1797.220, 1797.222, 1797.227, and 1798.172, Health and Safety Code.

§ 100270.229. Quality Improvement and Evaluation Process

(a) Each stroke critical care system shall have a quality improvement process that shall include, at a minimum:

(1) Evaluation of program structure, process, and outcome.

(2) Review of stroke-related deaths, major complications, and transfers.

(3) A multidisciplinary Stroke Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated stroke centers and prehospital providers involved in the stroke critical care system.

(5) Evaluation of regional integration of stroke patient movement.

(6) Participation in the stroke data management system.

(7) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected stroke cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the stroke critical care system.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.104, 1797.176, 1797.204, 1797.220,1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

California Code of Regulations
Title 22. Social Security
Division 9. Prehospital Emergency Medical Services
Chapter 7.2 Stroke Critical Care System

ARTICLE 1. DEFINITIONS

§ 100270.200. Acute Stroke Ready Hospital

"Acute stroke-ready hospitals" or "Satellite stroke centers" means a hospital able to provide the minimum level of critical care services for stroke patients in the emergency department, and are paired with one or more hospitals with a higher level of stroke services.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

§ 100270.201. Board-certified

"Board-certified" means a physician who has fulfilled all the Accreditation Council for Graduate Medical Education (ACGME) requirements in a specialty field of practice, and has been awarded a certification by an American Board of Medical Specialties (ABMS) approved program.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.202. Board-eligible

"Board-eligible" means a physician who has applied to a specialty board examination and has completed the requirements and is approved to take the examination by ABMS. Board certification must be obtained within the allowed time by ABMS from the first appointment.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.203. Comprehensive Stroke Center

"Comprehensive stroke center" means a hospital with specific abilities to receive, diagnose and treat all stroke cases and provide the highest level of care for stroke patients.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

§ 100270.204. Clinical Stroke Team

"Clinical stroke team" means a team of healthcare professionals who provide care for the stroke patient and may include, but is not limited to, neurologists, neuro-

interventionalists, neurosurgeons, anesthesiologists, emergency medicine physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.205. Emergency Medical Services Authority
"Emergency Medical Services Authority" or "EMS Authority" means the department in California that is responsible for the coordination and the integration of all state activities concerning emergency medical services (EMS).

Note: Authority cited: Section 1797.107 Health and Safety Code. Reference: Sections 1797.54, 1797.100, and 1797.103, Health and Safety Code.

§ 100270.206. Local Emergency Medical Services Agency
"Local emergency medical services agency" or "local EMS agency" means the agency, department, or office having primary responsibility for administration of emergency medical services in a county and which is designated pursuant Health and Safety Code section 1797.200.

Note: Authority cited: Sections 1797.107, 1797.176, Health and
Safety Code. Reference: Sections 1797.94 and 1797.200, Health and Safety Code.

§ 100270.207. Primary Stroke Center
"Primary stroke center" means a hospital that treats acute stroke patients, and identifies patients who may benefit from transfer to a higher level of care when clinically warranted.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

§ 100270.208. Protocol
"Protocol" means a predetermined, written medical care guideline, which may include standing orders.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.209. Quality Improvement
"Quality improvement" or "QI" means methods of evaluation that are composed of a structure, process, and outcome evaluations which focus on improvement efforts to identify causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process and recognize excellence in performance and delivery of care.

Note: Authority cited: Sections 1797.107, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.103, 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.

§ 100270.210. Stroke
"Stroke" means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction, most commonly through vascular occlusion or hemorrhage.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

§ 100270.211. Stroke Call Roster
"Stroke call roster" means a schedule of licensed health professionals available twenty-four (24) hours a day, seven (7) days a week for the care of stroke patients.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.220, Health and Safety Code.

§ 100270.212. Stroke Care
"Stroke care" means emergency transport, triage, diagnostic evaluation, acute intervention and other acute care services for stroke patients that potentially require immediate medical or surgical intervention treatment, and may include education, primary prevention, acute intervention, acute and subacute management, prevention of complications, secondary stroke prevention, and rehabilitative services.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

100270.213. Stroke Critical Care System
"Stroke critical care system" means a subspecialty care component of the EMS system developed by a local EMS agency. This critical care system links prehospital and hospital care to deliver optimal treatment to the population of stroke patients.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.214. Stroke Medical Director
"Stroke medical director" means a board-certified physician in neurology or neurosurgery or another board with sufficient experience and expertise dealing with cerebrovascular disease as determined by the hospital credentialing committee that is responsible for the stroke service, performance improvement, and patient safety programs related to a stroke critical care system.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety

Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.215. Stroke Program Manager
"Stroke program manager" means a registered nurse or qualified individual designated by the hospital with the responsibility for monitoring and evaluating the care of stroke patients and the coordination of performance improvement and patient safety programs for the stroke center in conjunction with the stroke medical director**.**

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.216. Stroke Program
"Stroke program" means an organizational component of the hospital specializing in the care of stroke patients.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.217. Stroke Team
"Stroke team" means the personnel, support personnel, and administrative staff that function together as part of the hospital's stroke program.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

§ 100270.218. Telehealth
"Telehealth" means the mode of delivering health care services and public health via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code. California Business and Professions Code Sec. 2290.5

§ 100270.219. Thrombectomy-Capable Stroke Center
"Thrombectomy-capable stroke center" means a primary stroke center with the ability to perform mechanical thrombectomy for the ischemic stroke patient when clinically warranted.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and

Safety Code. Reference: Sections 1797.94, 1797.103, and 1797.176, Health and Safety Code.

ARTICLE 2. LOCAL EMS AGENCY STROKE CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.220. Stroke Critical Care System Plan

(a) The local EMS agency may develop and implement a stroke critical care system.

(b) The local EMS agency implementing a stroke critical care system shall have a Stroke Critical Care System Plan approved by the EMS Authority prior to implementation.

(c) The Stroke Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all of the following components:

(1) The names and titles of the local EMS agency personnel who have a role in a stroke critical care system.

(2) The list of stroke designated facilities with the agreement expiration dates.

(3) A description or a copy of the local EMS agency's stroke patient identification and destination policies.

(4) A description or a copy of the method of field communication to the receiving hospital-specific to stroke patients, designed to expedite time-sensitive treatment on arrival.

(5) A description or a copy of the policy that facilitates the inter-facility transfer of stroke patients.

(6) A description of the method of data collection from the EMS providers and designated stroke hospitals to the local EMS agency and the EMS Authority.

(7) A policy or description of how the Local EMS agency integrates a receiving center in a neighboring jurisdiction.

(8) A description of the integration of stroke into an existing quality improvement committee or a description of any stroke-specific quality improvement committee.

(9) A description of programs to conduct or promote public education specific to stroke.

(d) The EMS Authority shall, within 30 days of receiving a request for approval, notify the requesting local EMS agency in writing of approval or disapproval of its

Stroke Critical Care System Plan. If the Stroke Critical Care System Plan is disapproved, the response shall include the reason(s) for the disapproval and any required corrective action items.

(e) The local EMS agency shall provide an amended plan to the EMS Authority within 60 days of receipt of the disapproval letter.

(f) The local EMS agency currently operating a stroke critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a Stroke Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180 days of the effective date of these regulations, whichever comes first.

(g) Any stroke center designated by the local EMS agency before implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, stroke centers shall be re-evaluated to meet the criteria established in these regulations.

(h) No health care facility shall advertise in any manner or otherwise hold itself out to be affiliated with a stroke critical care system or a stroke center unless they have been designated by the local EMS agency, in accordance with this chapter.

Note: Authority cited: Sections 1797.105, 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.105, 1797.173, 1797.176, 1797.220, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

§ 100270.221. Stroke Critical Care System Plan Updates

(a) The local EMS agency shall submit an annual update of its Stroke Critical Care System Plan, as part of its annual EMS plan submittal, which shall include, at a minimum, all the following:

(1) Any changes in a stroke critical care system since submission of the prior annual plan update or the Stroke Critical Care System Plan addendum.

(2) The status of the Stroke Critical Care System Plan goals and objectives.

(3) Stroke critical care system performance improvement activities.

(4) The progress on addressing action items and recommendations provided by the EMS Authority within the Stroke Critical Care System Plan or status report approval letter, if applicable.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

ARTICLE 3. PREHOSPITAL STROKE CRITICAL CARE SYSTEM REQUIREMENTS

§ 100270.222. EMS Personnel and Early Recognition

(a) The local EMS agency shall establish prehospital care protocols related to the early recognition, assessment, treatment, and transport of stroke patients for prehospital emergency medical care personnel as determined by the local EMS agency.

