

# Annual Performance Evaluation

## Emergency Medical Services (EMS)

### For Year 2019

A comprehensive report of Emergency Ambulance Services  
by  
Contra Costa County Fire Protection District (CCCFPD)  
and AMR (Alliance)  
with the  
Contra Costa County EMS Agency (CCCEMSA)



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### Contra Costa County EMS Volume

The following charts and graphs will show EMS call volume for all providers and the Contra Costa County Fire Protection District.

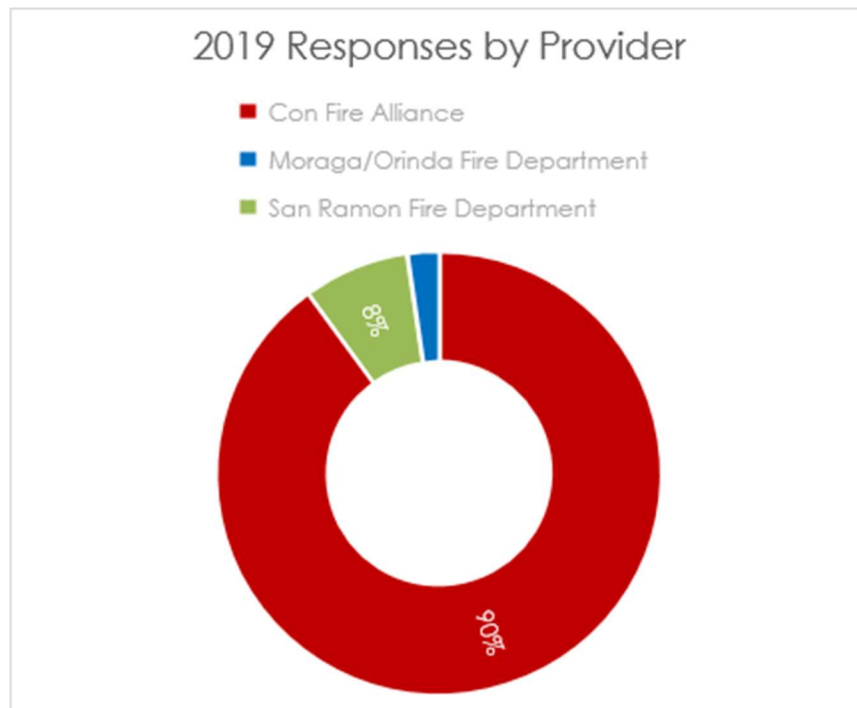
	All Providers		Contra Costa County Fire	
	#	%	#	%
<b>Total Dispatches</b>	108451		<b>97563</b>	
Transported	83997	77.5%	76914	78.8%
Canceled	24454	22.5%	20649	21.2%
<b>Total Patient Transports</b>	83997		<b>76914</b>	
Transported Code 3	4553	5.4%	4032	5.2%
Transported Code 2	78478	93.4%	71918	93.5%
Transport Code Not Reported	966	1.2%	964	1.3%
<b>Total Canceled</b>	24454		<b>20649</b>	
Enroute	7002	28.6%	5997	29.0%
On Scene	17452	71.4%	14652	71.0%

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Year	CCCFPD	Moraga/Orinda Fire District	San Ramon Fire District	Totals
	Responses	Responses	Responses	Responses
2016	90.9%	2.1%	6.9%	99,154
2017	90.1%	2.3%	7.6%	103,617
2018	89.9%	2.3%	7.7%	105,434
2019	90.0%	2.3%	7.7%	108,451

