EMERGENCY MEDICAL SERVICES IN SACRAMENTO

Solving Budget and Staffing Shortfalls to Protect Public Health and Safety

(Draft 12/3/20)

Sacramento County
Emergency Medical Advisory Group

Executive Summary

Emergency medical services (EMS) are a critical function of any healthy, modern community. EMS is complex, highly regulated, and constantly evolving — a system that includes 911 dispatch, ambulances, hospital emergency departments (EDs), and the dedicated people who provide these services. Sacramento County has the important job of supporting this system for its community members.

In California, local emergency medical services agencies (LEMSAs) that serve one or more counties play these vital roles:

- Planning, implementing, evaluating, and continually improving local EMS systems, including prehospital services and relevant hospital services such as trauma, stroke, heart attack, and pediatrics
- Collaborating with other health officials to ensure a unified, coordinated approach in the delivery of health care for a seamless patient experience
- Developing/approving medical treatment protocols and policies for local EMS service providers (EMTs, paramedics, dispatchers)

The Sacramento County Emergency Medical Services Agency (SCEMSA) does all of this — and more. It also plays a key role in responding to disasters. Through coordination, training, and distribution of resources, the agency is essential to any disaster response, such as the current fight against the COVID-19 pandemic. SCEMSA is critical to assuring that patients get the timeliest, most medically appropriate care and that communities are cushioned from the effects of disasters.

Unfortunately, several trends now strain SCEMSA's capacity to meet the health and safety needs of Sacramento County residents, including:

- The county's population is growing and aging, the number of calls for ambulance service is exploding, and state requirements for operating new EMS programs are expanding.
- SCEMSA staffing has not kept pace and, in fact, is well behind that of other LEMSAs in Northern California serving like-sized populations.
- The largest portion of the agency's operating revenue (75%) comes from a steadily diminishing source.

In short, SCEMSA is vital to saving lives and ensuring quality emergency health care. Yet, it is underfunded and understaffed while its workload has increased. Without corrective action by the Sacramento County Board of Supervisors, there is a growing risk that members of the public will not get optimal care during their moments of greatest vulnerability and need. In some cases, this could mean the difference between life and death.

The county's Emergency Medical Advisory Group (EMAG), consisting of leaders from the EMS providers and health systems serving the county, calls on the county's leadership to focus closer attention on EMS issues and commit sufficient resources so that SCEMSA can fulfill its regulatory, educational, and quality improvement functions in a way that supports the lifesaving work of EMS and hospital providers.

The Emergency Medical Advisory Group

The Emergency Medical Advisory Group (EMAG) was formed in mid-2019 to advise Sacramento County on how to overcome structural budget and staffing challenges. After SCEMSA imposed new fees on hospitals and increased existing ones, yet still did not have adequate resources to properly staff the agency and fulfill its responsibilities, leaders of the Sacramento County Department of Health Services, health systems, and EMS providers agreed to work together to ensure SCEMSA's viability and success of SCEMSA — and that of the entire local EMS system. See Addendum 1 for a roster of EMAG members.

Helping to Ensure Public Health and Safety

By helping ensure that the region's direct care providers function at the highest level of quality, efficiency, and coordination, SCEMSA's work is key to preserving life and maximizing the quality of life after residents experience emergent events. In addition to its regulatory role, SCEMSA trains, assists, and supports EMS and hospital providers. The agency's essential functions include:

- Serving as an advocate for patients
- Planning, implementing, evaluating, and continually improving local EMS systems including prehospital services and relevant hospital services such as trauma, stroke, ST-Segment Elevation Myocardial Infarction (STEMI), and pediatrics
- Designating trauma centers and other specialty care centers
- Collaborating with other health officials to ensure unified and coordinated health care delivery
- Implementing regulations relative to EMS systems (the state EMSA promulgates regulations, but LEMSAs implement them)
- Certifying, accrediting, and authorizing EMS field personnel
- Authorizing and approving local EMS training programs
- Developing/approving medical treatment protocols and policies for local EMS service providers (EMTs, paramedics, dispatchers)
- Establishing and maintaining local EMS communication systems
- In collaboration with public health, developing local medical and health disaster plans and coordinating medical and health response to disasters (natural and man-made)
- Determining ambulance patient destinations based on hospital resources
- Establishing policies for emergency department diversion and implementing mitigation strategies where diversion is excessive
- Coordination of agencies that provide EMS activity (e.g., emergency medical dispatch, first responders, ground, and air ambulance, receiving hospitals, trauma centers) so patients experience seamless care
- Coordinating community education for injury prevention, CPR, public access defibrillation, and more
- Collecting, analyzing, and reporting on EMS data. providing that data to EMSA for statewide system evaluation; and providing technical assistance to EMSA
- Providing oversight for EMS quality improvement and quality assurance activities
- Mediating conflicts between various EMS stakeholders (e.g., ambulance, fire, hospitals, physicians) and resolving consumer complaints

Coordinating Disaster Response
SCEMSA staff play a dual role, serving also as the Sacramento County Emergency Medical and Health Operational Area Coordinator (MHOAC), with a commitment to safeguard Sacramento County residents in the event of a public health emergency. The MHOAC program is part of the State of California Disaster Medical Response Plan, which is designed to facilitate communication, situational awareness, and assistance across operational areas within Region 4 of the California Medical/Health Mutual Aid System. The system is intended to aid hospitals, EMS providers, skilled-nursing facilities, laboratories, physician offices, veterinary facilities, and others.