(b) The local EMS agency shall require the use of a validated prehospital stroke-screening algorithm for early recognition and assessment.

(c) The local EMS agency's protocols for the use of online medical direction shall be used to determine the most appropriate stroke center to transport a patient in cases of confusing or complex findings.

(d) The prehospital treatment policies for stroke-specific basic life support (BLS), advanced life support (ALS), and limited advanced life support (LALS) shall be developed according to the scope of practice and local accreditation.

(e) Notification of prehospital findings of suspected stroke patients shall be communicated in advance of the arrival to the stroke centers according to the local EMS agency's Stroke Critical Care System Plan.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.92, 1797.103, 1797.176, 1797.189, 1797.206, 1797.214, 1797.220, 1798.150, and 1798.170, Health and Safety Code.

ARTICLE 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS

§ 100270.223. Comprehensive Stroke Care Centers

(a) Hospitals designated as a comprehensive stroke center by the local EMS agency shall meet the following minimum criteria:

(1) Satisfy all the requirements of a thrombectomy-capable and primary stroke center as provided in this chapter.

(2) Neuro-endovascular diagnostic and therapeutic procedures available twenty-four (24) hours a day, seven (7) days a week.

(3) Advanced imaging, available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include but not be limited to:

(A) All imaging requirements for thrombectomy-capable centers.

(B) Diffusion-weighted magnetic resonance imaging (MRI) and computed tomography (CT) perfusion imaging.

(4) Transcranial Doppler (TCD) shall be available in a timeframe that is clinically appropriate.

(5) Intensive care unit (ICU) beds with licensed independent practitioners with the expertise and experience to provide neuro-critical care twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five days (365) days per year.

(6) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(7) A stroke patient research program.

(8) Satisfy all the following staff qualifications:

(A) A neurosurgical team capable of assessing and treating complex stroke and stroke- like syndromes.

(B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(C) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(D) Written call schedule for attending neurointerventionalist, neurologist, neurosurgeon providing availability twenty-four (24) hours a day seven (7) days a week.

(9) Provide comprehensive rehabilitation services either on-site or by written transfer agreement with another health care facility licensed to provide such services.

(10) Written transfer agreements with primary stroke centers in the region to accept the transfer of patients with complex strokes when clinically warranted.

(11) A comprehensive stroke center shall at a minimum, provide guidance and continuing stroke-specific medical education to hospitals designated as a primary stroke center with which they have transfer agreements.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety

Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

§ 100270.224. Thrombectomy-Capable Stroke Centers

(a) Hospitals designated as a thrombectomy-capable stroke center by the local EMS agency shall meet the following minimum criteria:

(1) Satisfy all the requirements of a primary stroke center as provided in this chapter.

(2) The ability to perform mechanical thrombectomy for the treatment of ischemic stroke twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(3) Dedicated neuro-intensive care unit beds to care for acute ischemic stroke patients twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(4) Satisfy all the following staff qualifications:

(A) A qualified physician, board certified by the American Board of Radiology, American osteopathic Board of Radiology, American Board of Psychiatry and Neurology, or the American osteopathic Board of Neurology and Psychiatry, with neuro-interventional angiographic training and skills on staff as deemed by the hospital's credentialing committee.

(B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(C) A qualified vascular neurologist, board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry, or with appropriate education and experience as defined by the hospital credentials committee.

(D) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(5) The ability to perform advanced imaging twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include, but not be limited to, the following:

(A) Computed tomography angiography (CTA).

(B) Diffusion-weighted MRI or CT Perfusion.

(C) Catheter angiography.

(D) Magnetic resonance angiography (MRA).

(E) And the following modalities available when clinically necessary:

(i) Carotid duplex ultrasound.

(ii) Transesophageal echocardiography (TEE).

(iii) Transthoracic Echocardiography (TTE).

(6) A process to collect and review data regarding adverse patient outcomes following mechanical thrombectomy.

(7) Written transfer agreement with at least one comprehensive stroke center.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

§ 100270.225. Primary Stroke Centers

(a) Hospitals designated by the local EMS agency as a primary stroke center shall meet all the following minimum criteria:

(1) Adequate staff, equipment, and training to perform rapid evaluation, triage, and treatment for the stroke patient in the emergency department.

(2) Standardized stroke care protocol/order set.

(3) Stroke diagnosis and treatment capacity twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.

(4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(5) Continuing education in stroke care provided for staff physicians, staff nurses, staff allied health personnel, and EMS personnel.

(6) Public education on stroke and illness prevention.

(7) A clinical stroke team, available to see in person or via telehealth, a patient identified as a potential acute stroke patient within 15 minutes following the patient's arrival at the hospital's emergency department or within 15 minutes following a diagnosis of a patient's potential acute stroke.

(A) At a minimum, a clinical stroke team shall consist of:

(i) A neurologist, neurosurgeon, interventional neuro-radiologist, or emergency physician who is board certified or board eligible in neurology, neurosurgery, endovascular neurosurgical radiology, or other board-certified physician with sufficient experience and expertise in managing patients with acute cerebral vascular disease as determined by the hospital credentials committee.

(ii) A registered nurse, physician assistant or nurse practitioner capable of caring for acute stroke patients that has been designated by the hospital who may serve as a stroke program manager.

(8) Written policies and procedures for stroke services which shall include written protocols and standardized orders for the emergency care of stroke patients. These policies and procedures shall be reviewed at least every three (3) years, revised as needed, and implemented.

(9) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(10) Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days per year, such that imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(11) CT scanning or equivalent neuro-imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(12) Other imaging shall be available within a clinically appropriate timeframe and shall, at a minimum, include:

(A) MRI.

(B) CTA and / or Magnetic resonance angiography (MRA).

(C) TEE or TTE.

(13) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification

requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty-five (45) minutes of emergency department arrival.

(i) For the purpose of this subsection, a qualified radiologist shall be board certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board certified by the American Board of Neurological Surgery.

(14) Laboratory services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that services may be performed within forty-five (45) minutes following emergency department arrival.

(15) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombectomy-capable, comprehensive or other stroke center with neurosurgical services, within two (2) hours following the arrival of acute stroke patients to the primary stroke center.

(16) Acute care rehabilitation services.

(17) Transfer arrangements with one or more higher level of care centers when clinically warranted or for neurosurgical emergencies.

(18) There shall be a stroke medical director of a primary stroke center, who may also serve as a physician member of a stroke team, who is board-certified in neurology or neurosurgery or another board-certified physician with sufficient experience and expertise dealing with cerebral vascular disease as determined by the hospital credentials committee.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Sections 1797.102, 1797.103, 1797.104, 1797.176, and 1797.204, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

§ 100270.226. Acute Stroke Ready Hospitals

(a) Hospitals designated by the local EMS agency as an acute stroke ready hospital shall meet all the following minimum criteria:

(1) A clinical stroke team available to see, in person or via telehealth, a patient identified as a potential acute stroke patient within twenty (20) minutes following the patient's arrival at the hospital's emergency department.

(2) Written policies and procedures for emergency department stroke services that are reviewed, revised as needed, and implemented at least every three (3) years.

(3) Emergency department policies and procedures shall include written protocols and standardized orders for the emergency care of stroke patients.

(4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(5) Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that imaging shall be performed and reviewed by a physician within forty-five (45) minutes following emergency department arrival.

(6) Neuro-imaging services shall, at a minimum, include CT or MRI, or both.

(7) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty-five (45) minutes of emergency department arrival.

(i) For the purpose of this subsection, a qualified radiologist shall be board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board-

certified by the American Board of Neurological Surgery.

(8) Laboratory services shall, at a minimum, include blood testing, electrocardiography and x-ray services, and be available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, and able to be completed and reviewed by physician within sixty (60) minutes following emergency department arrival.

(9) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombecotomy-capable, primary or comprehensive stroke center, within three (3) hours following the arrival of acute stroke patients to an acute stroke-ready hospital.

(10) Provide IV thrombolytic treatment and have transfer arrangements with one or more thrombectomy-capable, primary or comprehensive stroke center(s) that facilitate the transfer of patients with strokes to the stroke center(s) for care when clinically warranted.

(11) There shall be a medical director of an acute stroke-ready hospital, who may also serve as a member of a stroke team, who is a physician or advanced practice nurse who maintains at least four (4) hours per year of educational time in cerebrovascular disease;

(12) Clinical stroke team for an acute stroke-ready hospital at a minimum shall consist of a nurse and a physician with training and expertise in acute stroke care.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

§ 100270.227. EMS Receiving Hospitals (Non-designated for Stroke Critical Care Services)

(a) An EMS receiving hospital that is not designated for stroke critical care services shall do the following, at a minimum and in cooperation with stroke receiving centers and the local EMS agency in their jurisdictions:

(1) Participate in the local EMS agency's quality improvement system, including data submission as determined by the local EMS agency medical director.