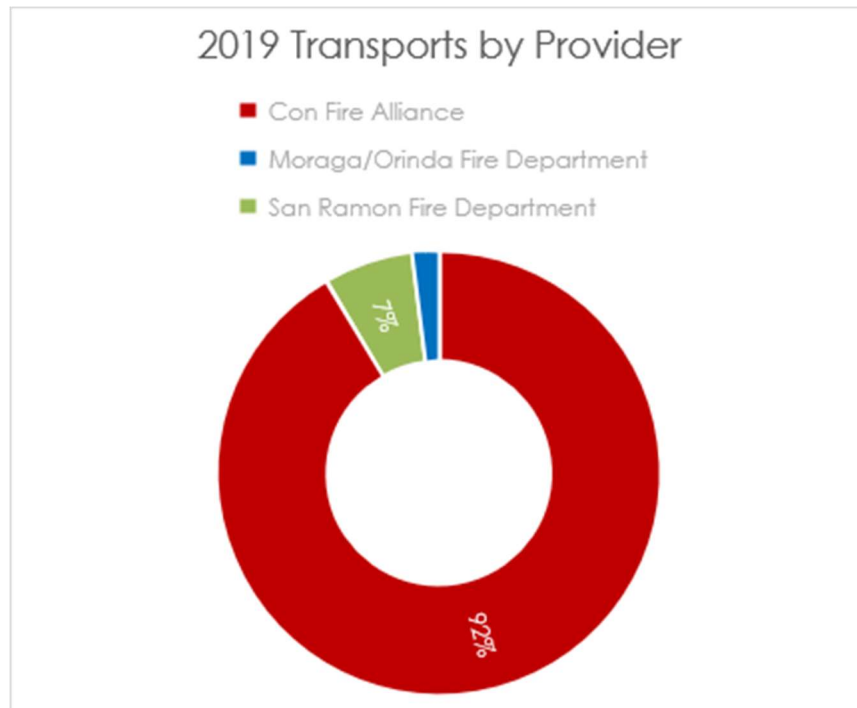


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Year	CCCYPD Transports	MOFD Transports	SRVFPD Transports
2016	92.7%	1.7%	5.5%
2017	92.0%	1.8%	6.2%
2018	91.6%	2.0%	6.4%
2019	91.6%	1.9%	6.5%



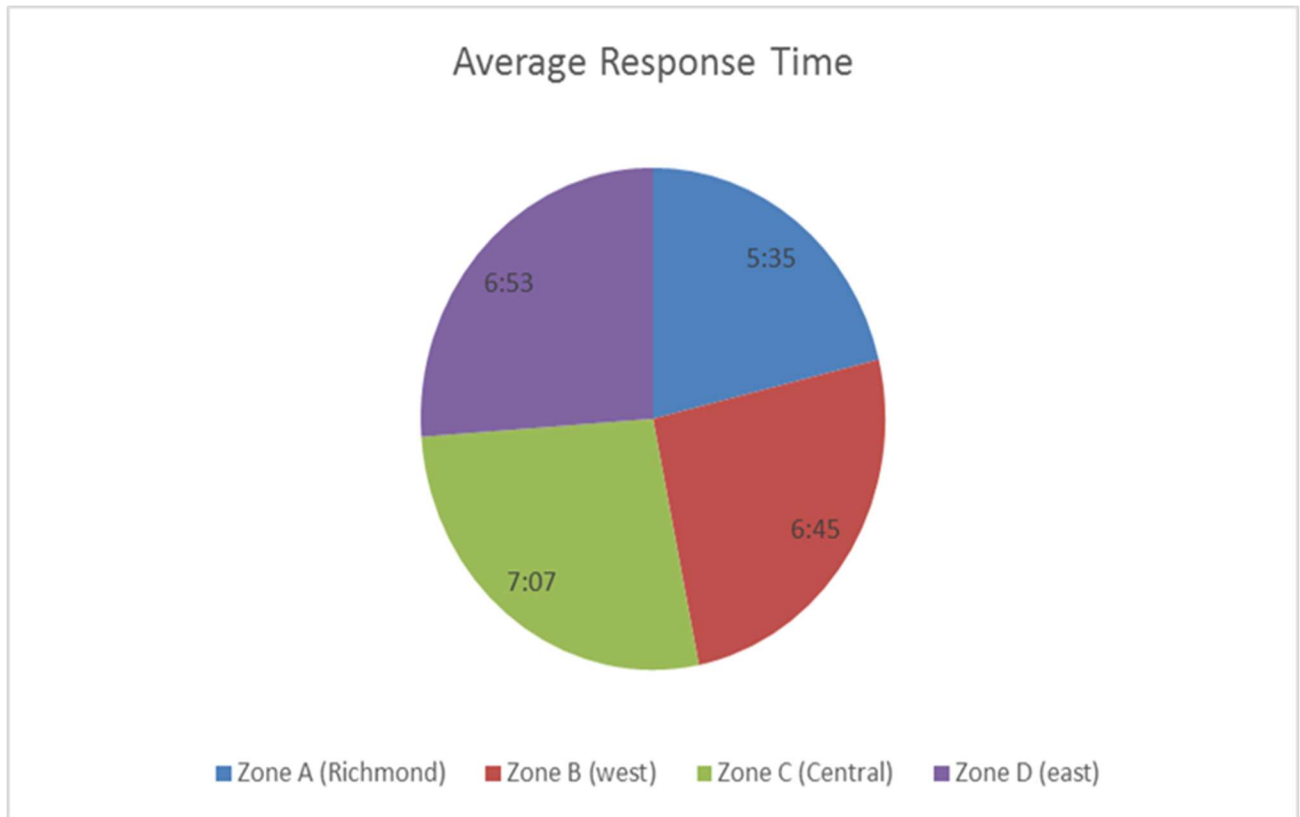
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### Response Times for CCCFPD Emergency Ambulances

