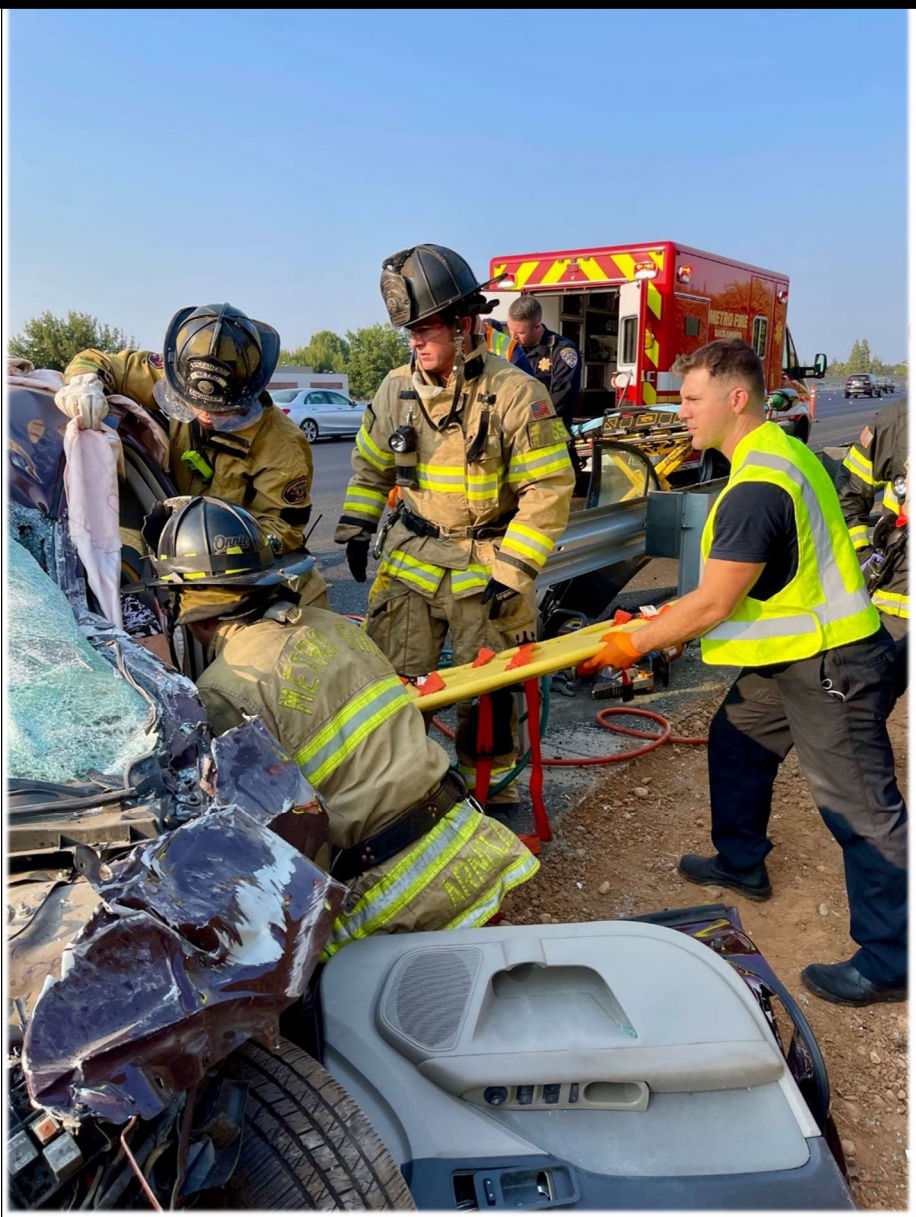
2022

Metro Fire Quality Improvement Plan (QIP) Annual Report



Assistant Chief Jon Rudnicki

EMS Battalion Chief Brian Gonsalves

Metro Fire EMS Division

www.metrofire.ca.gov

1/1/2022

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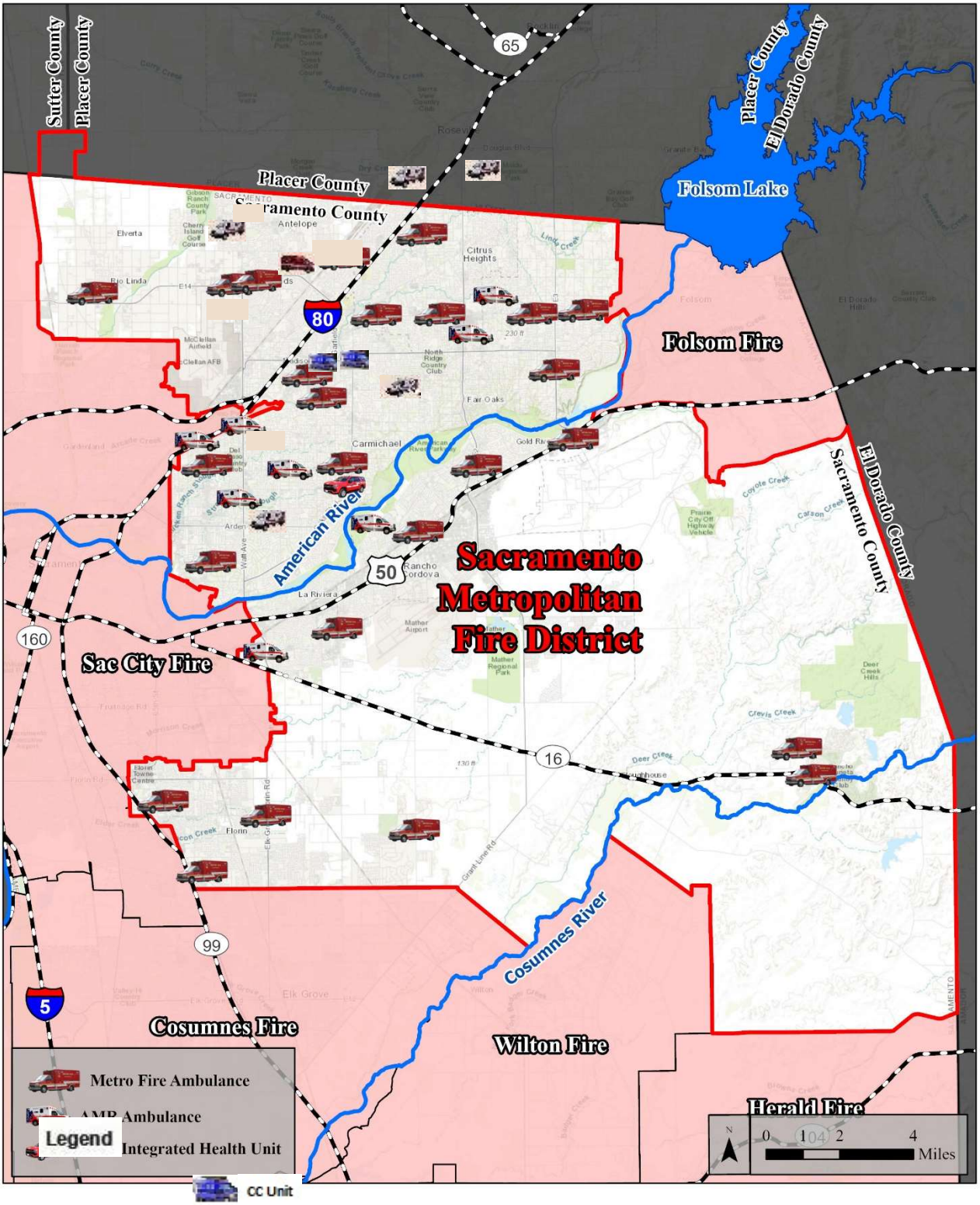
Core Values

Integrity Professionalism Teamwork Devotion to Duty

Metro Fire Ambulance Coverage



AGENCY OVERVIEW

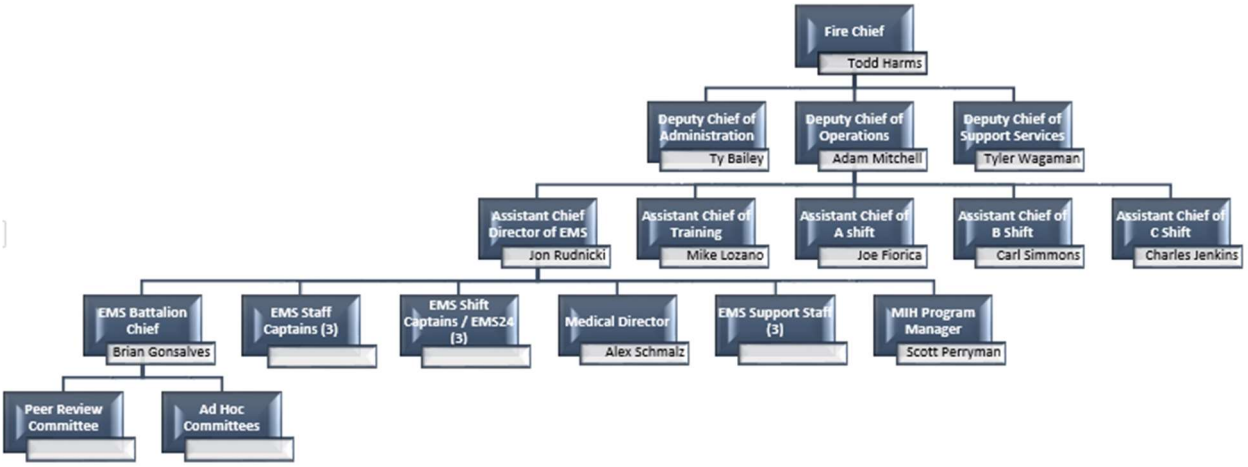
The Sacramento Metropolitan Fire District ("Metro Fire") is a special district that was created in December of 2000 as the result of reorganization of the American River and Sacramento County Fire Protection Districts. The District provides fire suppression, rescue, emergency medical services (EMS), and Mobile Integrated Health (MIH) along with multiple other public safety and specialty hazard mitigation services to a population of over 700,000 people in an area encompassing over 358 square miles.

Metro Fire is governed by a nine-member Board of Directors elected by the voters within specified geographical areas, or divisions, of Metro Fire's operational area. Pursuant to Section 22000(a) of the Election Code, the District's division boundaries were adjusted in 2021 as a result of the 2020 decennial Census so that each division is equal in population, as far as practicable. The Fire Chief oversees the general operations of Metro Fire, guided by the policy direction of the Board of Directors and supported by an executive Staff - consisting of the Board Clerk and the three Deputy Chiefs who manage the Operations, Administration, and Support Services Branches. The Administrative Branch and the Support Services Branch work in cooperation with the Operations Branch, which encompasses the areas of Fire & Rescue, Emergency Medical Services (including MIH), Training & Safety, Special Operations, Homeland Security, Fire Investigation, and Health & Wellness.

Daily emergency operations are managed by five (5) Battalion Chiefs, and an EMS Officer (EMS24) with oversight by an on-duty Shift Commander. Fire suppression crews, including dual role ambulances, work a 48-hour shift, followed by a 96-hour off-duty cycle, while the Single Role Paramedic Program (SRP) works a 24-hour shift, followed by a 72-hour off-duty cycle.

The District is continually monitoring and evaluating crew staffing and unit deployment to ensure resource coverage is appropriate for the needs of the community. Standards of coverage is evaluated with the aid of an apparatus deployment analysis module (ADAM) in Deccan. ADAM is a predictive modeling tool that uses historical CAD data, GIS map data and a rigorous projection algorithm to project the impact of deployment changes on response times and availability. Given the diverse nature of public safety, Metro Fire is committed to being an "All-Hazard" agency, providing the best service possible to the citizens of Sacramento and Placer Counties.