(2) Participate in the inter-facility transfer agreements to ensure access to a stroke critical care system for a potential stroke patient.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.88, 1797.103, 1797.176, 1797.220, 1798.100, 1798.150, 1798.170, and 1798.172, Health and Safety Code.

ARTICLE 5. DATA MANAGEMENT, QUALITY IMPROVEMENT AND EVALUATION

§ 100270.228. Data Management Requirements

(a) The local EMS agency shall implement a standardized data collection and reporting process for stroke critical care systems.

(b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.

(c) The prehospital stroke patient care elements shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database and the National EMS Information System (NEMSIS) database.

(d) The hospital stroke patient care elements shall be consistent with the U.S. Centers for Disease Control and Prevention, Paul Coverdell National Acute Stroke Program Resource Guide, dated October 24, 2016, which is hereby incorporated by reference.

(e) All hospitals that receive stroke patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.

(f) The prehospital care record and the hospital data elements shall be collected and submitted by the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis.

Note: Authority cited: Sections. 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.204, 1797.220, 1797.222, 1797.227, and 1798.172, Health and Safety Code.

§ 100270.229. Quality Improvement and Evaluation Process

(a) Each stroke critical care system shall have a quality improvement process that shall include, at a minimum:

(1) Evaluation of program structure, process, and outcome.

(2) Review of stroke-related deaths, major complications, and transfers.

(3) A multidisciplinary Stroke Quality Improvement Committee, including both prehospital and hospital members.

(4) Participation in the QI process by all designated stroke centers and prehospital providers involved in the stroke critical care system.

(5) Evaluation of regional integration of stroke patient movement.

(6) Participation in the stroke data management system.

(7) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected stroke cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the stroke critical care system.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.104, 1797.176, 1797.204, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

ALAMEDA COUNTY EMS AGENCY

Alameda County Critical Medical Patient Hospital Transfers for Specialty and/or Higher Level of Care

Purpose:

To provide a process to facilitate the emergent transfer of medical patients within a hospital, either in the ER or admitted within the facility, for specialty or higher level of care services requiring time sensitive intervention at another facility within Alameda County.

Medical Patient Identified Requiring Emergent Transfer for Time Sensitive Intervention

→

Facility within Alameda County with Specialty or Higher Level of Care Identified and Patient Accepted for Transfer.

↓

Contact Interfacility Ambulance Service to Provide Patient Transport				
Company	Contact #	BLS	CCT-Paramedic	CCT-RN
American Medical Response	530-457-5062	X	X	X
Arcadia	408-666-4722	X		
Bay Medic	925-489-4852	X		X
Eagle Ambulance	800-304-6985 x 1	X		X
Falcon Ambulance	510-628-6042	X		X
LifeWest Ambulance	707-974-8646	X		X
NorCal Ambulance	886-755-3400	X		X
ProTransport-1	800-650-4003	X		X
Royal Ambulance	510-993-5684	X		X
United Ambulance	650-242-2977	X		X
WestMed Ambulance	949-981-0299	X		X

BLS

Basic Transport with ability to monitor vitals. Unable to take patients with medication drips or provide cardiac monitoring unless supplemented with hospital equipment and staff. If hospital equipment and staff is provided, hospital staff can perform at full scope of care during transport.

CRITICAL CARE PARAMEDIC

Transport with the increased ability to perform cardiac monitoring and utilize IV pump, thoracic drains, and ventilators. Able to monitor and maintain infusions of blood, blood products, glycoprotein inhibitors, heparin, nitroglycerin, norepinephrine, and thrombolytics as well as parenteral nutrition.

RN

Transport with ability to perform all skills listed under critical care paramedic with the ability to monitor additional medications as ordered by the transferring physician.

↓

YES

ETA < 30 mins

NO

Schedule Transport

Contact Dispatch for 9-1-1 Ambulance*

↓

In City of Berkeley, call 510-981-5911.

In any other cities, call ACRECC at 925-447-4257.

Calls will be triaged and prioritized by dispatcher. Transport provider leadership will be notified when appropriate.

All uses of this process will be reviewed and audited.

*** NOTE: Utilization of 9-1-1 resources for interfacility transfer shall only occur as a last resort in situations when failure to do so places patient safety in jeopardy. Use of 9-1-1 resources may require hospital staff and equipment to accompany the patient to maintain care and the hospital will be responsible to facilitate their return to the sending facility.**

Alameda County
Critical Medical Patient
Transfer Checklist

This checklist is to help facilities validate that they have completed all steps to ensure that the transfer of these patients occur in the most efficient and expeditious manner.

****ALL PATIENTS TRANSFERS CONDUCTED UNDER THIS POLICY WILL BE REVIEWED and AUDITED****

TO FACILITATE AN EXPEDITIOUS AND EFFICIENT TRANSFER, PLEASE COMPLETE THE FOLLOWING:

☐ **1. Patient Identified for Transfer**
Patient requires emergent transfer for time sensitive intervention. The patients may include but are not limited to Stroke, STEMI, or emergent surgical cases beyond the scope of the sending facility.

☐ **2. Acceptance at Receiving Facility**
Physician at receiving facility has accepted the patient and is expecting their arrival at the facility.

☐ **3. Bed is Secured at Receiving Facility**
Bed for offload of patient at receiving facility has been identified and is ready to accept patient upon arrival without delay. This patient shall bypass triage.

☐ **4. Patient Ready for Transfer**
Paperwork completed, ongoing treatment prepped, and patient belongings gathered so that patient is ready for immediate transport. ***After arrival, ambulance should be able to leave with the patient in 10 minutes or less.***

☐ **5. Hospital Staff, Medication and Equipment Available for Transport**
If equipment and/or medication are needed to maintain patient care is not within the Alameda County EMS EMT or paramedic scope of practice, the facility shall have staff and equipment immediately ready to transport the patient when the ambulance arrives.

☐ **6. Ensure Plan in Place to Retrieve Staff and Equipment Post-Transport.**
It is the responsibility of the sending facility to arrange the return of their staff and equipment. ***Ambulance providers are not responsible to facilitate their return.***

☐ **7. Permitted Interfacility Transfer (IFT) Provider Contacted for Transport.**
All contact information is listed below and in policy. ***BLS can facilitate all transfers if hospital staff, medications, and equipment is available to accompany patient.***

☐ **8. If ETA by IFT is >30mins, contact 9-1-1 for transport.**
Call will be triaged and prioritized by dispatcher. ***Use of 9-1-1 should be a last resort for critical patients where their health or safety is in imminent danger if not transferred immediately.***