Time of call to ambulance arriving on scene



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Response Area	Response Time Requirement High Density High Priority	Alliance Performance 2016	Alliance Performance 2017	Alliance Performance 2018	Alliance Performance 2019
Zone A (Richmond)	0:10:00 - 90% of the time	94%	96%	96%	95%
Zone B (West)	0:11:45 - 90% of the time	95%	96%	96%	95%
Zone C (Central)	0:11:45 - 90% of the time	94%	95%	95%	93%
Zone D (East)	0:11:45 - 90% of the time	94%	95%	95%	94%

\* Note: Year over year compliance was impacted by these following factors:

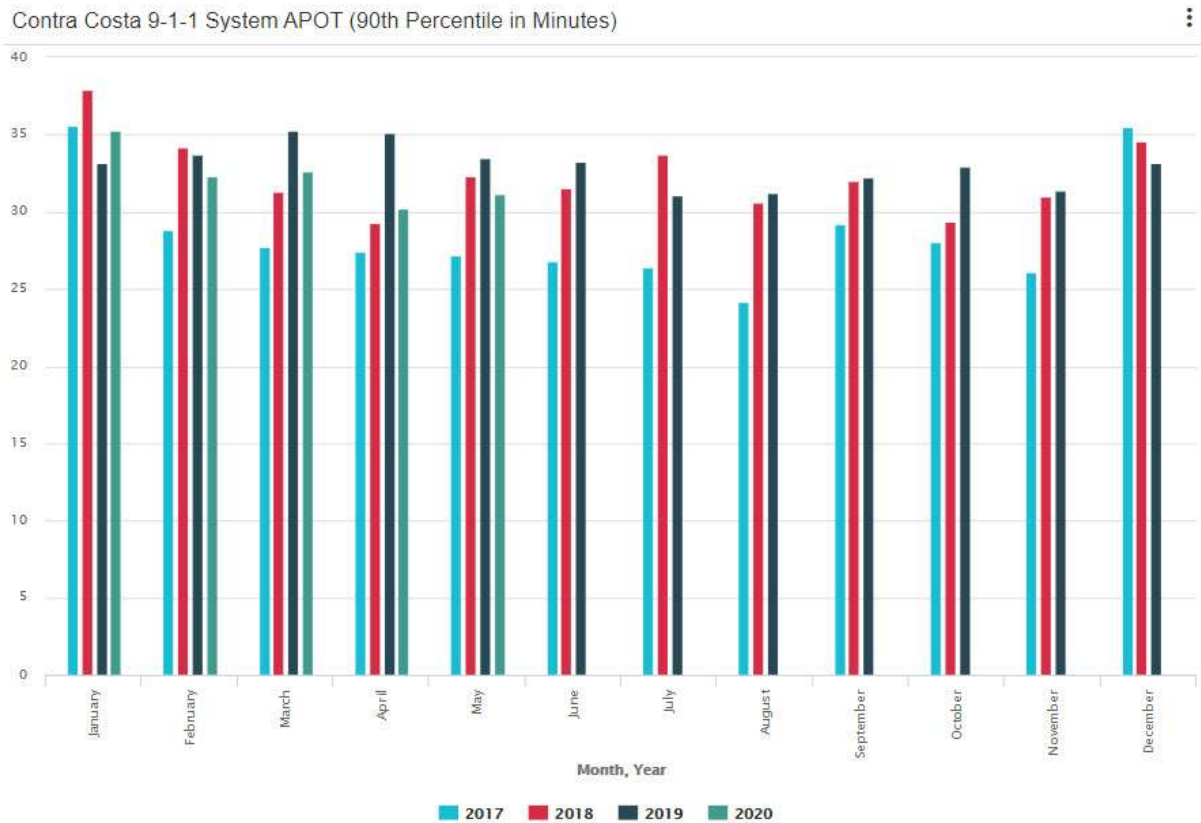
- A)** Volume - Average monthly volume for 2018 was 9,199 and in 2019 it was 9,661. This represents a 5% increase in volume year over year. Normal increases experienced in the past ranged from 3-3.5%. This system volume increase was absorbed without additional unit hour increases, and no additional cost increase to the county.
- B)** Ambulance Patient Offload Times (APOT) -1 - average APOT -1 for 2018 was 33:35 min, and in 2019 it jumped to 36:00. Never Events (Hospital wait times over 1 hour) increased 37% from 2018 to 2019. In 2018 the system had 1,137 Never Events, and in 2019 the system had 1,556. The average per month was 95 in 2018 and 130 in 2019. Graph on next page. In response an APOT focus group was established to improve ambulance delays at hospitals.