ORGANIZATIONAL CHART



EMS DIVISION - Staff

The EMS Division is supported by the following administrative positions:

1 Assistant Chief / Director of EMS

1 Battalion Chief of EMS / CQI Manager

1 District Medical Director

3 EMS Staff Captains

3 EMS Shift Captains (EMS24)

1 Mobile Integrated Health Program Manager

2 Emergency Medical Services Technicians

1 Administrative Specialist

- In February of 2022, a new EMS Battalion Chief joined the Division
- In June of 2022, a new Assistant Chief (AC) of EMS joined the Division
- In July of 2022, a new SMFD Medical Director replaced the Regional Medical Director

EMS DIVISION - Operations

The EMS Division is responsible for the oversight of Metro Fire's emergency medical services, ensuring that its emergency medical technician (EMT) and paramedic personnel are trained, qualified, and equipped to serve the public at the highest level. EMT's are certified to provide Basic Life Support (BLS) care, while paramedics are licensed and accredited to provide Advanced Life Support (ALS).

Metro Fire employs over 500 paramedics who are assigned on resources typed as engines, trucks, medic units, community care response units, helicopters, aircraft rescue and firefighting (ARFF) apparatus, boats, golf carts and bicycles which operate from forty-one (41) fire stations. This deployment model supports around-the-clock operation of forty-four (44) fully staffed ALS-level first responder companies that answer calls for service in concert with the District's ALS ambulances and those from other 9-1-1 based ALS transporting fire agencies within the region.

The provision of ALS transportation services by Metro Fire is accomplished through the strategic deployment of Fire Department Medic (FDM) ambulances staffed by "dual-role" fire suppression personnel (firefighter/paramedics and firefighter/EMTs), and by additional transporting units staffed with members of the District's Single Role Paramedic (SRP) Program.

Metro Fire deploys a fleet of nineteen (19) 24-hour ALS ambulances, with an additional five (5) in-service reserve medics (ISRMs) available to be immediately mobilized and cross-staffed by on-duty fire suppression personnel. The flexibility to provide immediate surge capacity was critical in 2022 as medic draw-down continued to reach critical levels due to extended ambulance patient offload times (APOT), also known as hospital bed delays. In California, the APOT standard is twenty (20) minutes, and local hospitals still struggled to meet this benchmark (see Appendix G).

The District is also contracted with American Medical Response (AMR) to provide eight (8) ALS ambulances. These units operate in staggered 12-hour shifts, 365 days a year, during times of high call volume. For Fiscal Year 22/23, AMR is contracted to provide a minimum of 35,040 unit hours to Metro Fire plus additional surge protection upon request as needed.

EMS DIVISION – Special Programs

Sacramento Mobile Integrated Health (SacMIH)

SacMIH pairs an advanced level practitioner with a firefighter/paramedic to address the health needs of patients with a record of high utilization of health care services in the field.

The objectives of the program are to:

- Improve continuity of care for high utilizers of EMS and emergency department services;
- Reduce unnecessary EMS transports and emergency department visits;
- Reduce hospital readmissions;
- Reduce healthcare expenditures;
- Expedite appropriate care for patients calling 9-1-1; and
- Provide appropriate care for behavioral health patients encountering 9-1-1 services

As the pandemic situation continued to stabilize in 2022, implementation and utilization of the SacMIH pilot project gained traction.

In mid-2022, the District selected Dr. Alex Schmalz as the program's new medical director/supervising physician. Dr. Schmalz replaced Dr. Kevin Mackey - whose prior Community Paramedic Program (CPP) experience elsewhere was pivotal in building the Metro model which launched in 2021.

On August 16, 2022, accessibility to the MIH program was expanded by SCEMSA's approval for MIH to be requested to 9-1-1 incidents. This contributed to the MIH team's ability to complete 754 patient visits by the end of 2022.

For 2023, Dr. Schmalz and Battalion Chief Scott Perryman are aiming to enhance the value of the program by focusing on sustainable funding pathways to lessen the reliance on external grants.

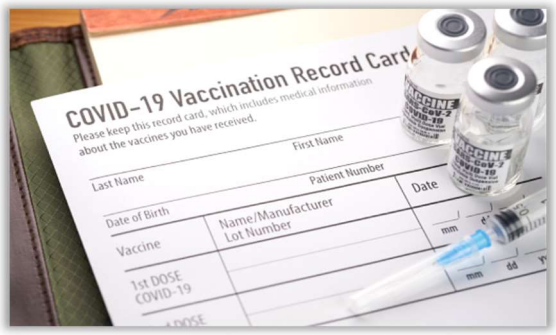
COVID-19 Testing & Communicable Disease Exposure Tracking

In 2022, the EMS Division continued to receive exponentially more communicable disease exposure notifications from our hospital partners than usual – almost all related to COVID-19. As SARS-CoV-2 variants emerged throughout the year, so did changes in testing. Prior to the pandemic, the Designated Infection Control officer processed 5-7 exposure notifications per year. EMS Division staff processed 1,461 exposure notifications for COVID-19 patients (260 more than in 2021) that were treated and/or transported by our members. Each notification required staff to research the personnel on scene and confirm proper PPE use. If a breach of PPE was identified, contact tracing was performed and personnel referred for COVID-19 testing.

The EMS Division also played a key role in providing COVID-19 testing for members who had an exposure or reported symptoms. Rapid antigen testing was provided for symptomatic personnel, and PCR tests were processed by the SCPH lab. Staff worked diligently to provide members their test results within 24 hours. In 2022, the EMS Division performed 1,517 tests for our responders and dispatchers – an increase of more than 33% from 2021. Station 109 in Carmichael served as Metro Fire's primary COVID-19 testing site with mobile testing available as needed. The EMS Division worked closely with the Human Resources Division to track exposures and ensure the CDC and Sacramento County Public Health isolation and testing recommendations were strictly followed to protect our responders and the public we serve.

Expanded Scope of Practice Training

In 2022, Metro Fire continued to play a crucial role in Sacramento County Public Health's response to COVID-19. To support the response effort, Metro Fire worked with the Fire Service Medical Director to deliver expanded scope of practice training to paramedics to perform nasopharyngeal and oropharyngeal COVID-19 swab testing and administer COVID-19 vaccines.



Qualified paramedics reinforced the District's ongoing efforts to meet the demands of COVID testing for our members and staff from allied agencies. The EMS Division's testing operation was instrumental in ensuring our continued capability to staff fire stations and the Sacramento Regional Fire & EMS Communication Center.

UC Davis EMS Fellowship

For the first half of 2022, the District continued its collaboration with UC Davis Medical Center (UCDMC) on the Department of Emergency Medicine/EMS Fellowship Program. The EMS Fellowship is an accredited program that prepares Fellows for subspecialty board certification in pre-hospital care. Under this uniquely structured arrangement, Metro Fire hosted a UCDMC EMS Fellow once a week as a ride-along at three of the District's busiest and most operationally diverse fire stations on a rotational basis.

With the change in Medical Directors on July 1, 2022, the UCDMC EMS Fellowship transitioned with Dr. Kevin Mackey over to Sacramento Fire where it continues to thrive today.

Tactical EMS

The TEMS team is Metro Fire's second busiest Special Operations Unit with 114 calls for service in 2022 (Air Ops was the busiest). The Metro Fire TEMS team consists of 16 paramedics who engage in quarterly in-house training as well as training opportunities with local LE partners. TEMS works with SSD, CHPD, Sac FBI and Sac HIS to provide ALS Tactical EMS support for every SWAT callout that SSD and CHPD SWAT responds to. Team members respond off duty for planned need requests and on duty for immediate need requests. The most common requests are for high risk warrants and barricaded subjects.

Air Operations

Air Operations make up Metro Fire's busiest Special Operations Unit with 233 helicopter calls related to fire suppression and rescue in 2022. Copters 1 & 2 are a regional resource extending beyond the borders of Sacramento County. They are ALS staffed and have proven to be effective in situations where accessibility by ground units is prohibitive.

STANDARD INDICATORS – Personnel

Academy Training

Newly-hired dual-role and SRP personnel represent a significant area of focus for Metro Fire in the QI process. In 2022, the District ran four (4) recruit academies: three (3) for SRP and one (1) for firefighters. The three (3) SRP Academies graduated 37 new paramedics and EMTs. The Firefighter Academy of 37 recruits included 8 paramedics and 4 EMTs from the SRP Program. This added sixty-two (62) EMTs and paramedics to the front lines of our EMS program.

Accordingly, EMS training comprises a substantial portion of the extended instruction regularly provided by the District within the recruit academies respective to each job classification – 18 weeks for firefighters and typically 4-6 weeks for SRPs, dependent upon class size.

These models incorporate lecture and hands-on teaching and review of EMS skills, pathophysiology, documentation, and the legal aspects of EMS. The academies make use of District personnel as instructors, but also include guest speakers drawn from the local medical community. Exposure to instructors with advanced training and experience has been shown to be effective and well-received by the students.

Beyond the classroom setting, the academies rely heavily on realistic simulations for training and scored testing in representative situations that require teamwork and time management. These scenarios make use of advanced training mannequins that students can use to perform intubation, pleural decompression, cricothyrotomy, and many other procedures in life-like settings. Students are required to meet or exceed designated performance standards throughout the academy. In 2023, access to American River College's Virtual Reality Lab is being increased - along with High Fidelity Simulation stations - as cutting edge training modalities to better reach today's adult learner.

Initiatives for Probationary Employees

Several methodologies are utilized by Metro Fire in gauging the aptitude of the District's newest ALS and BLS care providers during the year-long probationary phase of employment following successful graduation from the recruit academy.

Probationary Firefighters initially are assigned to a District ambulance as a third-person ride-along (RA) for a minimum of (10) 24-hour shifts under the direct tutelage of an EMS mentor – a tenured paramedic in good standing. During this time, new members undergo an introductory evaluation process that involves demonstrating baseline knowledge and

competencies by following a Task Book and earning "sign-offs" relevant to fundamental operational and procedural aspects of the job.

Concurrently, daily and cumulative major appraisals that specify key performance indicators are used as a means to quantify the probationary employee's EMS skills proficiency observed during training and actual incidents. Input from the crew and Company Officer, along with oversight by the operational chain of command and review by the EMS Division are essential components of the process.

Based upon the progress noted, a recommendation to extend the evaluation period or clear the member to count towards staffing (thereby ending RA status) is submitted to the EMS Division at the conclusion of the ten-shift period, along with documentation to support the endorsement, or recommendation for an individual education plan. The EMS Captains gather feedback from the crew and work with the Assistant Chief of EMS and medical director to develop the Performance

Improvement Plan (see Appendix D) when indicated. New SRPs follow a similar format for orientation, but adhere to a more compressed timeline due to a different work schedule and a more narrow scope of responsibility as non-firefighters.

Throughout the remainder of probation, additional measures are applied towards ensuring proficiency with EMS-related disciplines. This includes skills testing at 6-months and 12-months. These periodic performance assessments grade the quality of ALS and BLS-level patient care and often are incorporated into fire suppression-based scenarios (i.e. rescues) to add stress and realism to the event.

In addition to increasingly challenging standards applied in the testing environment, personnel new to Metro Fire receive a thorough assessment of patient care reports by Peer Review Committee members and ongoing mentorship and evaluation by more experienced members. This collective approach establishes a strong foundation for incoming members to build upon as they begin their careers as EMS professionals with Metro Fire.

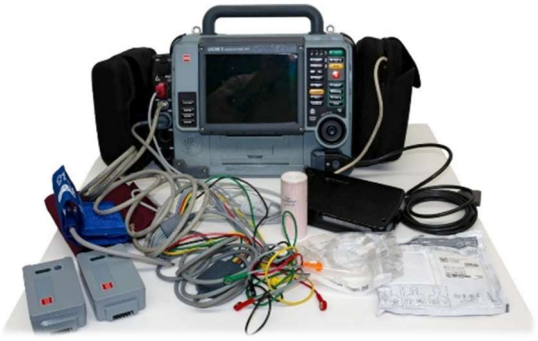
STANDARD INDICATORS - Equipment & Supplies

Metro Fire recognizes the importance of deploying the proper tools and equipment to facilitate the delivery of high quality Emergency Medical Services to the communities that we serve. The District currently uses portable cardiac monitor/defibrillators, LUCAS devices, stair chairs and gurneys manufactured by Stryker Medical Corporation, all of which undergo preventative maintenance performed by qualified technicians at intervals prescribed by the manufacturer. Any repair needs that arise are promptly addressed through the terms of a service agreement with Stryker, and faulty equipment is expeditiously replaced in the field by Logistics or EMS24. Maintenance and service records are available upon request.