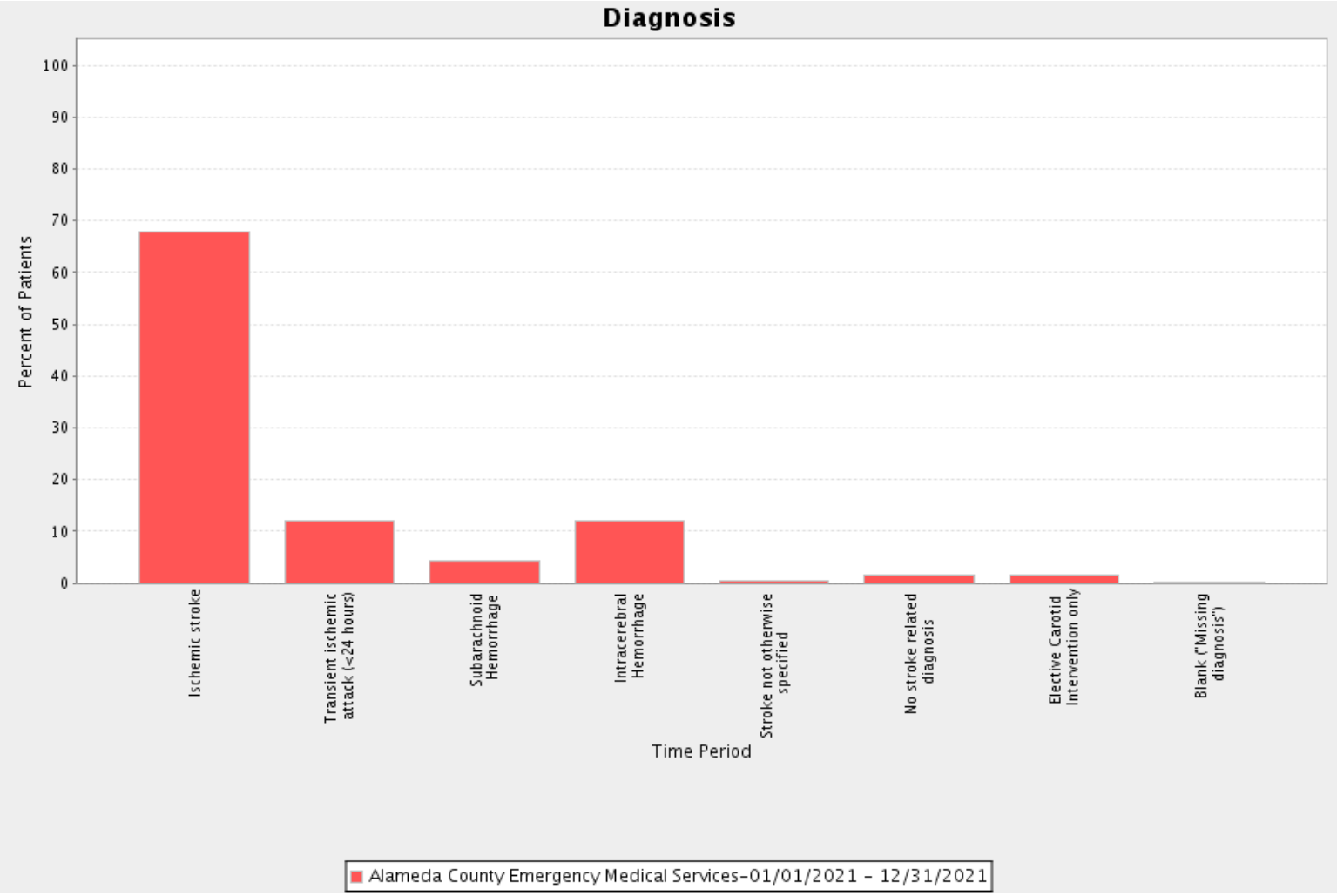
PERMITTED INTERFACILITY AMBULANCE TRANSPORT PROVIDER INFORMATION

Contact Interfacility Ambulance Service to Provide Patient Transport				
Company	Contact #	BLS	CCT-Paramedic	CCT-RN
American Medical Response	530-457-5062	X	X	X
Arcadia	408-666-4722	X		
Bay Medic	925-489-4852	X		X
Eagle Ambulance	800-304-6985 x 1	X		X
Falcon Ambulance	510-628-6042	X		X
LifeWest Ambulance	707-974-8646	X		X
NorCal Ambulance	886-755-3400	X		X
ProTransport-1	800-650-4003	X		X
Royal Ambulance	510-993-5684	X		X
United Ambulance	650-242-2977	X		X
WestMed Ambulance	949-981-0299	X		X

Diagnosis

Patients grouped by diagnosis.

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



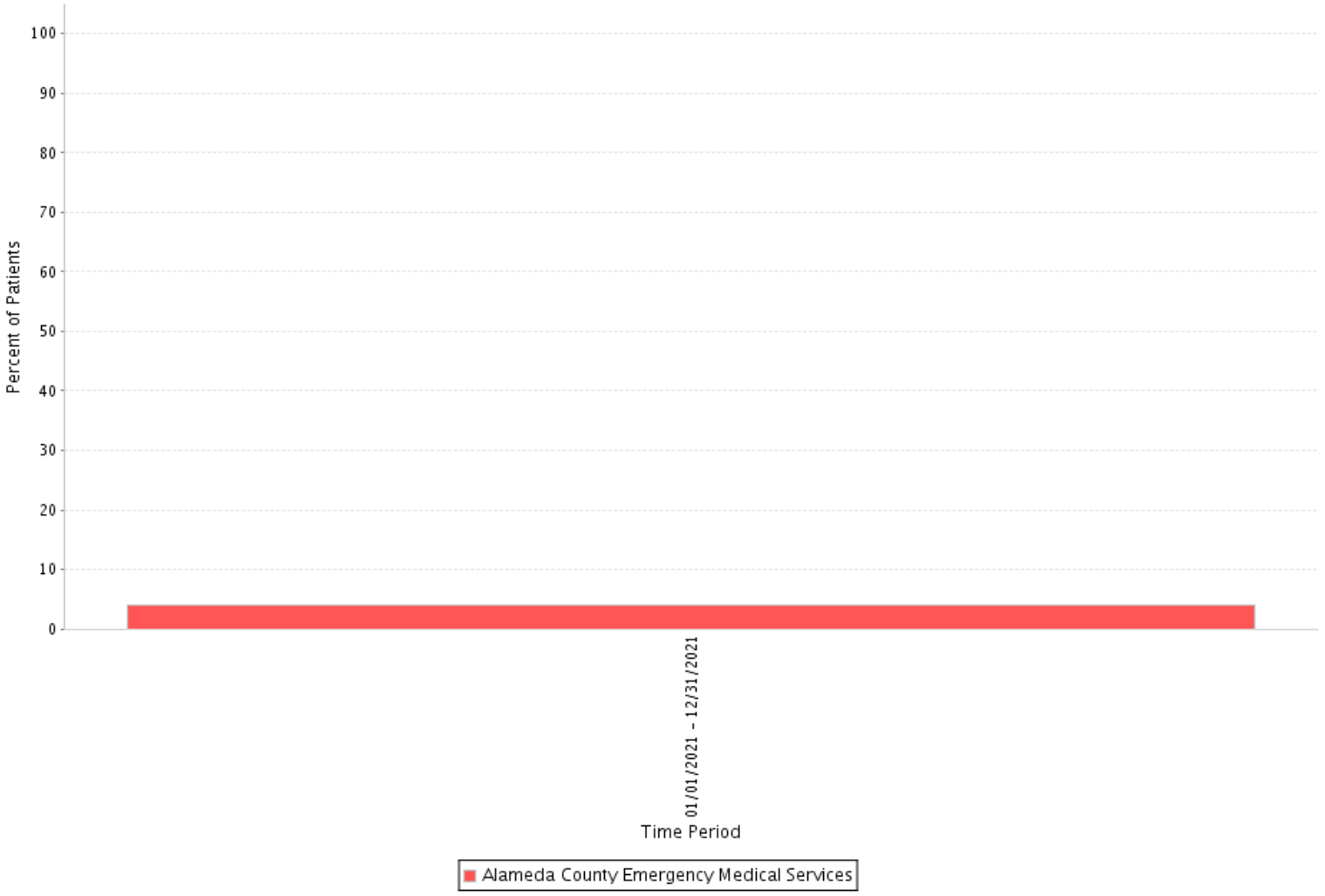
Data For: Diagnosis										
Benchmark Group	Time Period	Ischemic stroke	Transient ischemic attack (<24 hours)	Subarachnoid Hemorrhage	Intracerebral Hemorrhage	Stroke not otherwise specified	No stroke related diagnosis	Elective Carotid Intervention only	Blank ("Missing diagnosis")	Total
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	1767 (67.8%)	313 (12%)	111 (4.3%)	316 (12.1%)	13 (0.5%)	43 (1.6%)	43 (1.6%)	1 (0%)	2607

Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Door-in-Door-Out Time at First Hospital Prior to Transfer for Acute Therapy

Percentage of confirmed stroke patients transported to your hospital by EMS and for whom <= 90 minutes was spent in the ED prior to transfer to a higher-level stroke center (e.g. PSC, CSC, etc.) for time-critical therapy.