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The graph below explains how many minutes an ambulance had to wait at a hospital for turn over of care 90% of the time.





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### Community Involvement and Innovation

The following are various community and innovation programs:

- A) Enhanced Bystander Cardiopulmonary Resuscitation CPR (EBCPR):** Contra Costa County experienced an increase of 9.6% in bystander CPR rates from 2018. The Alliance included Stop the Bleed material in 2019 that trained over 4,800 community members. This program motivates individuals to act as the true first responder in an emergency. Community impact, Bystander CPR Rates have increased to 57.8%, a 9.6% increase from 2018. This increase improves the potential of survivability from cardiac arrest. Every minute lost in initiation of CPR results in a 10% decrease in survival rates for cardiac arrest victims. In addition to EBCPR, Stop the Bleed was introduced to the community. This education was aimed at decreasing preventable deaths through bleeding control. Community members receive skills and training through life saving intervention.

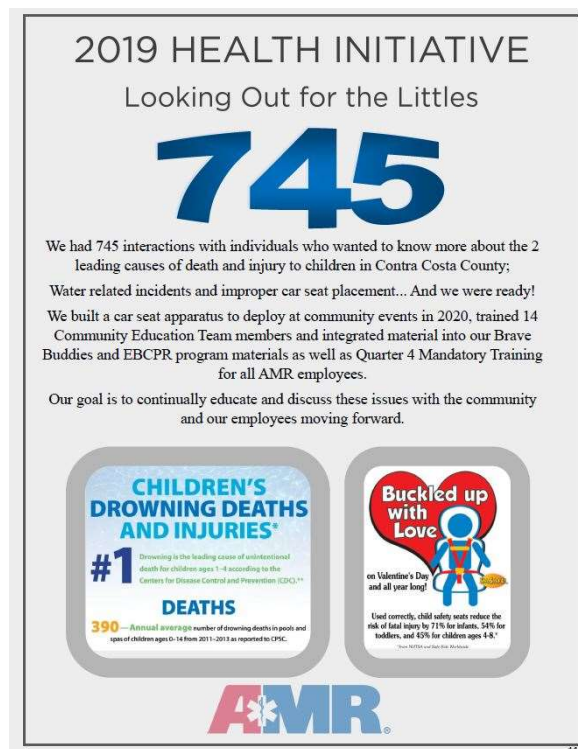


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**B) 2019 Health Initiative “Looking out for the Littles”:** The Alliance had 745 interactions with individuals who wanted to know more about the two (2) leading causes of death and injury to children in Contra Costa County; water related incidents and improper car seat placement. This included building a car seat apparatus to deploy at community events. Trained 14 Community Education Team members and integrated material into our Brave Buddies and EBCPR program materials as well as quarter four (4) Mandatory Training for all AMR employees. The goal is continual education and discussion of these issues with the community and our employees. By doing so the goal is to expand the knowledge base of intervention for these prevalent child related injuries.



**C) Brave Buddies:** Spent 110 hours with more than 2,500 kids in 2019. Children had the opportunity to interface with EMS crews and meet the people behind the uniform. The idea is to help reduce fear and increase the potential to act! These children can make a difference. ‘Everyone Can Be Brave’ is bringing to the community life saving potential for all ages and walks of life.