In accordance with SCEMSA and District policies, medical device failures are immediately reported to the EMS Division and the appropriate documentation submitted. Metro Fire's Medical Equipment Malfunction policy utilizes a reporting tool that streamlines the process of tracking equipment issues for the EMS Division.

In a collaborative effort between the District's EMS and Logistics Divisions, Metro Fire regularly partners with vendors and completes an annual business review of supply and equipment needs. This proactive approach allows for the evaluation of new products and supports the identification of new efficiencies and optimal gear configurations.

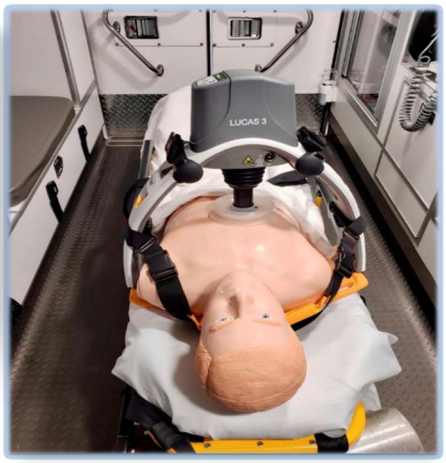
Between March 30 and April 4, 2022, the District configured and implemented 90 new LIFEPAK 15 Version 4 cardiac monitor/defibrillators. The decision to stay with the LIFEPAK 15 was based on cost savings and operational efficiencies. District personnel are already trained on the proper use and care of the LIFEPAK 15. Additionally, the District already has an existing inventory of peripheral supplies and accessories that are compatible with the desired unit, saving the District the cost of replacing the inventory of existing supplies.



To maximize cost savings, the District utilized a master cooperative purchasing agreement through a host public agency. The Savvik Buying Group is a non-profit organization that serves the public safety sector by contracting for public safety equipment, supplies, and services through a full and fair competitive bidding or quotation process, ensuring the best pricing on quality products and services. As a member of the Savvik Buying Group, the District is able to utilize contracts that

have been competitively bid through this process and obtain the contracted pricing discounts. Utilizing these types of contracts saves the District time and money, while still meeting all competitive bidding requirements.

Once the order for new cardiac monitor/defibrillators was placed, it was determined additional monies were still available from the grant award.



In December 2021, FEMA approved the District's request to amend the grant award to purchase more LUCAS devices in addition to the cardiac monitors.

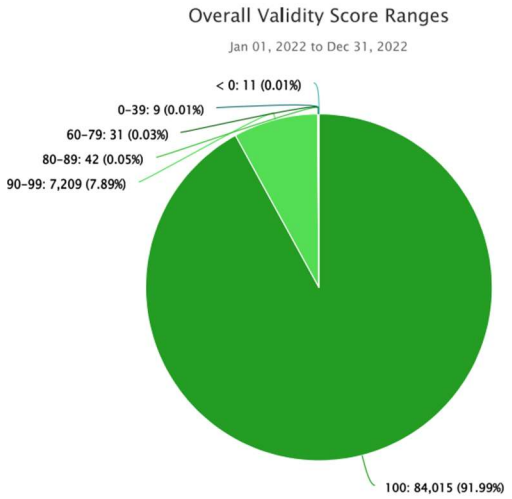
On March 4 of 2022, 13 more LUCAS devices were configured and implemented in to the system.

The annual SCEMSA ALS inspection occurred in November 2022. Just as in 2021, no issues were identified by the inspector, and Metro Fire was found to be 100% compliant with SCEMSA's ALS Inventory Policy 2030 (see Appendix F).

STANDARD INDICATORS – Documentation

Quality documentation is an essential, yet often overlooked, element of patient care. Trends identified during retrospective CQI review of ePCRs revealed a need for formalized documentation training for all personnel. Last year, the EMS Division completed a comprehensive review of past practices and training methods and determined that a multi-faceted approach was needed. Staff develop curriculum on common user errors noted with the ePCR platform and conduct company level training periodically.

The EMS Technicians review daily auto-exports of ePCRs to the State, and work to correct export errors to ensure that time-frames for data export are adhered to. Review of quarterly dashboards from SCEMSA allowed for revision of validation rules in the system that provide real-time feedback and detailed guidance to providers completing patient care reports. While completing a PCR, personnel can see their current validation score. The higher the score, the more complete the report from a completion, NEMSIS/CEMSIS compliance, and protocol accuracy standpoint. All validation errors have an error message built into the system which instructs the provider on how to correct the error. This has proven to be an effective method of providing crews with documentation instruction on every call as well as decreasing export errors.



In addition, during the first quarter of 2022, the EMS Division began providing all front-line personnel with Certified Ambulance Documentation Specialist (CADS) certification offered by the National Academy of Ambulance Compliance. Documentation is a skill that can be taught, learned, practiced, and improved. The CADS course helps our providers understand the relationship between the clinical narrative and NEMSIS data elements and their role in providing a complete and accurate record of every patient encounter.

STANDARD INDICATORS – Clinical Care & Patient Outcome

The Director of EMS, the SMFD Medical Director, and the EMS Battalion Chief/ CQI Manager work collaboratively to facilitate the review of patient care and monitor indicators. The CQI process maintains confidentiality under Section §1040 and §1157.7 of the Evidence Code of the State of California. The prohibition relating to the discovery of information provided to the District's Quality Improvement committees applies to all proceedings and records of these committees, which are established to monitor, evaluate and report on the quality of pre-hospital

care delivered by Metro Fire's providers. Issues meeting the threshold of a Reportable Incident are referred to the SCEMSA Medical Director for review as required by California Health & Safety Code Division 2.5; California Code of Regulations, Title 22, Division 9; and SCEMSA Program Document 7602 Quality Assurance Program.

All Peer Committee members and attendees sign a confidentiality agreement (see Appendix B) not to disclose information obtained through the district's CQI process. The EMS Battalion Chief/CQI Manager is responsible for explaining and obtaining a signed confidentiality agreement for guest(s) prior to participation in any committee meeting (see Appendix B). The Chairperson of the Peer Review Committee documents trends identified in meetings and information is distributed to all personnel after each meeting (see Appendix C).

Hospital base coordinators and staff routinely work with paramedics and QIP members during patient contact, run review, and case review in alliance with Metro Fire. The reviews identify outstanding patient care as well as educational opportunities. This collaboration helps develop quality, professional working relationships and the highest-quality patient care.

Utilizing patient outcome information in case reviews enhances the learning and understanding for our medics and develops slides in their slide deck for future calls. It's not easy being an EMT or paramedic. Responders are exposed to traumatic events on a routine basis and subject to physical and mental stress. Metro Fire's EMS Division strives to provide crews with patient outcome on critical calls to help highlight the positive changes we make in our patients' lives on a daily basis.

STANDARD INDICATORS – Skills Maintenance/Competency

Overall, Metro Fire completed 129,765 hours of training in 2022 through utilization of Individualized, Online and Cooperative platforms.

Individualized Training

Metro Fire's team of skilled first responders is supported by recurrent professional training and continuous quality care improvement. The EMS Division utilizes a training cycle to ensure

all personnel are evaluated on key skills twice a year. To meet the individual needs of Metro Fire's paramedics and EMTs, qualified EMS Staff Members and EMS24 personnel provided direct training for on-duty crew members. This process was used to meet the county requirements for infrequent skills check-offs, and to address remedial issues identified through the Peer Review Committee and focused audits. This is a labor-intensive process designed to address the needs of the employees in a cost-effective and flexible way. The EMS Division tracks the upcoming expirations of crew members and provides one-on-one or company-level classes to crew members as needed. This direct personal training provides the most engaging instruction of all training methods used by the District.

On-line Training

The use of VectorSolutions allowed Metro Fire to furnish consistent training to the District's workforce despite the challenges and constraints caused by COVID-19. The software was utilized to present over 6,000 hours of educational content to 660 personnel covering a range of EMS-related topics. Additionally, it enabled Metro Fire to track training completions in real time for assignments pertaining to EMS, Fire Suppression, and multiple other essential subject areas.

In 2022, Metro Fire EMTs and paramedics completed mandatory assignments on protocol updates, CQI trends, best practices for medication administration including Ketamine, and were introduced in April to the addition of Operative IQ's tracking abilities of controlled substances.

One clear benefit of VectorSolutions is the ability to record, report, and monitor member currency with multiple credentials, such as paramedic licensure and accreditation, EMT certification, and other specialized courses such as PHTLS, ACLS, and CPR.

While online training is not ideal for the delivery of instruction in every topic, it provides an advantageous means of disseminating information that supports Metro Fire's efforts to ensure that members maintain proficiency and stay up-to-date with training and provider qualifications.

Cooperative Training

The most comprehensive out-of-hospital medical education and training is furnished twice a year through the EMS Division to all Metro Fire Paramedics, EMTs, and first responders. These sessions promote skills maintenance and deliver the competency verification required by SCEMSA. Additionally, this is the forum used to provide requisite certification training (CPR,

ACLS, Handtevy, and PHTLS).

There are several skills that don't logically correspond to the certificate classes, such as Duo-Dote administration and childbirth. These are periodically incorporated into other modalities, or provided as needed by members of EMS Staff to on-duty crew members. This method of delivery has proven effective in meeting the requirements, but more importantly, provides a direct, small-group dynamic that elicits greater engagement by the crews and offers opportunities for more personalized instruction.

Skills verified in 2022

Adult Airway Management: Per SCEMSA PD# 8020
Bag-Valve Mask ventilation
Cardiac Arrest Management with AED
Childbirth and Neonatal Resuscitation
Emergency Childbirth Per SCEMSA Policy 8042
Epinephrine and Nolaxone Administration
External Jugular (EJ) IV Cannulation
Hemorrhage Control & Shock Management
Hemorrhage Control: Per SCEMSA PD# 8065
Interosseous Placement and Infusion per SCEMSA PD# 8808 Vascular Access
Medical Assessment
Medication Administration: Ketamine PD# 8066
Medication Administration: Nerve Agent Exposure PD# 8027
Medication Administration: Epinephrine Dilution
Needle Chest Decompression: Per SCEMSA PD# 8015
Oxygen Administration
Pediatric Airway Management Per SCEMSA PD# 8837
Penetrating Chest Injury
Percutaneous Cricothyrotomy: Per SCEMSA Policy PD# 8801
Spinal Motion Restriction - Supine and Seated
Transcutaneous Cardiac Pacing & Cardioversion (Adult and Pediatrics) SCEMSA PD# 8810
Trauma Assessment

Finally, the EMS Division continued the use of video to share updates including Dr. Mackey's *Five Minutes or Less of EMS* video series and the *Fire Department Connection*, Metro Fire's internal newsletter.

With the assistance of the Training Division, guest lectures at Peer Review meetings were recorded and made available for all members. This use of multi-media aids in reaching a broad audience in multiple formats. The most impactful of these recorded presentations bar none was UCDMC's Dr. Julia Magana's *Recognition of Child Abuse and Neglect*, which took place April 20th.

STANDARD INDICATORS - Transportation & Facilities

Type III ambulances built by Leader Industries have become the adopted standard for patient transportation units purchased by the District. The District's Fleet Division coordinates regular automotive service and routine repairs for our fleet of thirty-nine (39) ambulances to minimize the likelihood of mechanical failures, and to ensure that an adequate pool of reserve rigs is available at all times. Odometer readings are also tracked, and units with high-mileage are removed from service and replaced with new ones in accordance with the District's apparatus purchase plan. Assigned personnel perform daily apparatus checks and complete weekly preventative maintenance inspections that are documented in the District's pre-trip application. Maintenance records are maintained by the Fleet Division and any service centers that the District contracts with.