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Door-in-Door-Out Time at First Hospital Prior to Transfer for Acute Therapy					
Benchmark Group	Time Period	Numerator	Denominator	Exception	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	3	73	7	4.1%

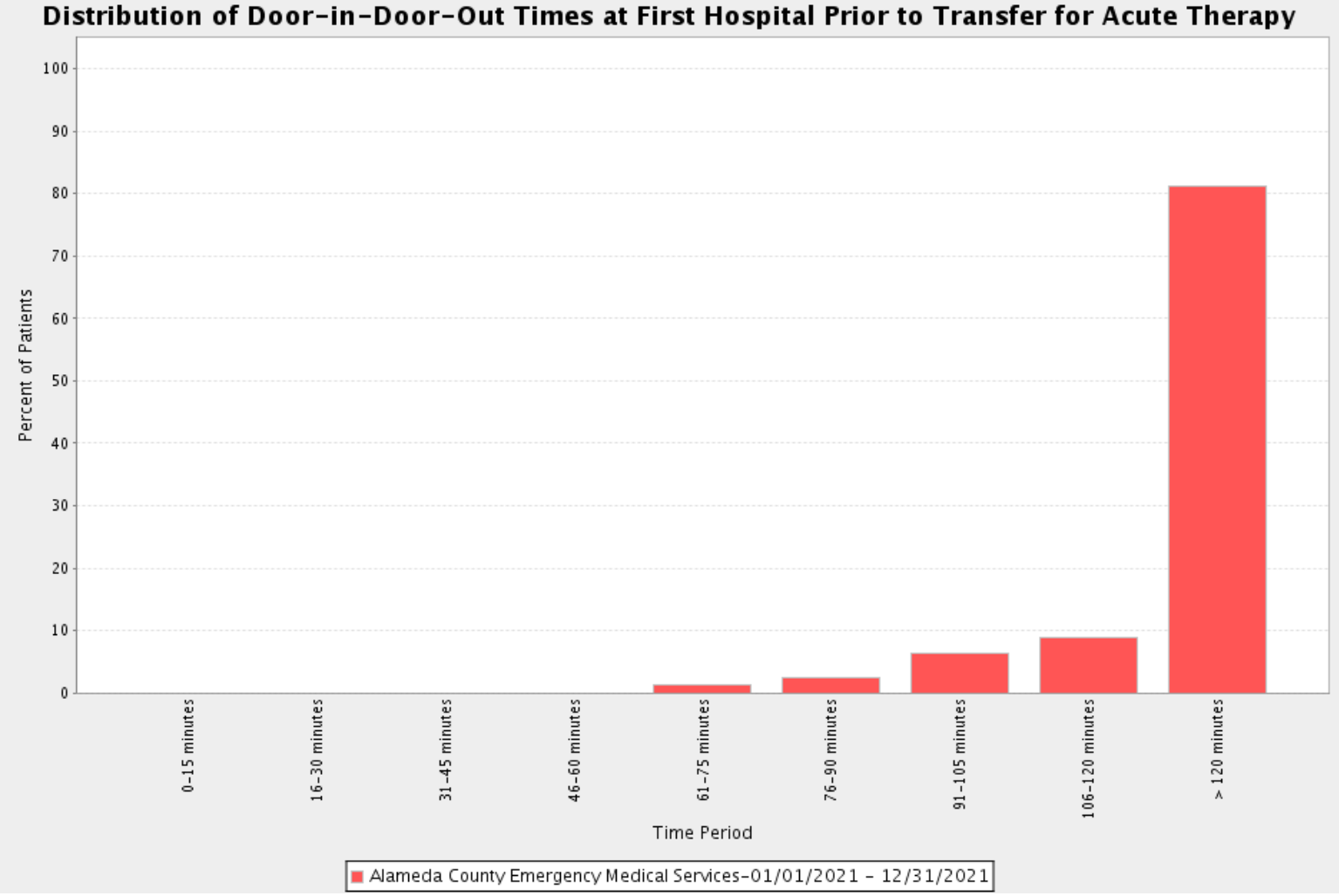
Date of report: 05/24/2022 11:24:24 GMT-07:00 run by User: Michael Jacobs (ac_mjacobs) at Site: Alameda County Emergency Medical Services (94153)

Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Distribution of Door-in-Door-Out Times at First Hospital Prior to Transfer for Acute Therapy

Patients with confirmed stroke grouped by time spent in the ED prior to transfer to a higher-level stroke center (e.g. PSC, CSC, etc.) for time-critical therapy

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Distribution of Door-in-Door-Out Times at First Hospital Prior to Transfer for Acute Therapy															
Benchmark Group	Time Period	0-15 minutes	16-30 minutes	31-45 minutes	46-60 minutes	61-75 minutes	76-90 minutes	91-105 minutes	106-120 minutes	> 120 minutes	Total	Mean	Standard Deviation	Median	Range
Alameda County Emergency Medical Services	01/01/202 - 12/31/202	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1.2%)	2 (2.5%)	5 (6.2%)	7 (8.8%)	65 (81.2%)	80	220.5	121.1	191	74 - 820

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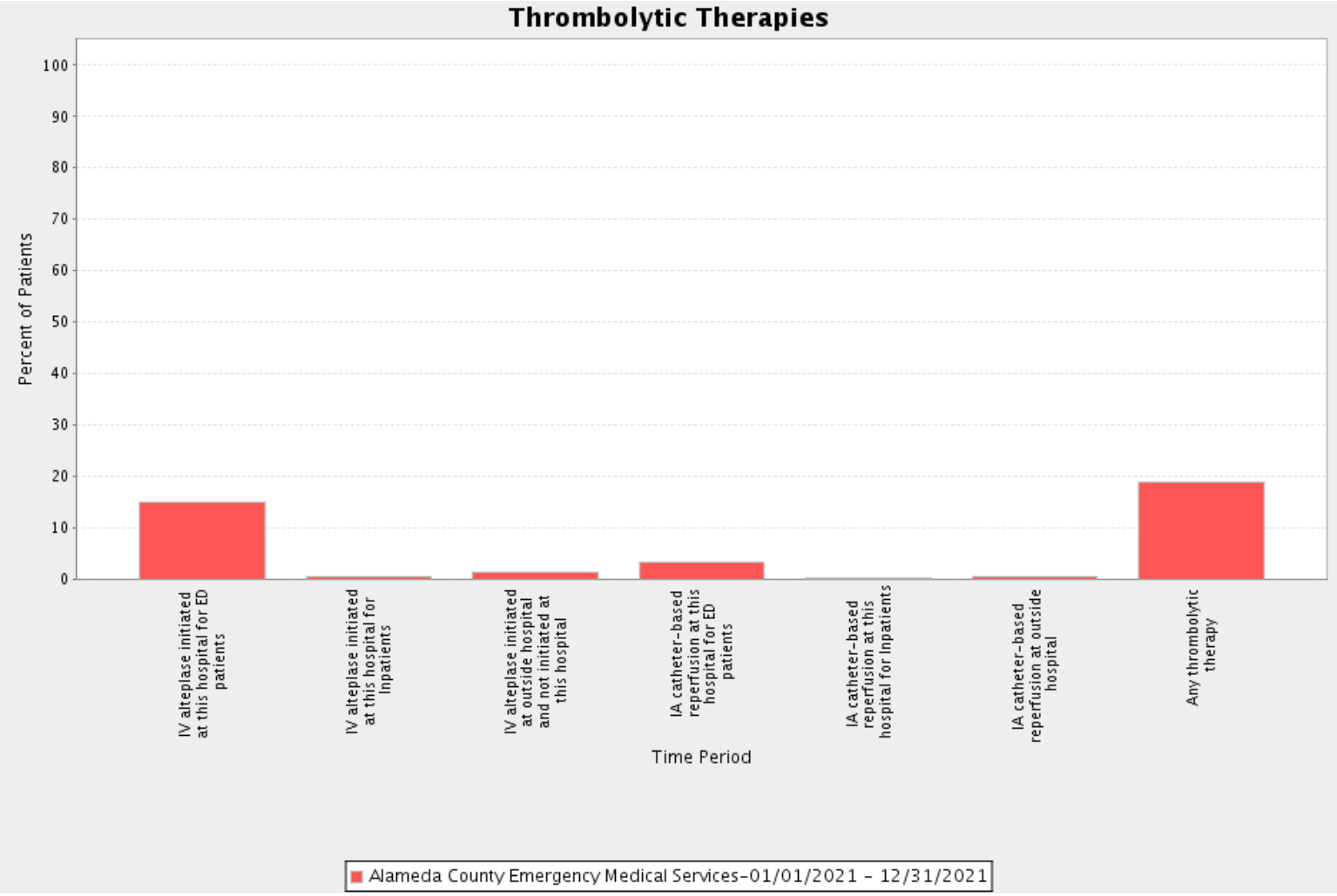
Please note: GWTG aggregate comparative data is intended for internal quality improvement. Permission is required from the American Heart Association and Quintiles for external presentation or publication of benchmark data.