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**D) Science, Technology, Engineering, Mathematics (STEM):** Attended local high school and college events where many people are curious about EMS. Some want to pursue a career and some just want to know more about it. Partnering with volunteer groups, local law enforcement, fire and other providers of similar backgrounds. STEM is a platform to bring expanded interest into EMS at an early age, building the sustainability of EMS oriented careers and opportunity across our region.

**E) Golden Age Life Improvement Program (GALIP):** A newer program addressing the unique concerns of our senior community. This program focuses on removing the fear and anxiety often associated with the changes that impact this demographic. By reducing this fear of EMS intervention, the belief is that there will be an increase in early activation for EMS intervention resulting in more positive patient outcomes. There were four events this year hosted by partner agencies. This event educated the community about fall prevention, stroke identification and awareness, in-home safety checks and provider referrals that connect individuals to available services within the county. There is a desire to engage the senior community to lengthen and strengthen healthful and independent living.

In Contra Costa County, falls are the leading cause of accidental injuries for residents 65 and older. With partners and the 70-member Contra Costa County Fall Prevention Coalition, the Alliance is making a difference, reducing emergency calls for falls, and helping seniors stay safer in their homes. Educating older adults on programs to help increase balance and strength.

MOW Diablo Region Meals on Wheels—Fall Prevention Coalition Team Partners since 2018. By supporting seniors remaining at home, and out of hospitals and nursing homes saves a significant amount in Medicare and Medicaid costs while improving quality of life for this important community demographic.

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**F) Contra Costa Fire Protection District and REACH Public Utility Model:** While not part of the contract between the District and the County, this Public Private Partnership will result in expansion of the Air Medical Ambulance program located at Buchanan Field in Concord with the addition of a second air ambulance with fire suppression and rescue capabilities. While both district helicopters are used for air ambulance missions and transfers of critical patients between hospitals, the most recent addition will also provide hoist rescue and aerial firefighting capabilities. Those activities, and the flight personnel assigned, require approval and certification from multiple federal and state agencies. The District expects to complete pilot and flight crew training for aerial firefighting in July 2020 in order to be operational before the height of fire season this summer. Hoist rescue training will follow immediately after completion of aerial firefighting certification.

Prior to this partnership with REACH, Con Fire assigned one paramedic to STARR, the Contra Costa County Sheriff's helicopter. This partnership with REACH provides 24/7 response capabilities and increases overall rescue and aerial firefighting capacity within the county.



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**G) CO/PA (Clinical Outcomes & Performance Analysis) Overview GOAL:** A collaborative clinical initiative to ensure best care possible for our patients. Analysis of cases where patient care could have benefited from better collaborative care or operational processes.

The main objectives include:

1. Identification of areas for improvement (i.e. clinical care, clinical supply, equipment, operations, dispatch, resource allocation and utilization)
2. Data collection to support the need for improvement
3. Aggregation of data involving what we can do globally to enhance care to our patients.

**H) AMR-REACH Integration:** This initiative began in 2018 and continued through 2019 prior to the Public Utility Model realized with the Contra Costa County Fire Protection District and REACH. Focus groups were established at the director, management, and field levels to discover various ways to integrate the air and ground prehospital services to the Contra Costa County citizens. Areas of focus include: operations, clinical services, training, community outreach, marketing, and field recognition.

One area of operational focus included the streamlining of communications and patient care practices for scene calls involving air transport, ground transport, and First Responder Advanced Life Support (FRALS) resources. Engaged local allied agencies for input and process implementation.

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**I) Average Patient Offload Time (APOT) Focus Group:** This focus group involved leadership from the Fire District, its ambulance transport program, allied transporting agencies, law enforcement, and hospitals to discover effective and sustainable methods of reducing wall times at local hospitals. This was a specific ask as a response of the 2018 Annual Performance Review. This specific group started their meetings in October 2019. An all-day facilitated meeting was conducted in the fall of 2019 to identify certain measurable and collective ideas for improving APOT issues.

**J) Intentional Mass Casualty Incident (IMCI) Training and Equipment:** Contra Costa County Fire established IMCI protocols during 2019. This follows the intent of legislation (CA AB 1598) which directs first responder agencies to work collaboratively in establishing active shooter protocols. To date, Contra Costa Fire has worked with a majority of its partner law enforcement agencies on implementing tools, policies, and practices to save lives as quickly as possible in an active shooter situation. This work has included establishing protocols, discussing detailed issues, and hands on training scenarios which the majority of Fire District personnel have participated in.