In 2022, three new ambulances were delivered.

In addition, the SacMIH program took delivery of a 2021 Chevy Tahoe and transitioned to their new vehicle in the first quarter of 2022.

STANDARD INDICATORS – Public Education & Prevention

Metro Fire devotes considerable resources to initiatives aimed at public education and injury prevention. Members of the District's Community Services Division (CSD) are committed to reducing the incidence of injury and death among every age group in our community.

CSD acted on their Community Risk Assessment (CRA) of 2021. The CRA was a comprehensive evaluation to identify and prioritize risks within the communities we serve. The purpose of the CRA is to enhance the safety of the community by reducing fire and other emergency events. The CRA analyzed community demographics & compiled fire and EMS response history, and the data gathered will aid in developing a Community Risk Reduction plan to target prevention and enforcement efforts. Entire communities were provided free smoke detectors which Metro Fire staff gladly installed.

Another valuable contributor in the effort to promote health and safety across all demographic groups within Metro Fire's jurisdictional area and the region at large is the District's Community Relations Division (CRD). Through the use of social media, partnerships with local

news outlets, and public service announcements, Metro Fire is able to disseminate information promoting community risk reduction.

In 2022 Metro Fire's Public Information Officer continued to raise awareness of extended APOT. Over the years, emergency department overcrowding and congestion have become increasingly common issues facing acute healthcare systems, not just in Sacramento County but statewide. APOT delays have negatively impacted the EMS system's ability to respond timely to the needs of our community, placing valuable resources "on the wall" at hospital emergency rooms for hours at the expense of having ambulances available to respond to calls for service.

Battalion Chief Perryman explains the MIH programs effect on reducing APOT times and tackling the rise in 9-1-1 call volumes

Metro Fire worked tirelessly in 2022 to advocate for decisive action to hold hospitals accountable to immediately reduce APOT, and to stop placing undue burden on the fire service and private ambulance providers. Such actions are ongoing and include:

- Participating on Sacramento County Emergency Medical Advisory Group (EMAG) and EMAG Wall Time Subcommittee
- Fire Chiefs, Operations Chiefs, and EMS Chiefs and Hospital CEO meetings
- Acquiring cots from Sacramento County OES for patient offload at the hospital
- Consolidating patients between medic crews on hospital bed delay
- Implementing SacMIH pilot project
- Tracking, analyzing, and reporting APOT data
- Advocating for Assess & Refer protocol in Sacramento (Sundowned March2022)
- Advocating for Telehealth, Community Paramedicine & Alternate Destination
- Supporting efforts to inform the California Legislature

Metro Fire remained committed to partnering with community organizations and continued to work with the Sacramento County Child & Elder Death Review Teams on public education opportunities in 2022.

In addition, the EMS Division partnered with the regional fire service agencies and hospital groups on the *Right Care-Right Place Campaign*. The Hospital Council of Northern & Central California, local emergency services including Sacramento Metropolitan Fire District, Sacramento Fire Department, Folsom Fire Department and the Cosumnes Fire Department - plus the four major hospital systems, including Common Spirit Health, Kaiser Permanente Thrive, Sutter Health, and UC Davis Health - have launched a campaign to help educate the community about the appropriate use of the 9-1-1 system and emergency departments. More appropriate use of this support system means first responders can better serve patients and the wider community as efficiently as possible. Visit www.rightcarerightplace.info for more information.

"Whether someone needs an ambulance or care at one of our hospitals, we will always be here to serve the community. Before picking up the phone, however, we encourage the public to evaluate whether it is a true emergency situation," said Brian Jensen, Vice President of the Hospital Council of Northern and Central California. "This is a great opportunity to remind the public that there are many different ways to access medical care, including community health clinics, primary care doctor's offices, urgent care or walk-in care centers and even medical advice lines operated by health systems."

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STANDARD INDICATORS – Risk Management

Metro Fire understands the importance of risk management. The District investigates all issues and complaints related to patient care and professional conduct or associated concerns. Reviews and fact-finding are conducted for the purposes of remediation and appropriate follow-up with the reporting party. When the issue has been resolved, a record is kept on file and is protected from disclosure by California Evidence Code §1157 and §1157.7.

Metro Fire participates in the Client Connect program offered by Paige, Wolfberg, & Worth LLC (PWW). PWW is a national EMS industry law firm with over two decades of experience providing legal and education resources for EMS agencies, billing companies, public safety agencies, and others related to the provision of EMS and prehospital care. The

attorneys and consultants have years of hands-on experience as EMS field providers, billers, managers and administrators, and expertise in a full range of legal matters affecting the ambulance industry, EMS and Mobile Integrated Healthcare.

Client Connect offers the District a flat fee program that provides the EMS Division with unlimited access to the EMS attorneys and consultants at PWW by phone, email, or Zoom to answer everyday questions on issues such as HIPAA, reimbursement, billing, coding, compliance, liability, documentation and other issues. The arrangement also provides discounts on continuing education courses for professional staff. The partnership has been a tremendous asset to staff and was utilized frequently throughout the year.

In addition to participating in the Client Connect program, the EMS Division utilizes PWW for ambulance claims reviews. These reviews are performed from a strict compliance perspective to identify deficiencies and risk areas, as opposed to whether claims may be "defensible" in an appeal situation. The goal of these reviews are to identify compliance risks (no matter how minor) to allow the EMS Division to explore and correct the crew documentation or billing risks identified.

PWW performs reviews of randomly-selected paid Medicare claims. Using the Office of the Inspector General's RAT-STATS 2019, Version 1.9.0.0, Random Number Generator Program, they select a pool of Medicare claims, from a universe of transports provided by Metro Fire. The review included documentation and claims submission analysis consistent with applicable Medicare ground ambulance regulations, 42 CFR Parts 410 and 414, Medicare Manuals (e.g., Medicare Benefit Policy Manual (100-02), Chapter 10, and Medicare Claims Processing Manual (100-04), Chapter 15) and related guidelines (e.g., CMS Program Memoranda, Transmittals, and Medlearn Matters articles).

In addition to verifying correct payment from the primary payer, PWW also reviews whether patient cost-sharing obligations (i.e., co-payment and deductible) were collected. The EMS Division received the results of the audit in the first quarter of 2022 and worked with our third party claims administrator, Wittman Enterprises LLC to address any identified risks or deficiencies from the claims review.

The District maintains a comprehensive program for security of controlled substances, which includes a written policy and training for all personnel who are entrusted with controlled substances. The system includes engineering controls that limit access to narcotics and track access to secure Knox Med-Vault safes. In 2022, the EMS Division implemented an electronic narcotics tracking module within the Operative IQ system.

Section 1128 of the Social Security Act entitles the Office of Inspector General (OIG) to preclude entities and individuals from federally-funded health care programs. The List of Excluded Individuals/Entities (LEIE) is kept up to date and maintained by the OIG[1]. Metro Fire compares the district's roster to the OIG list on a monthly basis to ensure compliance with federal regulations. This process is accomplished through the use of "Fuzzy Logic" to compare similar names on both lists and to avoid missing personnel whose names are typically abbreviated, or where a nickname is used (i.e. Bill vs. William).

2022 EMS TRAINING CYCLE

ACLS Equivalency & CPR Refresher

The District partnered with Cascade Training Center to provide ACLS refresher training under the county's certificate equivalency guidelines. Training was locally relevant and provided all attendees with instruction and testing for CPR, ACLS, and related infrequent skills, which included transcutaneous cardiac pacing (TCP) and synchronized cardioversion. Curriculum and scenarios were tailored to training needs identified in the focused CQI audit of SVT and advanced airway, as well as Peer Review of TCP and synchronized cardioversion cases.

This class furnished not only classroom instruction, but also featured realistic simulations that required personnel to work together as a team and attempted to replicate the timing, stress, and energy found in actual cardiac care scenarios.

Miscellaneous Skills

The EMS Division conducted childbirth and neonatal resuscitation training in the spring of 2021. Training was locally relevant and focused on covering competencies that were not otherwise addressed during the current two-year cycle. Attendees were provided with instruction and testing for needle cricothyrotomy, chest decompression, and external jugular cannulation. Additionally, training on administration of TXA, Ketamine, nasal Narcan, oral glucose and Duo-Dote was provided.

American River College Paramedic Upgrade Program

Our nation's EMS System is facing a crippling workforce shortage. This is a long-term problem that has been growing over the last decade, and COVID-19 worsened the issue. To improve and maintain the number of licensed paramedics available to Metro Fire, the District continued to

sponsor Firefighter/EMTs attending American River College's paramedic program. Sponsorships include salary, paid tuition and ancillary expenses. This is a full-time program, and the students participate in a high-flex hybrid instruction model requiring them to attend an eight (8) hour online lecture and sixteen (16) hours of on-campus clinical lab per week.

Supporting the region's efforts to improve the number of available paramedics in the workforce, Metro Fire's paramedic preceptors continued to mentor and pass along their knowledge and experience in 2022. A field internship provides emergency medical care training and experience to paramedic students under continuous supervision, instruction, and evaluation by an authorized preceptor. The field internship consists of a minimum of four hundred eighty hours (480) of third-person ride time, and represents a significant time commitment from our preceptors.

Metro Fire requires preceptors to have two (2) years of field experience in prehospital care within the last five (5) years. Ambulance experience within the last twelve (12) months is preferred. In accordance with EMSA requirements, preceptors attend a training course that includes curriculum on adult learning theory and teaching styles which will result in the preceptor being competent to evaluate the paramedic student during the internship phase of the training program. Metro Fire's preceptors are dedicated to paying it forward to develop the next generation of EMS professionals in our community.

Professional Support Staff Training

In 2022, the EMS Division maintained a strong commitment to providing continuing education to its professional support staff. The Administrative Specialist and Emergency Medical Services Technicians received continuing education required to maintain credentials from the National Academy of Ambulance Compliance (NAAC) in Certified Ambulance Privacy Officer (CAPO) and Certified Ambulance Compliance Officer (CACO).

In addition to the aforementioned continuing education requirements, the Assistant Chief of EMS obtained Certified Ambulance Coder (CAC) certification from NAAC. The CAC curriculum covers all aspects of ambulance billing, coding, and compliance. The course is designed to follow the claims process, and addresses the fundamentals of ambulance coding, including procedure coding, ICD-10 coding, proper use of transportation indicators, and modifier selections. Finally, CAC presents the major compliance areas that ambulance services must be aware of, including billing risk areas, false claims, and HIPAA issues.

Further, support staff attended several Centers for Medicare & Medicaid Services webinars on cost data analysis. Due to COVID-19, all training was delivered through web-based applications with curricula sanctioned by the appropriate accrediting bodies.

Due to retirements and transition back to the line, new EMS Captains joined the EMS Division. These members completed Designated Infection Control Officer and Certified Ambulance Documentation Specialist (CADS) certifications as well as HIPAA refresher and harassment training for supervisors.

The knowledge gained through the completion of these courses and continuing education will aid the EMS Division in handling infection control matters, proactively monitoring HIPAA compliance, and adherence to ambulance billing requirements. Additionally, this education aids staff serving as a resource to our members on the front lines of patient care.

QUALITY IMPROVEMENT PLAN OVERVIEW

In 2022, Metro Fire responded to 108,658 incidents, of which 91,339 were requests for medical aid. Of these, there were 69,857 patient contacts resulting in 47,695 transports. Approximately 60% of these patients required an ALS level of care. The District utilizes ImageTrend Elite to document patient encounters, and QA/QI reviews are completed in the CQI module of the program. Metro Fire is an approved Continuing Education Provider (CE# 34-1010) in Sacramento County (see Appendix G), and we delivered thirty-nine CE courses in 2021.

Metro Fire's EMS system and its participants require objective feedback about performance that can be used internally to support quality improvement efforts and externally to demonstrate accountability to public governing boards and other stakeholders. The primary purpose and goal of the District's Quality Improvement Plan (QIP) is to ensure continued high quality patient care.