Thrombolytic Therapies

A histogram of the various thrombolytic therapies

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Thrombolytic Therapies									
Benchmark Group	Time Period	IV alteplase initiated at this hospital for ED patients	IV alteplase initiated at this hospital for Inpatients	IV alteplase initiated at outside hospital and not initiated at this hospital	IA catheter-based reperfusion at this hospital for ED patients	IA catheter-based reperfusion at this hospital for Inpatients	IA catheter-based reperfusion at outside hospital	Any thrombolytic therapy	Total
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	262 (14.9%)	10 (0.6%)	23 (1.3%)	57 (3.2%)	4 (0.2%)	7 (0.4%)	334 (18.9%)	1763

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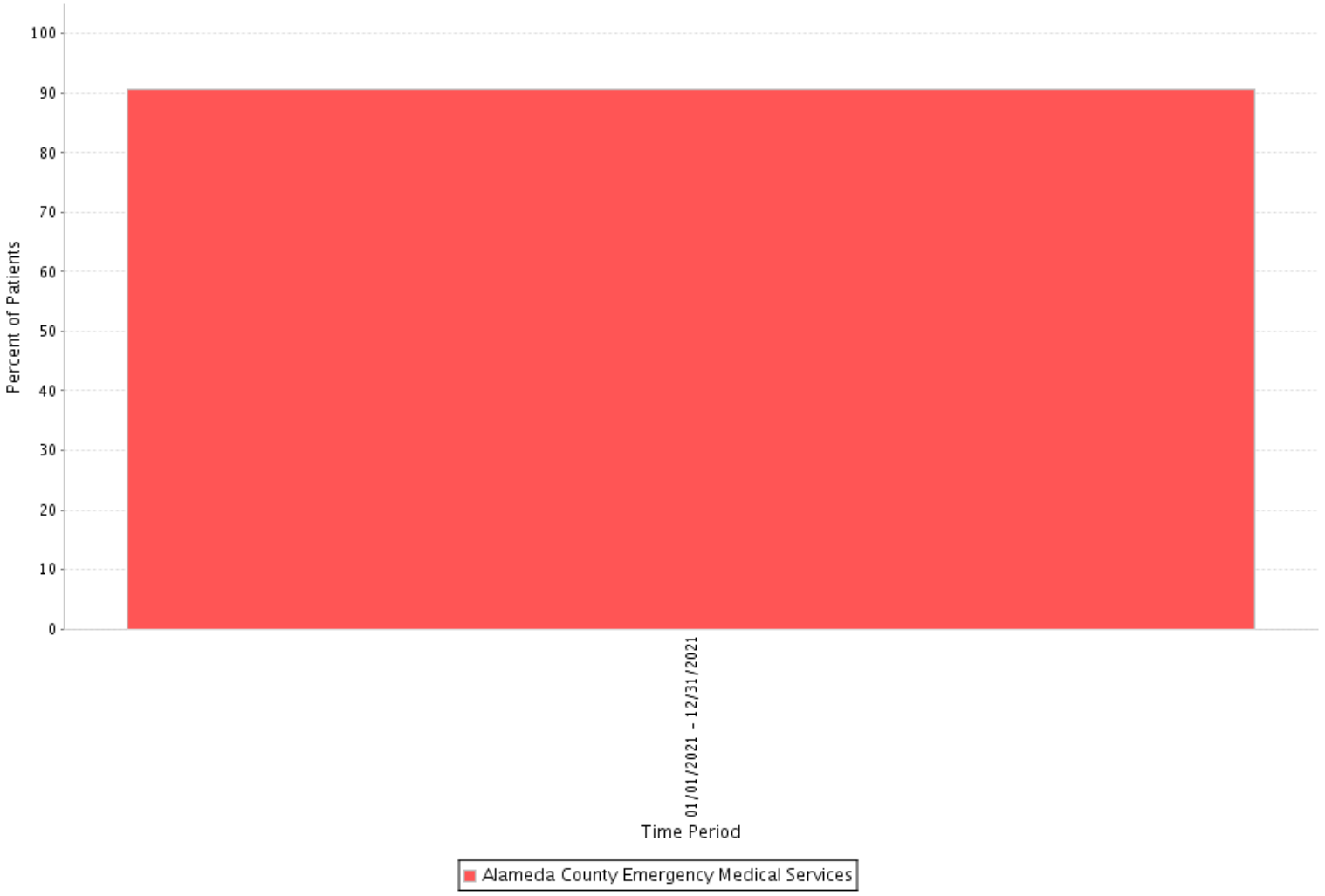
Time to Intravenous Thrombolytic Therapy - 60 min

Percent of acute ischemic stroke patients receiving intravenous thrombolytic therapy during the hospital stay who have a time from hospital arrival to initiation of thrombolytic therapy administration (door-to-needle time) of 60 minutes or less.

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Time to Intravenous Thrombolytic Therapy - 60 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	187	206	90.8%

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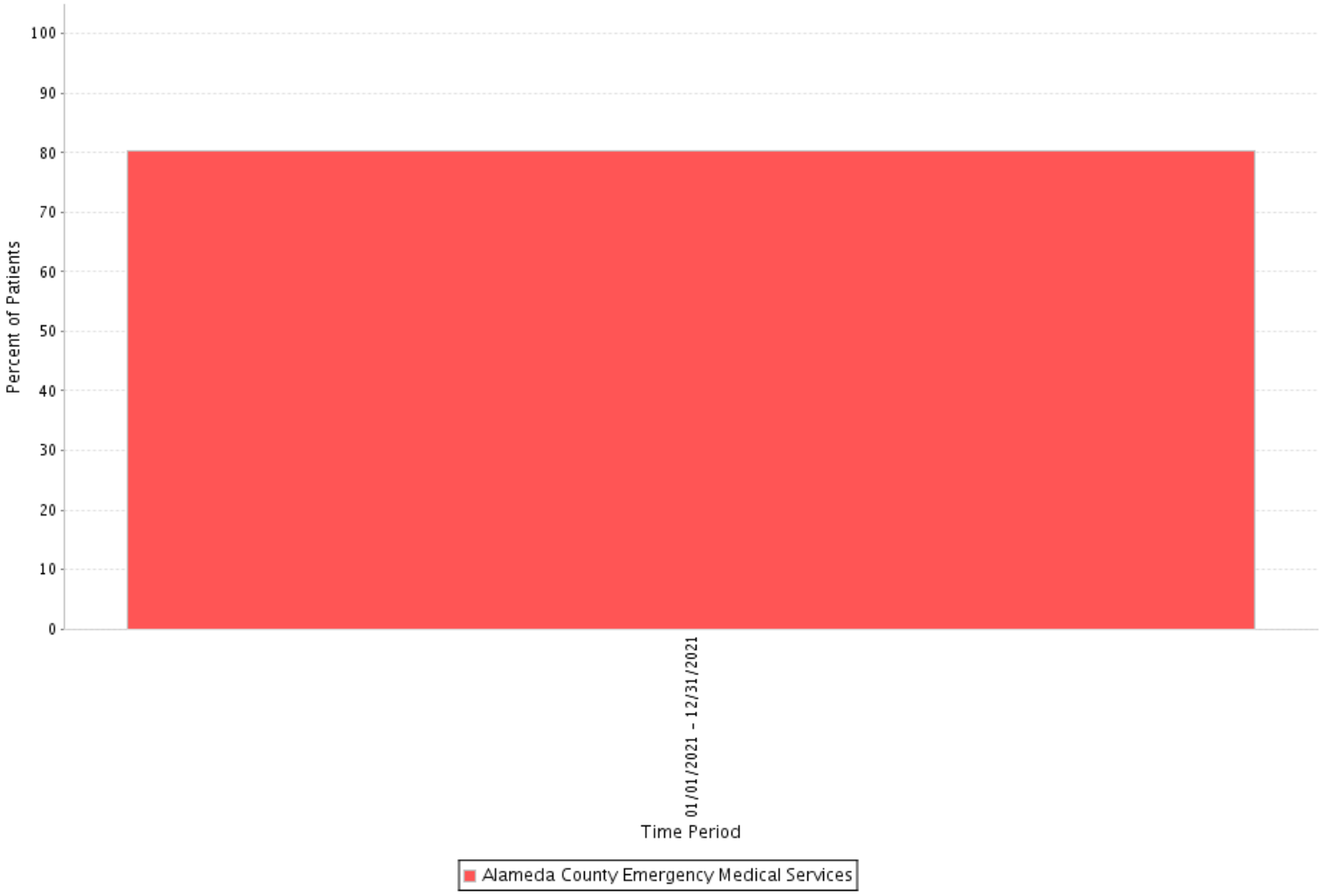
Time to Intravenous Thrombolytic Therapy - 45 min

Percent of acute ischemic stroke patients receiving intravenous thrombolytic therapy during the hospital stay who have a time from hospital arrival to initiation of thrombolytic therapy administration (door-to-needle time) of 45 minutes or less.