Contra Costa Fire has outfitted each piece of apparatus with Ballistic Protection Equipment (BPE) which includes helmets, vests, and quick care medical equipment. All operations personnel have been trained on the use of this equipment, command and control procedures, and Rescue Task Force (RTF) operations in which 2 to 3 fire personnel enter a warm zone area under force protection (law enforcement). A warm zone would be considered an area with no obvious threat, but a threat may exist or may reemerge. At this time District personnel will not enter a hot zone which is considered a high probability of threat.

Lastly, Contra Costa Fire has established an IMCI team consisting of 30 fire personnel who have received a higher level of training, work closely with law enforcement, and are the “subject matter experts” for the District. This team participates in extra training classes inside and outside of the District and also trains other District personnel.

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### Clinical Performance

The following references the clinical requirements as stated in the emergency ambulance contract.

#### **A) Mandatory Trainings**

##### Q1 Mandatory Training:

The focus of quarter one mandatory training was a documentation refresher on STEMI (type of heart attack) Stroke, Trauma, and Cardiac Arrest. Patient care documentation is vital to the overall health record and is consistently evaluated so that all EMS healthcare providers can improve. It enhances the continuity of patient care, helps with reporting changes in patient conditions, and ensures appropriate billing practices by providing insight into the care that was provided to each patient. Training also covered Advanced Life Support Inner-facility transports (ALS-IFT). The ALS-IFT program was developed to support the hospital system by providing a paramedic level scope of practice which allowed a higher level of care of patients to be transported within the medical system. Lastly training included a review of the Contra Costa County air ambulance policy and Duty to Act procedures.

##### Q2 Mandatory Training:

Quarter 2's Mandatory Training was focused on Disaster Response. This is an annual training refresher that outlines the latest information and changes to disaster management and response. Incident Command Structure (ICS) Structure, is the standard approach for large events that help continuity of communication standards. Training also touched on a review of the Spinal Motion Restriction (SMR), an important piece of equipment used for spinal immobilization for trauma related injuries. Training also addressed use of the SMR in trauma and the importance of the Critical Incident Stress Management (CISM) program for employees. This wellness training provides information and self-recognition training for potential stress indicators that lead to detrimental outcomes for caregivers. This is important to reinforce the pathways and assistance provided to caregivers who provide the emergency care to our communities.

##### Q3 Mandatory Training:



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The focus of Quarter 3 Mandatory Training was equipment based. Airway anatomy and physiology was reviewed in preparation for the introduction of airway devices implemented in Q4. In addition to the airway anatomy review, employees were also trained on the proper and safe handling of the new patient physical restraints that AMR in Contra Costa County will begin using in January 2020.

#### Q4 Mandatory Training:

Quarter 4 training was the most heavily weighted training this year. In addition to AMRs Pediatric Initiative topics for 2019, Contra Costa EMS in partnership with AMR also introduced new medications and tools that will be coming to our county in the coming year. This included the use and training of iGels which is a unique rescue airway device. The iGel is a 2<sup>nd</sup> generation supraglottic airway device with a soft, gel-like, non-inflatable cuff that has a higher success rate in obtaining an airway if needed. The iGel changed the face of airway management and is now widely used in anesthesia and resuscitation efforts across the globe. Also, Intravenous (IV) Tylenol and Ketamine were new medications implemented to assist patient pain. Finally, a review on Epinephrine (lifesaving drug), Narcan (used for narcotic overdoses) and the use of Glucometers (to help read blood sugars in patients) for Emergency Medical Technicians (EMT)s in the EMS environment were also completed.

#### **B) Health Care Initiative 2019**

Each year, AMR partners with the Contra Costa County EMS Agency and chooses one initiative on which to focus and train. In 2019, the decision was made to focus on improving care for ill and injured children. 2019's initiative had two parts.

Part one of this initiative educated our employees on what an appropriately secured car seat looks like, and the steps to follow to make sure a car seat is secured adequately. In Q4 training, the employees were able to practice these skills in real time.

The second part of the pediatric initiative was non-fatal drownings. Because of the beautiful climate, California is near the top of the list for child injury near and in water. This was included as part of the initiative, due to the rising diagnoses of non-fatal drownings in the United States.



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The training on car seats included educational materials from the California Highway Patrol (CHP), recognition of a properly secured car seat, and the steps to follow to make sure a car seat is secured adequately.