The EMS Division conducts 100% review of all cardiac arrests, transcutaneous cardiac pacing events, synchronized cardioversion, chest decompression, childbirth, cricothyrotomy, and administration of TXA. In addition, the EMS Division conducts focused audits based on system trends and protocol changes, and random audits in various CQI categories. In June of 2022, Metro Fire personnel participated in a joint Peer Committee meeting with Kaiser-North staff which included a lecture on strokes as well as review of pertinent cases.

The QIP Committee is an integral part of ensuring we provide superior patient care in our communities.

QUALITY IMPROVEMENT POLICY

The goal of Metro Fire's Policy 04.014.01 "Quality Improvement Program" (see Appendix A) is to ensure the highest quality patient care by providing a comprehensive program to review, monitor, and evaluate patient care and identify system trends. The QI Structure is responsible for the quality management of the care delivered by Metro Fire and consists of the following positions and committees:

- Regional Fire Medical Director
    - Provides advice to administrative staff
    - Provides direct instruction to care providers
    - Acts as consultants on policy development
- Assistant Chief/Director of EMS
    - Quality Assurance Officer
    - Responsible for selection of operational indicators and the quality of service
    - Privacy Officer
    - Designated Infection Control Officer
- EMS Battalion Chief/CQI Manager
    - Coordinates Peer Review meetings
    - Responsible for accessing data for required indicators
    - Responsible for publishing of indicators
- EMS Division Captains
    - Responsible for identifying opportunities for improvement through communications and outreach
    - Assist in the development and monitoring of indicators and implementation of Performance Improvement Plans (PIPs, Appendix D)
    - Act as Designated Infection Control Officers
- Quality Assurance (EMS Division)
    - Responsible for identifying system trends
    - Responsible for identifying opportunities for improvement
    - Development and monitoring of indicators
    - Implement and monitor Performance Improvement Plans
- Peer Review Committee
    - Performs retrospective analysis of patient care records
    - Identifies opportunities for improvement by applying field experience and providing feedback to individual care providers
    - Identifies system trends and methods of addressing those trends
- Ad-hoc Committees
    - Committees formed for the purpose of addressing specific issue(s)

AREAS ADDRESSED BY PEER REVIEW

The District's Peer Review Committee is led by the EMS Battalion Chief/CQI Manager & Fire Service Medical Director with support from the EMS Fellow, and there are sixteen members of the committee from all ranks that assist with case reviews.

The Peer Review Committee members are assigned to focus on specific CQI categories created in the CQI module of the ePCR program. The team reviews electronic patient care reports that are drawn from the system based on several designated criteria. There is an overlap of subject matter, so that some patients will fall into more than one QI category.

The Peer Review Committee meets monthly on the third Wednesday to discuss cases of interest identified in the previous month. When completing reviews the committee can make one of four findings:

1) Recommendation for commendation for outstanding patient care.
2) Level 1 - Documentation error. Level 1 issues are handled immediately by the peer, and EMS Division staff is notified so we can update the receiving hospital as needed.
3) Level 2 – Protocol violation. Level 2 issues are forwarded to the EMS Battalion Chief for review and analysis of system trend or need for individual training.
4) Sentinel Event – These are incidents that meet the SCEMSA definition of a Reportable Incident. Sentinel Events are immediately reported to the Assistant Chief of EMS for review and notification of SCEMSA as needed.

The following categories were assigned to Peer Review Committee members and EMS Division staff for review in 2022. Categories with an asterisk received 100% review:

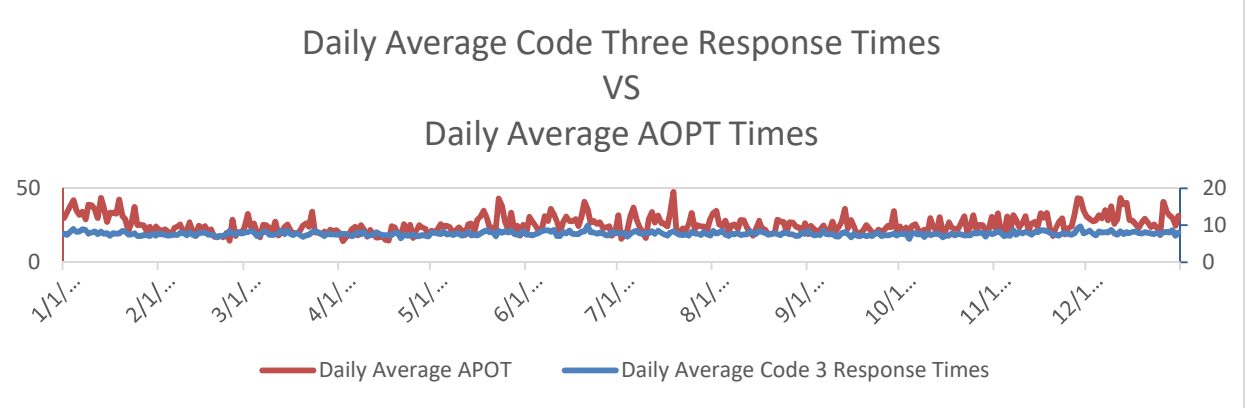
ACS	SMR Audit	Q/A Review
Advanced Airway	General CQI Review	Refusal of Service
Cardiac Arrest *	I.O. Audit	Sepsis
Childbirth *	Ketamine	Stroke CVA
Controlled Substance Use	MCI	Trauma
Cardioversion Audit *	Chest Decompression*	TXA *
External Pacing Audit *	Restraint Audit	5050 Utilization *

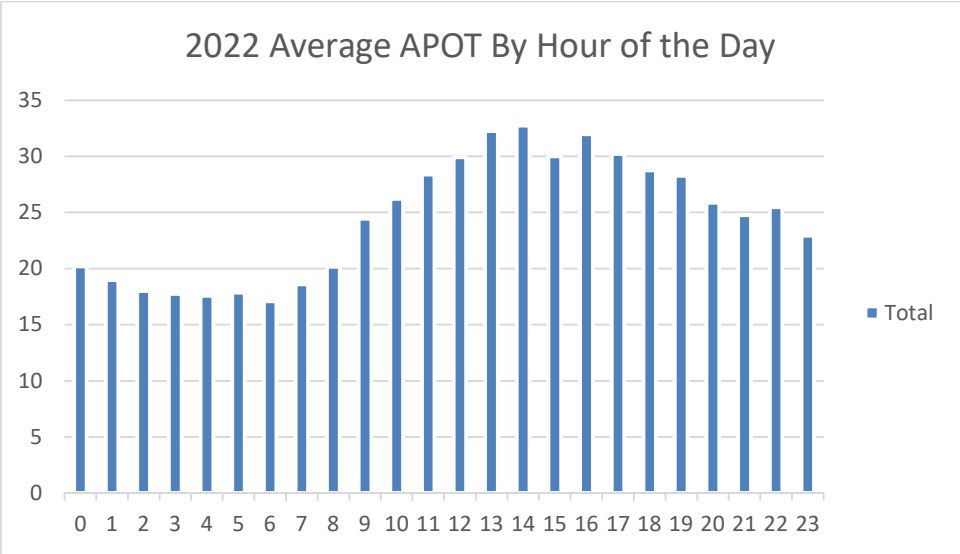
2022 CQI STATISTICS & MODALITIES

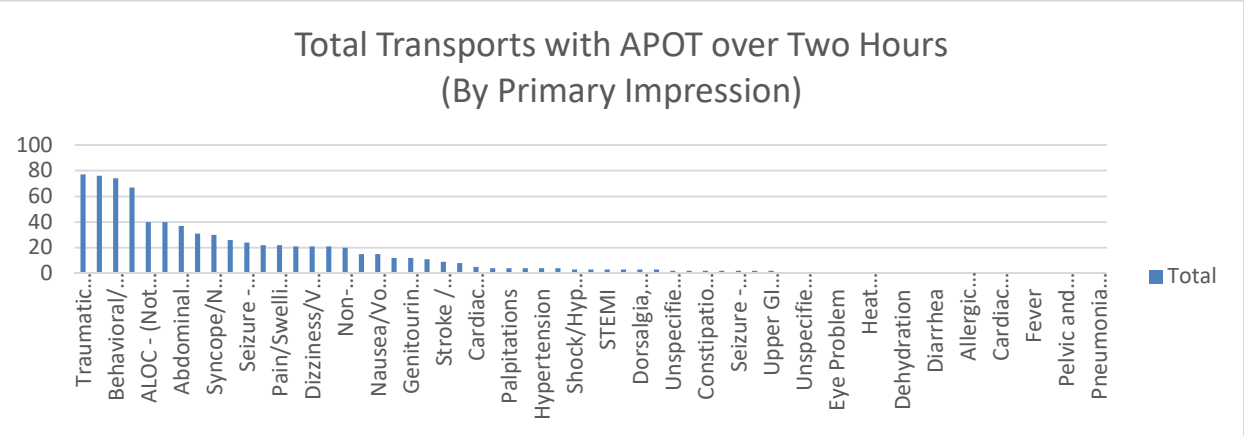
A notable improvement to QA/QI activities from 2021 continued in 2022 as Metro Fire continued to incorporate the National Fire Incident Reporting System (NFIRS) module in ImageTrend. ePCRs are linked to the corresponding NFIRS record allowing staff to transition between the incident and patient care reports. Iimplementation of the NFIRS module has helped to maximize efficiencies for staff.

The NFIRS dataset is also accessible from the Continuum module which Metro Fire uses for active monitoring and automated delivery of information that provides immediate awareness of specified data points with real-time updates upon posting of ePCRs and NFIRS reports. The software is configurable and allows EMS Division staff to determine what is monitored, when the information is received, and how it will be viewed.

In 2022, the Continuum alert that notifies the Assistant Chief of EMS of any APOT >120 minutes remained active. The alert contains a link to the patient care report facilitating immediate review. All incidents are analyzed to monitor both system impacts and identify negative patient outcomes. A direct correlation exists between response time detriments and extended APOT. Numerous EMS Events were submitted to SCEMSA to heighten awareness of this growing issue in our EMS system.







PERFORMANCE INDICATORS

The Core Quality Measures Project was established in 2012 through a grant from the California Health Care Foundation. The primary purpose of the project is to increase the accessibility and accuracy of prehospital data for public, policy, academic, and research purposes to facilitate EMS system evaluation and improvement. EMS systems across California are measured on their performance in these areas and can compare their results to other Local EMS Agencies.

The project highlights opportunities to improve the quality of patient care delivered in an EMS system. Since 2021, the Core Quality Measures Project has includes six (6) of the eleven (11) National EMS Quality Measures as listed below[2]. Based on analysis of this year's findings, case reviews, and current events – sepsis, trauma and stroke patients will be an area of focus for quality improvement projects in 2023, as well as monthly evaluation of instances when patients are placed in the waiting room upon arrival based on amendments to the 5050.16 Destination Policy.