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Time to Intravenous Thrombolytic Therapy - 45 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	155	193	80.3%

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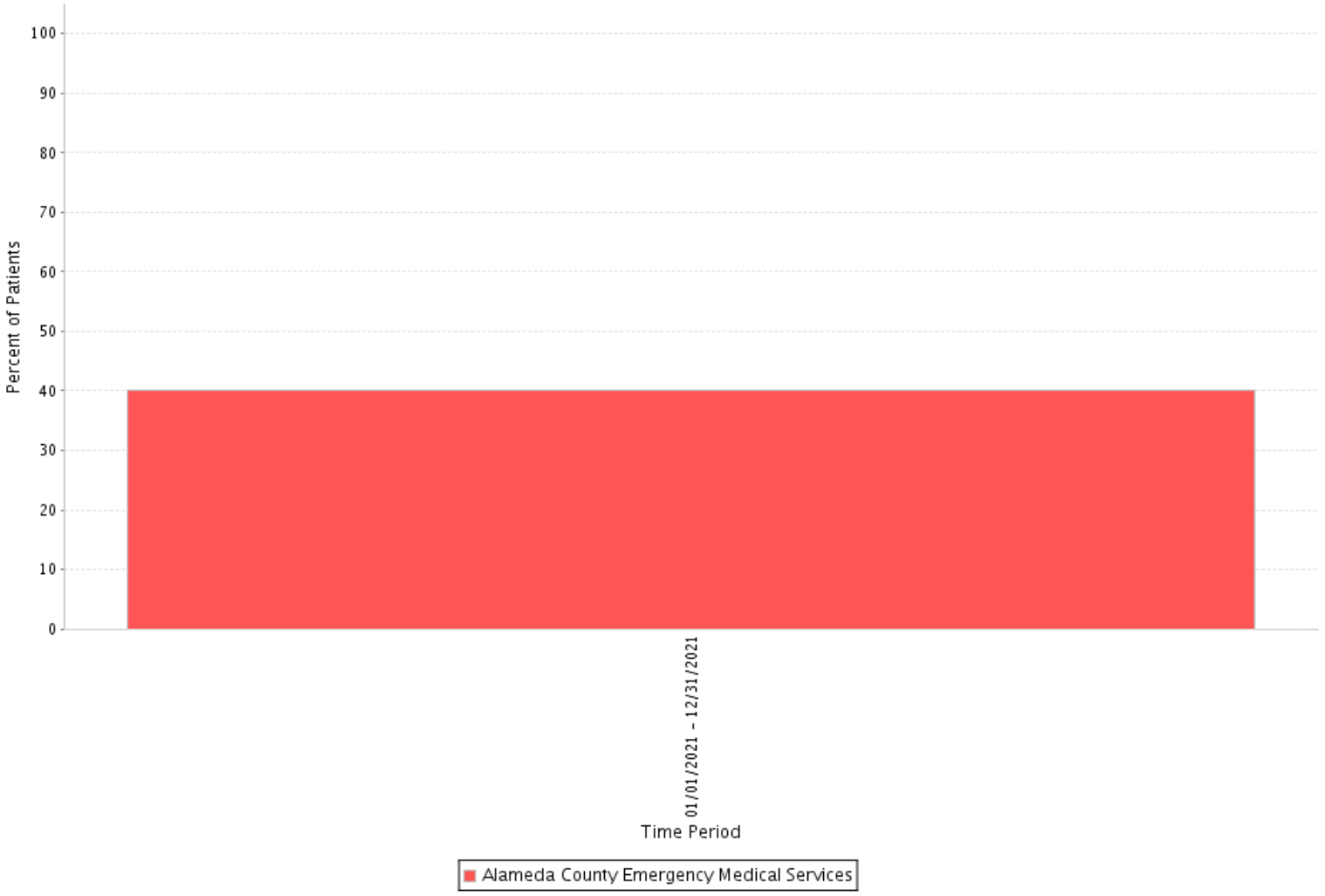
Time to Intravenous Thrombolytic Therapy - 30 min

Percent of acute ischemic stroke patients receiving intravenous thrombolytic therapy during the hospital stay who have a time from hospital arrival to initiation of thrombolytic therapy administration (door-to-needle time) of 30 minutes or less.

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Time to Intravenous Thrombolytic Therapy - 30 min				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	66	165	40.0%

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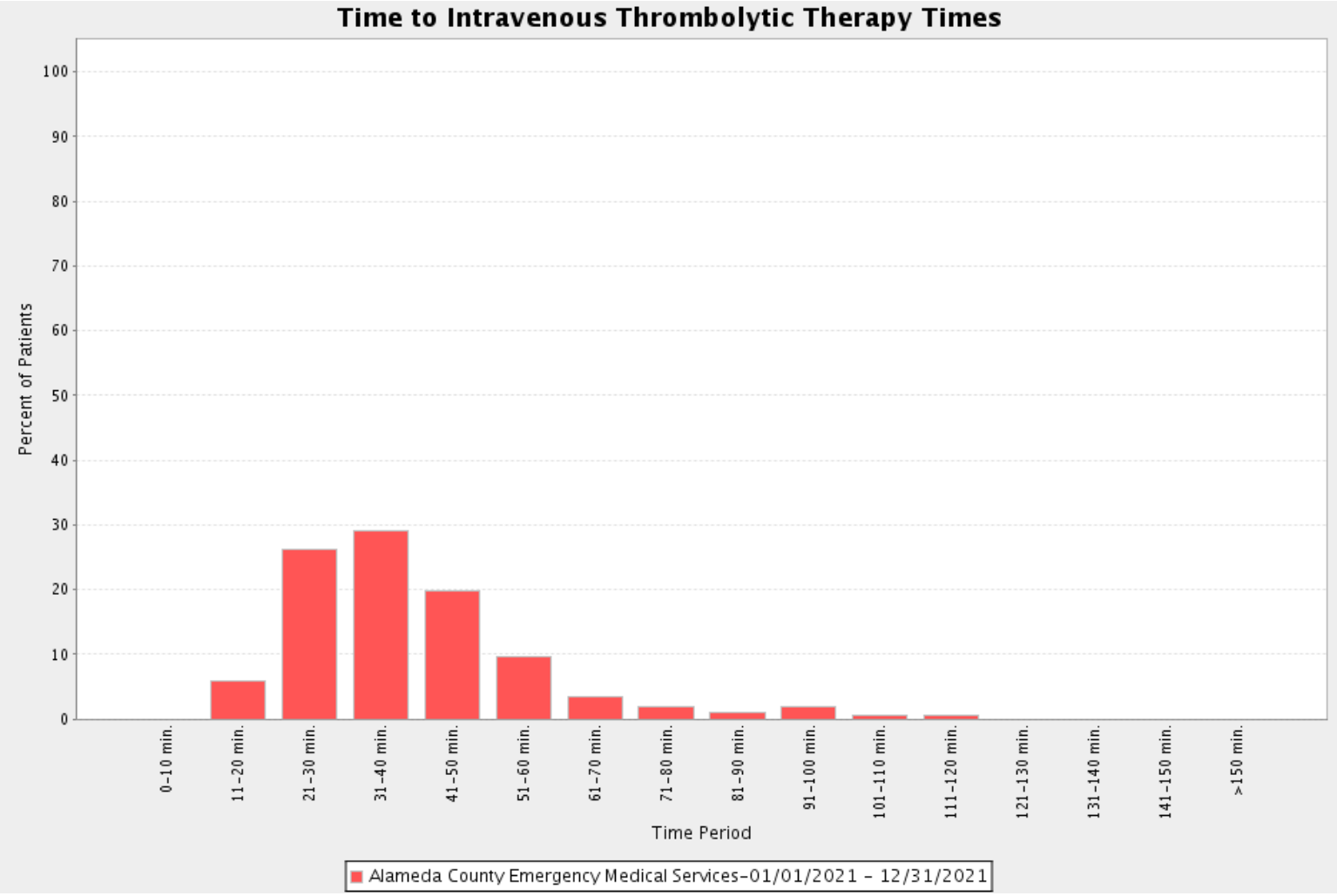
Time to Intravenous Thrombolytic Therapy Times

Time from hospital arrival to initiation of thrombolytic therapy administration for ischemic stroke patients treated at my hospital

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: Time to Intravenous Thrombolytic Therapy Times																						
Benchma Group	Time Period	0-10 min.	11-20 min.	21-30 min.	31-40 min.	41-50 min.	51-60 min.	61-70 min.	71-80 min.	81-90 min.	91-100 min.	101-110 min.	111-120 min.	121-130 min.	131-140 min.	141-150 min.	>150 min.	Total	Mean	Standar Deviatic	Median	Range
Alamed County Emergen Medica Service	01/01/ - 12/31/	0 (0%)	12 (5.8%	54 (26.2%	60 (29.1%	41 (19.9%	20 (9.7%	7 (3.4%	4 (1.9%	2 (1%)	4 (1.9%	1 (0.5%	1 (0.5%	0 (0%)	0 (0%)	0 (0%)	0 (0%)	206	40	17.6	36	14 - 120