California ranks 3rd in the nation for child injury near and in water. As a result of rising diagnoses of non-fatal drownings in the United States, further education on recognition and treatment was given to our providers.

### **C) Epinephrine (Epi), Naloxone (Narcan) and Glucometer Usage Training**

Beginning July 1, 2019, the State of California Emergency Medical Services Agency implemented a new policy stating all EMTs recertifying would be required to complete this training. The Fire District and AMR created a program to train both our employee groups, and any allied agency personnel. The purpose of the training was to:

1. Provide a review of anaphylaxis and other respiratory emergencies where Epi should be used.
2. Provide a review of narcotic overdose and Naloxone administration.
3. Provide a review of diabetic emergencies and the use of glucometers to check finger stick blood glucose levels.
4. Provide education/training to EMT personnel on how to use an Epi auto-injector, Naloxone intra-muscular (IM) and intra-nasal (IN) administration, and how to use a glucometer.
5. This training will allow the EMT to administer these medications, as opposed to the past where a paramedic had to administer the medication. The increase in scope of the EMT training, will allow the paramedic to provide other needed more advanced care in the field where and when appropriate.

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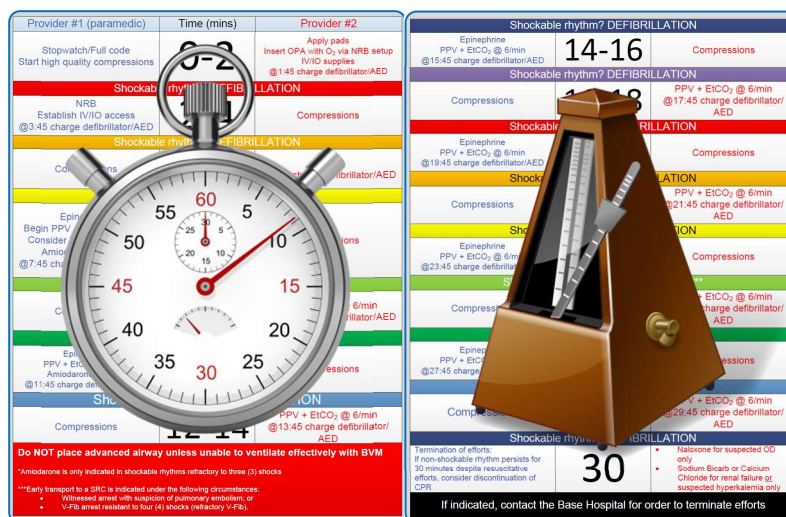
### For Year 2019

#### D) Clinical Recognition

1. California Ambulance Association Service Excellence
2. Anna Cleese—Education Specialist
  - Enhanced Bystander CPR (EBCPR) for community impact
3. Enrico Aguilar—Clinical Manager
  - Cardiopulmonary Resuscitation – Highly Defined (CPR-HD) for clinical contribution

Cardiac Arrest Management Improvement Initiative was one of five Contra Costa County EMS Agency (CCCEMSA) Improvement Initiatives. Beginning in 2017, Alliance and CCCEMSA partnered in identifying a Cardiac Arrest Management type to fit our response area's unique characteristics. In collaboration CPR-HD was piloted and subsequently in 2019 was implemented County-wide.

CPR-HD is a scripted, timed and choreographed response to the management of Cardiac Arrest patients in Contra Costa County. Utilizing a script provides guidance to providers that focuses on evidenced based interventions which has proven to save lives, improve compressions and deliver timely defibrillations.



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Utstein rates are utilized to define a consistent metric across response areas. In addition, when quantifying survival, a Cerebral Performance Category (CPC) score defines the neurological impact to a patient's life this devastating event may have caused.