TRA-2 …Percentage of trauma patients meeting CDC Field Trauma Triage Criteria Step 1 or 2 or 3 transported to a trauma center originating from 9-1-1 response

HYP-1 …Percentage of hypoglycemic patients that received treatment for hypoglycemia originating from 9-1-1 response

STR-1 …Percentage of suspected stroke patients that received a prehospital stroke screening originating from 9-1-1 response

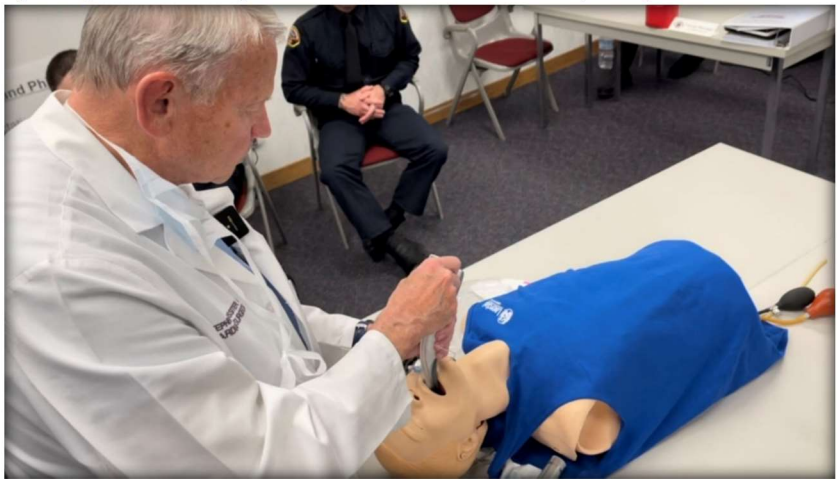
PED-3 …Percentage of pediatric patients that had a primary or secondary impression of respiratory distress and received a documented respiratory assessment originating from 9-1-1 response

RST-4 …Percentage of EMS responses originating from a 9-1-1 request that included lights and siren during a response

RST-5 …Percentage of EMS transports originating from a 9-1-1 request that included the use of lights and/or siren during patient transport

IMPROVING PERFORMANCE

The correlation between the quality of Cardiopulmonary Resuscitation (CPR) and patient outcome requires that crew members receive pertinent and timely feedback on their performance. In close cooperation with Regional Fire Medical Director Kevin Mackey and local cardiologist Dr. Stephen Rossiter, the District uses Physio Control's "Code-Stat" data gathering program to assess and analyze the proficiency of CPR in an effort to improve the seamless and timely treatment that is critical to the success of field providers.



The EMS Division is committed to utilizing information gleaned from Code-Stat for purposes of analytics and education. The software provides a comprehensive visualization of events during CPR, including chest compressions, ventilation, shocks, and pauses. Code-Stat can be utilized to provide customized reports and trending data to help track trends, and provide focused areas for further training. The goal is to boost systemic and individual performance and thereby increase patient survival rates.

In 2022, the EMS Division continued use of this tool to enhance review of cardiac arrests and STEMIs. Dr. Rossiter is also a consistent contributor at recruit academies and ongoing training events, providing Metro Fire's members the opportunity to learn from a cardiac care specialist.

REPORTING

Metro Fire is not a stand-alone entity, and the cooperation and collaboration necessary to provide the community with quality care requires that we operate collegially with the surrounding agencies, and with the County, the State, and the Federal agencies that encompass the whole of Emergency Medical Services.

The District has met the requirements of the federal NEMSIS reporting system through the use of ImageTrend ePCR system. This system allows secure transmission of patient and system data as required by Law, statute, and policy. The EMS Division monitors updates from CEMSIS and NEMSIS throughout the year, and updates the data elements in the ePCR program as indicated. In 2022 the EMS Division worked with the SCEMSA Technical Advisory Group to prepare for the impending requisite upgrade to NEMSIS v3.5.

The Cardiac Arrest Registry to Enhance Survival (CARES) was created to provide communities with a means to identify cases of out-of-hospital cardiac arrest, measure how well emergency medical services (EMS) perform key elements of emergency cardiac care, and determine outcomes through hospital discharge. CARES collects data from 3 sources – 9-1-1 dispatch, EMS, and receiving hospitals – and links them to form a single record. Once data entry is completed, individual identifiers are stripped from the record. The anonymity of CARES records allows participating agencies and institutions to compile cases without informed consent. CARES generates standard reports (see Appendix E) that can be used to characterize the local epidemiology of cardiac arrest and help managers determine how well EMS is delivering out-of-hospital cardiac arrest care.

Metro Fire has worked diligently with CARES and ImageTrend to create a method of exporting the pertinent data to CARES. The EMS Technicians regularly monitor exports to CARES and correct data errors if they arise. Metro Fire began participation in the CARES system in 2019 and worked with ImageTrend to ensure proper configuration of our automatic exports after the 2020 CARES update; future years will show additional data and trends, as the participation with CARES continues.

SUMMARY

Throughout 2022, the men and women of the District demonstrated exceptional resiliency in the face of heavy call volumes, mandatory overtime, unprecedented delays in APOT, and a record number of member exposures and illnesses.

The outlook for 2023 appears both exciting and promising – but not without its own new and evolving challenges.

As we continue to tackle COVID as a nation, APOT Times as a State, and the groundbreaking possibilities of MIH locally – there is no shortage of work to be done.

Through the modalities discussed in this QIP, Metro Fire has maintained an ongoing commitment to measuring performance and implementing corrective actions based on the analysis of that performance.

EMS is ever changing. Every initiative, program and process that Metro Fire implements is aimed at improving the overall health of our patients; at all times, they are our main focus. Our magnetic North.

To that end, a few of the many things we look forward to in 2023 include:

- Trialing a BLS 911 unit for Alpha and Bravo responses - thereby freeing up ALS providers
- Exploring Telehealth
- Hiring more advanced practitioners and paramedics to expand our MIH program
- Utilizing CQI with a Just Culture approach to identify system influences on adverse events versus clinical errors
- Sending EMS Team leadership to conferences nationwide to network and learn best practices
- Exploring enhancing the delivery of EMS training by utilizing annuitant retirees with their vast experiences to help proctor and instruct
- Expanding community outreach through social media, high school ROP, and with the pandemic receding – bringing back events like sidewalk CPR
- Continuing to explore service delivery innovations to enhance the quality of patient care in our community in 2023 and beyond.

APPENDICES

APPENDIX A

QI PROGRAM POLICY

Sacramento Metropolitan Fire District

OPERATIONS POLICY

POLICY TITLE: Quality Improvement Program OVERSIGHT: EMS
POLICY NUMBER: 04.014.01 EFFECTIVE DATE: 02/20/19 REVIEW DATE: 02/20/19

Background

The Sacramento Metropolitan Fire District (District) Emergency Medical Services (EMS) system and its participants require objective feedback about performance that can be used internally to support quality improvement efforts and externally to demonstrate accountability to public governing boards and other stakeholders.

Purpose

The primary purpose and goal of the District's Quality Improvement Plan (QIP) is to ensure a continued high quality of patient care.

Scope

This policy is applicable to all District first responders, emergency medical technicians, and paramedics.

Definitions

1. **Prospective:** Prevent potential problems.

2. **Concurrent:** Identify problems or potential problems during patient care.

3. **Retrospective:** Identify trends and potential or known problems, and prevent their reoccurrence.

4. **Reporting/Feedback:** QIP activities that are reported to Sacramento County EMS Agency (SCEMSA) and may result in system design changes.

5. **Reportable Incident:** Issues that contributed to a negative patient outcome and/or issues involving grossly inappropriate behavior by any involved personnel. Additionally, issues that may potentially be a threat to public health and safety, but did not necessarily contribute to a negative patient outcome.

The District has established a system-wide QIP to continuously monitor, review, evaluate and improve the delivery of prehospital patient care services. QIP is comprised of participants from all ranks and includes the following activities:

a. Prospective
b. Concurrent
c. Retrospective
d. Reporting/Feedback

2. The District shall submit an Annual Update to SCEMSA by March 31. SCEMSA evaluates the District's QIP and requests revisions as needed.

3. All proceedings, documents, and discussions of the QIP are confidential and covered under Section 1040 and 1157.7 of the Evidence Code of the State of California. The prohibition relating to discovery of information provided to the District's QIP committees shall be applicable to all proceedings and records of these committees which are established to monitor, evaluate, and report on the quality of pre-hospital medical and trauma care. Issues requiring system input may be sent in totality to SCEMSA for review and input.

   All QIP members will sign a confidentiality agreement not to divulge or discuss information that would have been obtained solely through the District's QIP process. The EMS Battalion Chief is responsible for explaining, and obtaining, a signed confidentiality agreement for invited guest(s) prior to their participating in any committee meeting.

4. All Reportable Incidents will be referred to the District's designated Quality Assurance Officer.

Procedures

1. Prospective Review
   a. Participate on committee(s) as requested by SCEMSA.
   b. Provide and/or participate in education:
      I. Orientation to the EMS System
      II. Peer Review Audits
      III. Participate in continuing education courses and training of pre-hospital care providers
      IV. Offer educational opportunities based on problem identification and trend analysis
      V. Establish procedures for informing all field personnel of system changes
   c. Engage in evaluation of individual paramedics including:
      I. Review of electronic patient care reports (ePCR), audio tape or other documentation as available.
      II. Direct observations.
      III. Evaluation of new employees.
      IV. Routine evaluation of patient care.
      V. Develop Performance Improvement Plans as needed.

VI. Design educational plans for individual paramedic deficiencies.

d. Accreditation- establish policies and procedures based on SCEMSA policies.

2. Concurrent Review

a. Evaluate EMTs and Paramedics utilizing performance standards through direct observation.

b. Provide field supervisors and/or quality assessment personnel for consultation/assistance.

c. Review low frequency, high risk skills at least on an annual basis.

3. Retrospective Review

a. Conduct analysis of field care, utilizing ePCRs, audio tapes, or other applicable documentation to include:

I. High risk.

II. Trend analysis of high volume calls, unusual occurrences and problem oriented events.

III. Incidents requested for review by SCEMSA or another system provider (e.g. receiving hospital or response partner agency).

IV. Specific audit topics requested by SCEMSA or any quality improvement committee.

b. Develop District specific indicators for reporting to SCEMSA in the annual report.

c. Abide by SCEMSA specific indicators and develop benchmarks.

d. Participate in the incident review process, prehospital research, and studies as requested by SCEMSA or other quality recommendations as specified by SCEMSA.

4. Reporting/Feedback

a. Comply with reporting and other quality recommendations as specified by SCEMSA.

b. Develop a process for identifying trends in the quality of field care.

I. Submit reports as specified by SCEMSA.

II. Design and participate in educational offerings based on problem identification and trend analysis.

III. Make changes in internal policies and procedures based on trend analysis to reflect SCEMSA policies and procedures.

APPENDIX B

CQI CONFIDENTIALITY AGREEMENT

SACRAMENTO METROPOLITAN FIRE DISTRICT

CQI Meeting Attendance Roster

Confidentiality Statement

I understand and agree as follows:

That confidentiality is vital to the free and candid communication necessary to the effective Continuous Quality Improvement activities,

That I shall respect and maintain confidentiality of all discussions, deliberations, records, and any other information generated in connection with this meeting,

That I shall make no voluntary disclosures of such discussions, deliberations, records, or information,

That I shall only diseminate or act on information obtained from this meeting based on written direction of the CQI Manager or directed action items recorded in the minutes,

That all printed and written material associated with this meeting (including notes taken during the meeting) shall be submitted to the recorder prior to the end of the meeting, unless associated with action directed by the CQI manager.

The undersigned have agreed to the above for the the meeting held on: March 18, 2020

Start Time:_____ End Time:_____

Name	Employee Number	Paramedic Number	Signature	Initial for Overtime

APPENDIX C

SAMPLE CQI NOTES FROM PEER REVIEW MEETING

Airway Management

1) *Trend*: ETCO2 is not being used on all advanced airways.
    a. ETCO2 is required for all advanced airway placement (iGel or ET)

2) *Trend*: Unable to capture ETCO2 waveform on monitor, or waveform only present for brief time period.
    a. Esophageal tube can cause an initial waveform, so it is important to verify capnography waveform periodically throughout the code.
    b. Proper calibration was not allowed for prior to hooking capnography up to the ET
    c. If ETCO2 reading not registering, reconfirm & ***document*** good tube placement
        i. Check for breath sounds with ventilation
        ii. Verify absence of epigastric sounds with ventilations
        iii. Consider the need to suction the tube to clear secretions inhibiting waveform
        iv. Re-visualize the airway using video laryngoscope
    d. If you can't confirm the tube is in the correct place, and there is no ETCO2 waveform, pull the tube and insert the iGel.

3) *Trend***:** Documenting ETCO2 sensor failure on PCR, but not reporting to EMS Division.
    a. All perceived failure of the monitor's ETCO2 sensor must be reported to EMS24 immediately and documented in a Report of Occurrence.
        i. SCEMSA protocol Biomedical Maintenance 5550 requires us to report malfunctioning biomedical device that may have effected patient care to SCEMSA on the next working day.