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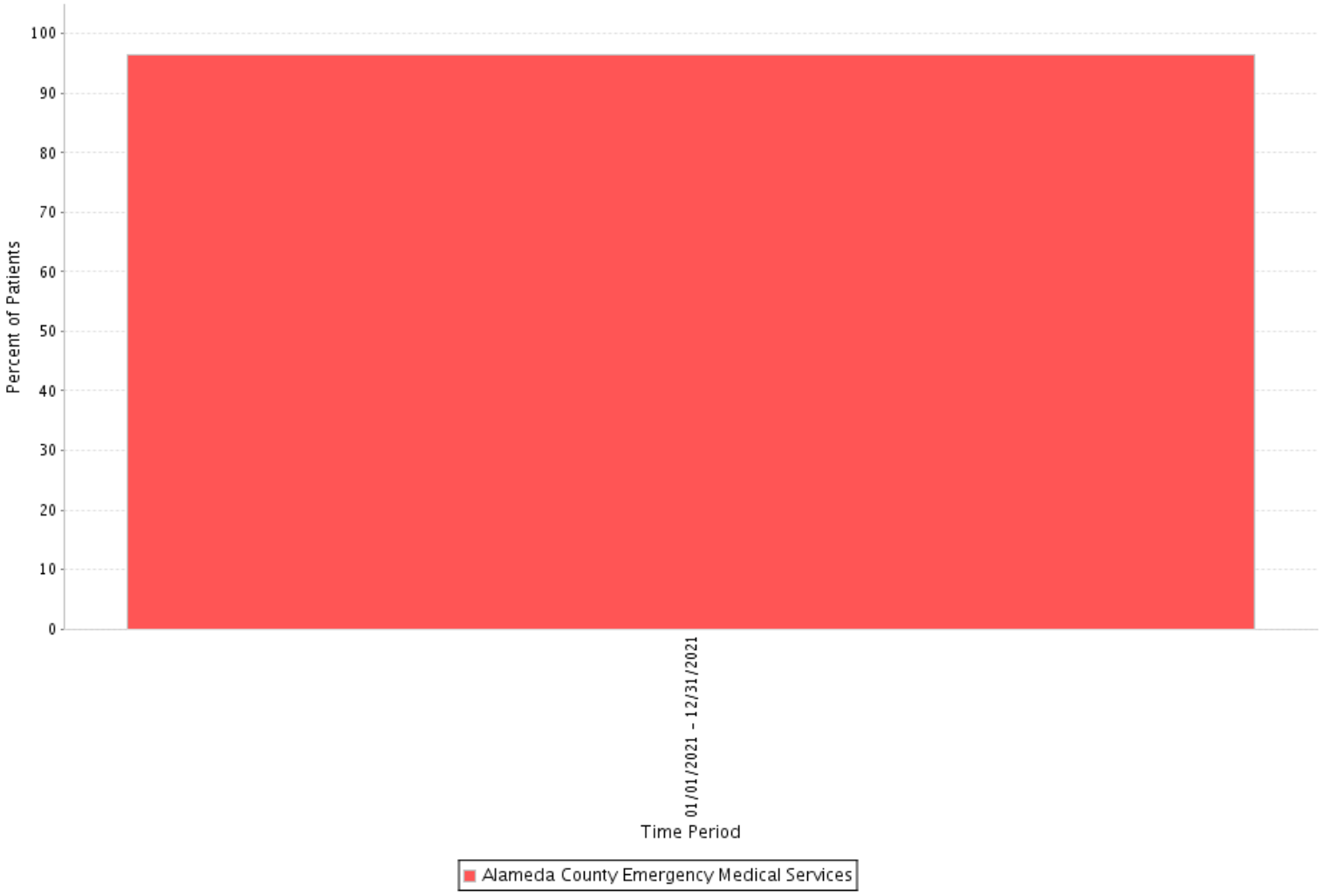
IV Thrombolytic Arrive by 3.5 Hour, Treat by 4.5 Hour

Percent of acute ischemic stroke patients who arrive at the hospital within 210 minutes (3.5 hours) of time last known well and for whom IV thrombolytic was initiated at this hospital within 270 minutes (4.5 hours) of time last known well.

Time Period: 01/01/2021 - 12/31/2021; Site: Alameda County Emergency Medical Services (94153)



Data For: IV Thrombolytic Arrive by 3.5 Hour, Treat by 4.5 Hour				
Benchmark Group	Time Period	Numerator	Denominator	% of Patients
Alameda County Emergency Medical Services	01/01/2021 - 12/31/2021	238	247	96.4%

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Alameda County EMS Agency – Communications Plan

Channel Use	TX-Freq	RX-Freq	CTCSS	Prim/Alt
Local Medical Coordination (real time) Trunked system	700/800 MHz	N/A	N/A	N/A
Statewide Medical Coordination VMED 28 CALCORD	 155.340 156.075	 155.340 156.075	 N/A 156.7	 N/A 156.7
Calling Channel	700/800 MHz	N/A	N/A	N/A
Dispatch (for each EMS Agency) Trunked system	 700/800 MHz	 N/A	 N/A	 N/A
Direct to hospitals Trunked system, telephone	 700/800 MHz	 N/A	 N/A	 N/A
Other (e.g. tactical, etc.) For disasters VMED 28 CALCORD	 700/800 MHz 155.340 156.075	 N/A 155.340 156.075	 N/A N/A 156.7	 N/A N/A 156.7

Emergency Department Facilities	Telephone	Helipad Latitude/Longitude
Alameda Hospital Alameda Health System 2070 Clinton Avenue Alameda, California 94501	(510) 522-3700	None
Alta Bates Summit Medical Center Alta Bates Campus 2450 Ashby Avenue Berkeley, California 94705	(510) 204-4444	None
Alta Bates Summit Medical Center Summit Campus 350 Hawthorne Street Oakland, California 94609	(510) 655-4000	None
Highland Hospital Alameda Health System 1411 E.31st Street Oakland, California 94602	(510) 437-4800	None

Kaiser Permanente Fremont Medical Center 39400 Paseo Padre Parkway Fremont, CA 94538	(510) 248-3000	None
Kaiser Permanente Oakland Medical Center 280 West Mac Arthur Blvd. Oakland, California 94611	(510) 752-1000	None
Kaiser Permanente San Leandro Medical Center 2500 Merced Street San Leandro, California 94577	(510) 784-4000	None
San Leandro Hospital Alameda Health System 13855 East 14th Street San Leandro, California 94578	(510) 357-6500	None
Stanford Valley Care Medical Center 5555 W. Las Positas Blvd. Pleasanton, California 94588	(925) 847-3000	37° 41.39’ N 121° 52.46’ W TLOF – 64’ X 64’
St. Rose Hospital 27200 Calaroga Avenue Hayward, California 94545	(510) 264-4000	None
Sutter Eden Medical Center 20103 Lake Chabot Road Castro Valley, California 94546	(510) 537-1234	37° 41.93' N 122° 5.35' W TLOF - 55' Diameter
UCSF Benioff Children’s Hospital 747 52nd Street Oakland, California 94609	(510) 428-3273	37° 50.17’ N 122° 16.00’ W TLOF - 39' x 39'
Washington Hospital 2000 Mowry Avenue Fremont, California 94538	(510) 797-1111	37° 33.49’ N 121° 58.68’ W TLOF - 50' x 50'

VEHICLE CHARACTERISTICS

Emergency Providers	Telephone	TYPE	AMB's	TRANS	EMT
Alameda County Fire Department	(510) 632-3473	G	4	yes	ALS
Alameda City Fire Department	(510) 337-2100	G	4	yes	ALS
Albany Fire Department	(510) 528-5770	G	2	yes	ALS
Berkeley Fire Department	(510) 981-3473	G	7	yes	ALS
Falck Alameda County	(510) 566-4432	G	77	yes	ALS
Fremont Fire Department	(510) 494-4200	G	0	no	ALS
CALSTAR	(800) 252-5050	GA	2	yes	ALS
CALFIRE	(925) 862-2197	G	0	no	ALS
CHP	(707) 253-4906	A	1	yes	ALS
East Bay Regional Parks District	(510) 690-6607	G	N/A	no	BLS
Hayward Fire Department	(510) 583-4900	G	0	no	ALS
Stanford Life Flight	(650)-723-5578	GA	1	yes	ALS
Livermore Pleasanton Fire Department	(925) 454-2361	G	0	no	ALS
Oakland Fire Department	(510) 238-3856	G	0	no	ALS
Piedmont Fire Department	(510) 420-3030	G	2	yes	ALS
Reach Helicopter	(707) 575-6886	GA	2	yes	ALS