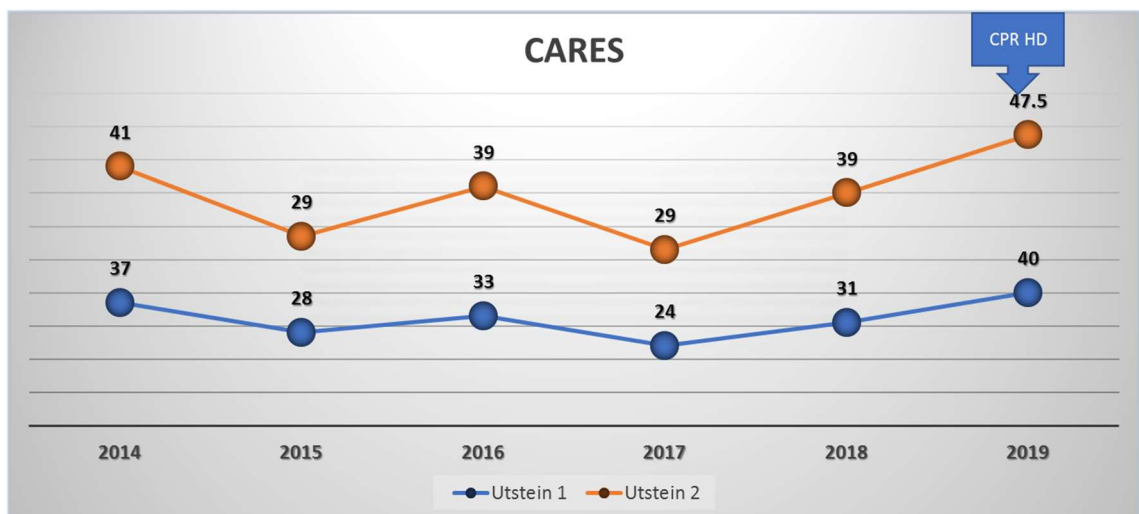
Below shows how cardiac arrest management has improved with a new program called CPR-HD.

Utstein<sup>1</sup>: Witnessed Arrest, found in shockable rhythm, discharged from hospital with CPC 1 or 2

Utstein<sup>2</sup>: Witnessed Arrest, bystander CPR, found in shockable rhythm, discharged from hospital with CPC 1 or 2

### Cerebral Performance Category

Good outcome	
1	Conscious and alert with normal function or only slight disability
2	Conscious and alert with moderate disability
Bad outcome	
3	Conscious with severe disability
4	Comatose or persistent vegetative state
5	Brain dead or death from other causes



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#### 4. American Heart Association Mission Lifeline: Gold Plus

**Mission: Lifeline** EMS Recognition is the American Heart Association's program that recognizes EMS Agencies for their quality of care for STEMI and Acute Coronary Syndrome (ACS) patients.



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### Workforce Stability

- A) 2019 AFSCME-AMR Labor Contract:** Various measures were implemented in this contract to address workforce retention. Wage scales were augmented to offer competitive wages for new Paramedics in the county as well as retain Paramedics with 3-5 years of experience. Additionally, wage increases were implemented for the most senior members of the workforce (10+ years of experience). Shift assignment procedures for part-time personnel were augmented to allow new Paramedics and EMTs greater ability to pick up shifts and thereby retain the part-time workforce.
- B) Current Concepts:** The Clinical Education Department hosts quarterly meetings with field representatives to discuss field-level challenges and successes in the Contra Costa County prehospital environment.
- C) Physical Wellness Initiatives:** Physical wellness became a topic of emphasis in 2019. The initial phases of implementation centered on nutrition. “Baskets” are delivered to each of the deployment centers no less than weekly that offer healthy eating options for employees at no cost to them.
- D) Workplace Violence Prevention and Management:** Mandatory training was implemented in 2019 for all employees addressing violence in the workplace as it pertains to interactions with patients and other members of the public. Topics covered include: non-threatening methods of communication (tone, content, and body language), motives for violence, and methods of verbal de-escalation, and techniques for self-defense and management of violent patients.

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### Pricing and Revenue Recovery Fiscal Stability and Sustainability

- A)** Pricing and revenue recovery: the District is recovering its cost of providing services through the current rate structure, established payer mix, and the collection rate.
- B)** Fiscal Stability and Sustainability: Currently the model is fiscally stable. Sustainability would be retrospective based on experience data for 2016-2020\* (to date). \*District staff are closely monitoring reduced 911 call volume and potential reductions in revenue as a result of reduced emergency ambulance transports during the COVID-19 pandemic.
- C)** The end of year fund balance in the EMS transport fund for FY 2018-19 was over \$25,000,000 (\$25,089,000).
- D)** The District continues to build appropriate reserves and prepare for future uncertainties in the health care system and payer plans. The recommendation to have a six-month reserve of operating expenses was achieved at the conclusion of the fiscal year 2018-19 when financial reserve levels reached 50% of operating expenses. This reserve amount will continue to be adjusted as the annual operating expenses for the Alliance fluctuates.



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End of report.