4) *Trend*: Incomplete documentation of advanced airway confirmation.
    a. PCRs consistently have no documentation of lung sounds with ventilation before or after advanced airway placement.
    b. Consistently lacking documentation that epigastric sounds were checked and absent with ventilation after advanced airway placement.
    c. Consistently lacking documentation that tube placement was checked throughout transport and after each patient move.

Vascular Access

1) *Trend*: Not attempting (or documenting) peripheral IV or EJ before IO for vascular access
    a. Vascular Access protocol 8808 states "*peripheral IV is preferred choice for all patients requiring vascular access*" & new ACLS 2020 guidelines state "*Intravenous IV access is the preferred route of medication administration during ACLS resuscitation*".
        i. Comparing IV versus IO drug administration during cardiac arrest found that IV route was associated with better clinical outcomes in 5 retrospective studies.
    b. Vascular access protocol lists EJ as the 2nd option if peripheral access in not obtained for patient's in extremis with immediate need for fluids and medication.
    c. IO is indicated for adult and pediatric patients weighing ≥ 3kg who are *unable to be successfully IV cannulated* and who need fluids and/or medication.
        i. When indicated, the humeral head is the preferred site for an adult patient over the tibia

2) *Trend:* Unsuccessful IV attempts not documented and/or no rationale documented for bypassing IV and going to IO.
    a. Protocol update coming July 01, 2021 requires providers to document the rationale for forgoing IV and going straight to IO & will require documentation of why humeral head wasn't used for an adult patient.

3) Additional considerations
    i. IO carries risk of osteomyelitis, compartment syndrome, fractures, and incompatibility with MRI scanners
    ii. Significant cost difference between IV catheter ($1.83/catheter) vs. IO needle ($110/needle)
    iii. IO insertion automatically results in ALS2 billing which is the highest charge for the patient.
4) Bottom line, we are over using IO in the cardiac arrest setting unnecessarily without benefit for the patient.

Routine Use of D50% and Narcan in Cardiac Arrest Setting

1) *Trend*: Medics checking blood glucose level during cardiac arrest event & administering D50% if result is <60 mg/dl
    a. Point-of-care glucometers are calibrated for use with capillary blood (finger stick). Point-of-care glucose testing in patients suffering cardiac arrest results in inaccurate reading most of the time, which may prompt us to administer D50% when it is truly not indicated.
    b. Retrospective analysis of Cardiac Arrest Registry data found that patients who receive D50% during the prehospital phase of cardiac arrest have a decreased chance of survival to hospital discharge. For those who do survive, administration of D50% appears to decrease the chances of good neurological recovery.
    c. SCEMSA memo to all providers in September 2019 states the following:
        i. Only use D50 to treat hypoglycemia which was documented by the patient or caregiver BEFORE cardiac arrest occurred, if it has not been yet been treated.
        ii. Do not check capillary blood sugar during cardiac arrest (also don't use venous blood from IV start. Point-of-care glucometer isn't calibrated for this use).
        iii. If resuscitation efforts result in ROSC, check blood glucose and treat according to hypoglycemia protocol.
2) *Trend*: Administering Narcan during cardiac arrest AFTER advanced airway has been established
    a. SCEMSA memo to all providers in September 2019 states the following: use Narcan during cardiac arrest only with suspected opiate overdose (presence of drug paraphernalia on scene, suggestive history from bystander, unexplained arrest in young person, etc.).
    b. Narcan is not indicated if an advanced airway has already been secured. If Narcan is going to be given due to high suspicion for opiate OD, give it prior to advanced airway attempt.

Medical vs. Trauma Cardiac Arrest

1) ***Trend*:** Remaining on scene with traumatic cardiac arrest and running the code for 20 minutes before making a transport determination.
    a. Patients in traumatic cardiac arrest have issues that will not be fixed with standard ACLS & need a trauma center.
    b. Decision point on traumatic cardiac arrest:
        i. Does patient meet criteria to declare death (absence of pulses & asystole in 2 leads or PEA at a rate ≤ 40 beats per minute)?
        ii. If patient doesn't meet criteria to declare death transport is indicated, and the provision in the Trauma protocol applies: "time on scene for critical trauma should not exceed 12 minutes under normal circumstance. Conditions requiring extended scene times shall be documented".

APPENDIX D

PERFORMANCE IMPROVEMENT PLAN (PIP)

SACRAMENTO METRO FIRE DISTRICT
Performance Improvement Plan

Probationary Firefighter Information:		
Date:	**Start Date**:	**Name**:
Class:	**FTO:**	**Company Officer:**
# of ride along shifts to date:		

Evaluation Factors: (Highlight areas needing improvement)

Patient Assessment

Scene Size-up

Initial Assessment

Focused History

Physical Exam

Scene Activities/Management

Transfer of Care

Scene Safety

Use of Resources

Critical Thinking

Treatment

Protocol Knowledge

Treatment Skills

Decisiveness

Appropriateness of Treatment

Communications

On-Scene Communications

Communications with Patient, Family, Bystanders

Hospital Communications

Other:

SACRAMENTO METRO FIRE DISTRICT
Performance Improvement Plan

Areas in need of improvement

Patient Assessment
Probationary FF/P_____has not demonstrated competency in performing a prompt, complete, and appropriate patient assessment. He does not consistently identify the primary chief complaint or sift through multiple complaints to find the most critical and relevant. Probationary FF/P_____sometimes forgets to ask assessment questions that would assist with differential diagnosis, such as determining pertinent negatives and relevant past medical history.

Treatment
Probationary FF/P_____inconsistently applies the Sacramento County EMS Protocols which adversely affects his ability to develop and implement an appropriate treatment plan. Other ALS crew members occasionally have to step in to guide treatment of patients.

Scene Activities/Management
Probationary FF/P_____has needed prompting to direct crew members to perform diagnostics or interventions, especially on critical patients. Probationary FF/P_____looks to the crew for approval and direction. Probationary FF/P_____does not consistently assume a leadership role relevant to medical management of patients.

Communications
Probationary FF/P_____ inconsistently communicates clear and concise orders to the crew during incidents. Although verbal communications are respectful and professional, he does not instill confidence in his patients, bystanders, or crew.

Other
Probationary FF/P__has showed improvement in all aspects of EMS performance, however he requires additional time as a 3rd person ride along to become a safe, competent and consistent paramedic for the District.

SACRAMENTO METRO FIRE DISTRICT
Performance Improvement Plan

Recommended Training:

Probationary FF/P_____is being assigned to work with FTO FF/P XXX for 6 shifts during which he will ride on Medic XXX and will consistently demonstrate improvement in the following areas:

Patient Assessment
Utilize a thorough and systematic assessment to competently identify the treatment needs of patients in a timely manner in the drill setting and on incidents. If receiving a transfer of care report from first arriving paramedic, process the information received and continue down that treatment path if appropriate or recognize additional needs and formulate your own treatment plan.

Treatment
Memorize Sacramento County EMS Protocols. Practice developing treatment plans in a timely manner in a scenario setting as well as actual incidents with feedback from the crew. Utilize the full body CPR mannequin and cardiac rhythm generator available through Logistics to practice realistic, real-time patient assessments that incorporate the necessity to provide rapid intervention (i.e. CPR, active bleeding, cspine precautions).

Scene Activities/Management
Practice scene control and delegation in the drill setting in addition to actual emergency incidents. Practice giving clear and concise direction to crew members while assuming a leadership role in relation to patient management.

Communications
After completing drill scenarios and actually performing on emergency scenes, deliver a radio report which clearly and accurately reflects the patient's condition to the receiving hospital. Practice and perform transferring care to hospital staff in the same manner as mentioned above.

Other
All of Probationary FF/P_____ePCRs will be reviewed by a Peer Review member for the duration of this PIP.

SACRAMENTO METRO FIRE DISTRICT
Performance Improvement Plan

Required Outcomes

At the completion of this Performance Improvement Plan on the morning of XXXXX XXth, XXXX @ 0800, Probationary FF/P _____shall have consistently and competently demonstrate the following:

Patient Assessment

Probationary FF/P_____must have demonstrate the ability to perform complete physical examinations that were appropriate for the chief complaint promptly without direction from the crew, identify any imminent life threatening needs, and initiated appropriate interventions immediately.

Treatment

Probationary FF/P_____must have demonstrated consistent knowledge of the Sacramento County EMS protocols and utilized them without hesitation or direction from the crew on all incidents. Probationary FF/P_____must have consistently demonstrated knowledge of the indications, contraindications, adverse effects, and dosage of all medications used in the Sacramento County EMS Protocols. Probationary FF/P_____must have passed a written protocol knowledge and cardiac rhythm interpretation examination to be administered by the EMS Division on XXX XXth, 20XX with a minimum score of 80%.

Scene Activities/Management

Probationary FF/P_____must have immediately assumed a leadership role related to medical management and scene control as appropriate. He must have demonstrated competency in directing crew members to assume medical duties within their scope of practice to facilitate completing the patient assessment without direction from other crew members on all incidents.

Communications

Probationary FF/P_____must have consistently provided clear and concise direction to crew members on scene. Probationary FF/P _____ must have delivered radio and transfer of care reports which clearly and accurately reflects the patient's condition to the receiving hospital.

Other

All ePCRs should have been completed in compliance with SCEMS protocols and District documentation policies 04.001.01, 04.003.01, 903.00, & 923.01

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Please Sign Below:

Company Officer:_____ Date:_____

FF/P FTO: _____ Date:_____

EMS Captain: _____ Date:_____

Probationary FF/P:_____ Date:_____

This Performance Improvement Plan (PIP) has a duration of 6 shifts and will be completed and reviewed by the following date:

XX/XX/XX

(Signed original PIP stays in probation binder; signed copy to EMS Captain)

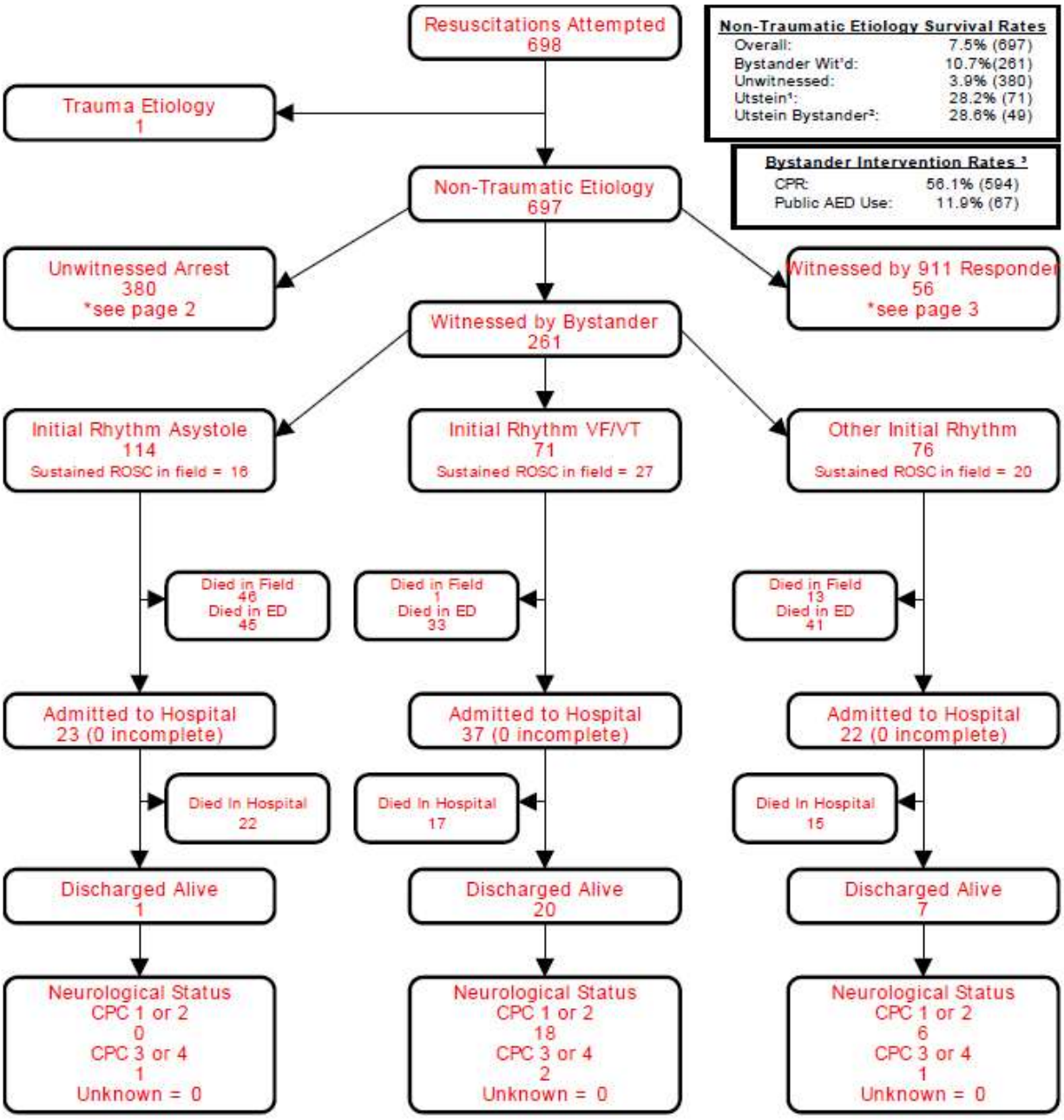
APPENDIX E

2022 UTSTEIN SURVIVAL REPORT

Utstein Survival Report

Sacramento Metropolitan Fire District

Date of Arrest: From 01/01/2022 Through 12/31/2022



[1]Utstein: Witnessed by bystander and found in shockable rhythm.

[2]Utstein Bystander: Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR and/or AED application).

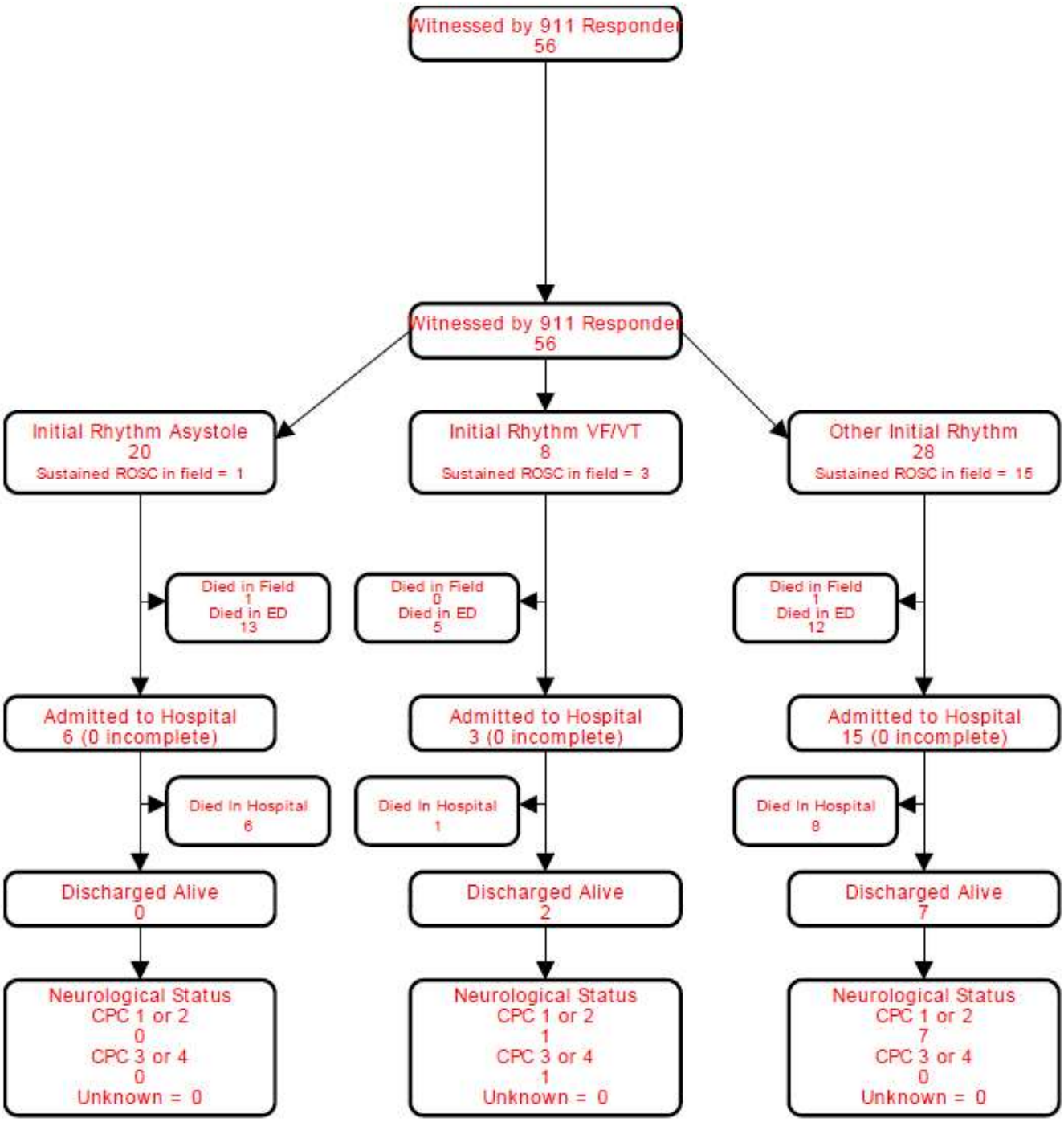
[3]Bystander CPR rate excludes 911 Responder Witnessed, Nursing Home, and Healthcare Facility arrests. Public AED Use rate excludes 911 Responder Witnessed, Home/Residence, Nursing Home, and Healthcare Facility arrests.

**Only data from the previous calendar year is fully audited. Data from the current calendar year is dynamic.*

Utstein Survival Report

Sacramento Metropolitan Fire District

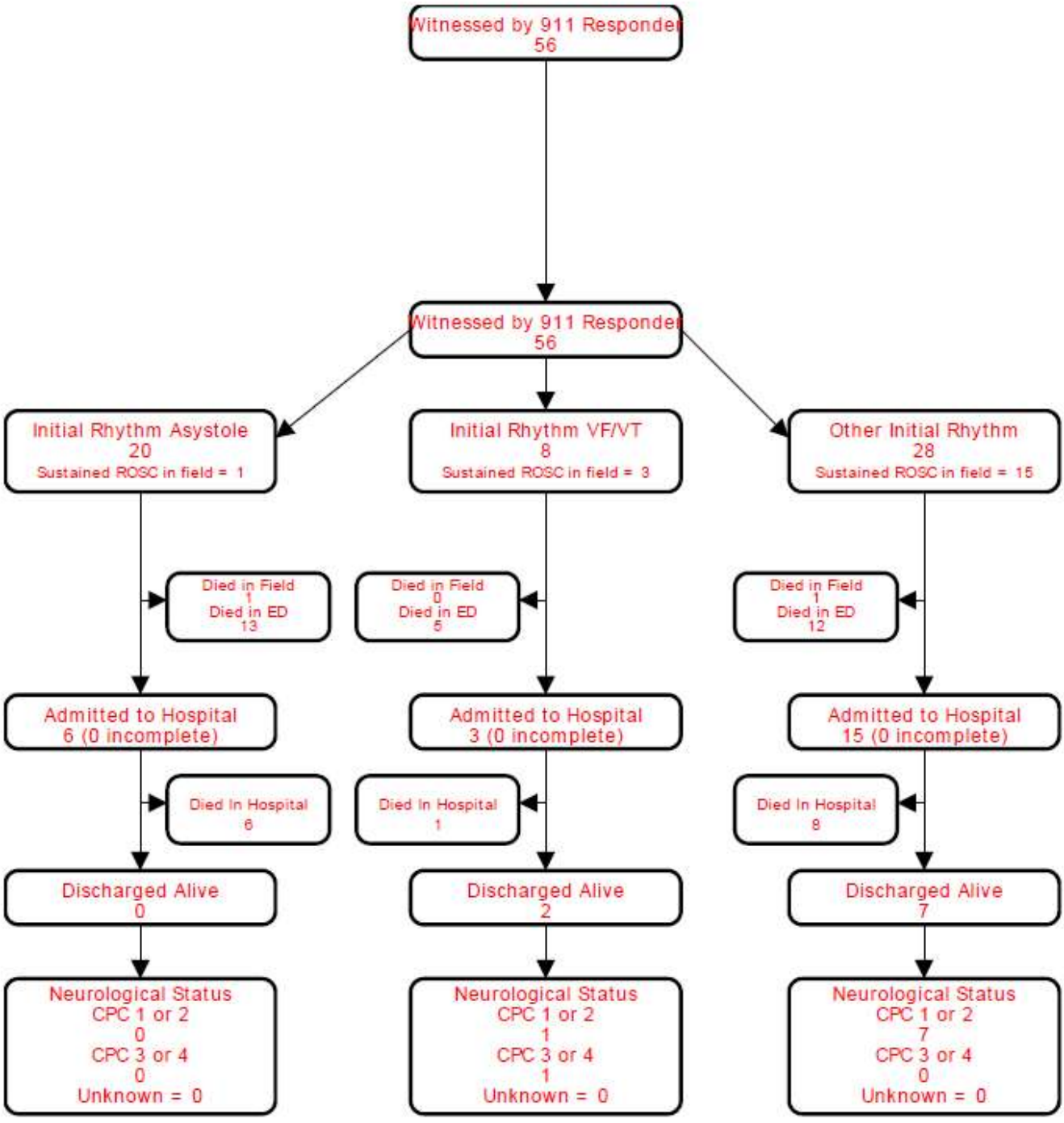
Date of Arrest: From 01/01/2022 Through 12/31/2022



Utstein Survival Report

Sacramento Metropolitan Fire District

Date of Arrest: From 01/01/2022 Through 12/31/2022



APPENDIX F

SCEMSA Inspection Letter

County Executive
Ann Edwards

Deputy County Executive
Chevon Kothari
Social Services

County of Sacramento

Department of Health Services
Timothy W. Lutz, Director

Divisions
Administration
Behavioral Health
Primary Health
Public Health

Sacramento Emergency Medical Services Agency

Inspection Findings For:

Sacramento Metropolitan Fire District

Critical items resulting in Out of Service status for unit:

ALS Ambulances, Engines, Trucks, and Helicopters were inspected November 20, 21, 22, 28, and the 29th of 2022. During the course of the inspections, there were no critical items missing that would cause an Out of Service status. All ALS units inspected were in compliance with Policy# 2030.

General Observations:

The inspections went very well.
Thank You!

Overall Compliance with Policy 2030:

100%

Inspections and report completed by:

Kristin Bianco

Date of Report:

December 21, 2022
Completed Check List Below

9616 Micron Ave Suite 960 · Sacramento, California 95827 · phone (916) 875-9753 · fax (916) 854-9211 · www.dhs.saccounty.net/pri/ems

APPENDIX G

SCEMSA CE Training Program Provider Certificate

Sacramento County
Emergency Medical Services Agency

In accordance with the provisions of California Code of Regulations, Title 22, Division 9, Chapter 11 and Sacramento County Emergency Medical Services Agency Policy 4302

Sacramento Metropolitan Fire Department
10545 Armstrong Ave, Suite 200
Mather, CA. 95655

Has been approved as a
Continuing Education (CE) Training Program
by Sacramento County Emergency Medical Services Agency

Effective Date: 07/1/2022
Expiration Date: 06/30/2024
CE # 34-1010

David Magnino, EMS Administrator
County of Sacramento