The importance of the MHOAC has been made clearer than ever during the COVID-19 pandemic. Tracking hospital capacity, updating local health providers about evolving federal and state guidance, and distributing personal protective equipment (PPE) have been among the many functions it has served. Distributing PPE to health facilities was particularly vital during the onset of the public health crisis when stockpiles disappeared quickly, and supply lines were disrupted.

Recognizing Today's Environment: Increased Community and Regulatory Demands

SCEMSA's workload has been steadily increasing due to natural demographic growth, steep increases in EMS demand, the evolution of the medical field, and the current COVID-19 pandemic.

Sacramento is a growing county. According to the U.S. Census Bureau, the county's population grew by 9.4 % from 2010 to 2019. Calls for ambulance service jumped even more abruptly, increasing by about 57% in just six years (see chart below).

EMS Transports in Sacramento County

Year	Totals
2013	207,940
2014	239,124
2015	192,374
2016	229,949
2017	301,568
2018	293,352
2019	324,889

EMS training programs have also undergone tremendous growth. In 2014, there were 11 training or continuing education programs. In 2019, there were 37. In a five-year period, SCEMSA more than triple its new training and continuing programs — all of which are managed by a single staff specialist. Moreover, SCEMSA needs to renew approval for each program operated by other providers every two or three years.

In compliance with new statewide regulations, in 2019 SCEMSA launched new programs for designating hospitals as appropriate in the following categories: Stroke Receiving Center, Stroke

Comprehensive Center, and STEMI Center. It will soon also begin an EMS for Children designation program. Despite adding these critical programs, it is important to note than no new staff have been added to manage this work.

As regulations have increased, quality standards advanced, and new data reporting requirements are issued, SCEMSA has had difficulty keeping pace because its own resources have not been expanded to meet demands. For example, the California Emergency Medical Services Authority recently issued a new EMS disaster plan, but SCEMSA has not yet been able to respond to it. And, of course, new strains from the COVID-19 era weigh heavily on the agency.

Core Problems: Underfunded and Understaffed

SCEMSA is Understaffed
The table below shows a more robust staffing pattern in counties comparable in size to Sacramento County (although San Joaquin County is less populated, it is shown due to its proximity).

County	Alameda	Santa Clara	Contra Costa	San Joaquin	Sacramento
Population	1,671, 329	1,927,852	1,153,526	762,148	1,552,058
Medical Director	1	1	1	0.3	0.5
EMS Director/ Administrator	1	1	1	-	1
Coordinator	5		8	3	1
Specialist	10	12	-	2	3
Nurse Manager	-	1	-	-	-
Analyst	-	1	-	3	-
Administrative Support	7	5	5	2	2
Total Staff	**24**	**21**	**15**	**10.3**	**7.5**

Notably, SCEMSA is staffed at one-half to one-third the level of its counterparts. Recent years have seen especially slow growth in staffing (*see Addendum 2 for a recent history of personnel growth requests submitted by SCEMSA*). The agency simply does not have sufficient staff to perform all its responsibilities.

The EMAG is mindful of the challenging budget situation that the County, like most organizations, is facing in FY 2021-22. However, it is important to remember the SCEMSA's staffing levels — unlike those of other county functions — can have significant negative ramifications on public health and safety.

Funding Sources Are Deteriorating
In the SCEMSA budget, 75% of revenue comes from the Maddy and Richie Funds – two programs funded by Vehicle Code fines. With legislative changes affecting the courts' ability to collect on specific fines associated with the Maddy and Richie Funds, this revenue is steadily declining and can no longer sustain the agency.

Maddy EMS Fund (Vehicle Code Fine) Revenue History				
Fiscal Year	**Budget**	**Actual**	**Difference**	**% Change**
2011-12	$1,395,000	$1,336,143	(58,857)	
2012-13	$1,395,000	$1,054,023	(340,977)	-21%
2013-14	$1,395,000	$1,330,091	(64,909)	-5%
2014-15	$1,395,000	$1,251,151	(143,849)	-6%
2015-16	$1,395,000	$1,188,284	(206,716)	-5%
2016-17	$1,285,000	$1,046,955	(238,045)	-12%
2017-18	$1,100,000	$1,025,739	(74,261)	-2%
2018-19	$2,640,000	$1,903,486	($736,514)	-27%
2019-20	$1,773,000	$1,735,878	($37,122)	-2%

The trend is clear. Relying on Maddy and Richie Funds for SCEMSA is no longer a valid approach. Doing so further undermines an agency that is already dramatically understaffed.

A Tipping Point: The Importance of Relevant Budget and Staffing

The work performed by the staff hired by the agency leads to real-world improvements in health and safety. Conversely, under-funding and understaffing leads to negative outcomes for members of the public. EMS and hospital leaders are very concerned about the current and future capability of SCEMSA to protect the community. The following are some examples of the implications of this crisis.

What is at Stake for Sacramento County

Quality Assurance and Improvement
The most critical pillar within the health care infrastructure is quality assurance and improvement. The only way to assess quality is to establish robust measures for evaluation. Without specific data that demonstrate a safe and effective program, there is no way to gauge how effective the current system may be. Hospital systems are no stranger to quality benchmarks and, with a rise in specialty care designations, are sometimes held responsible for benchmarks that include care received prior to arrival at the ED. Although hospitals are partners to EMS providers, they do not have authority over them. It is imperative that SCEMSA has a strong quality assurance and quality improvement program that is constantly evaluating the system for strengths and weaknesses. The lack of such a program not only threatens the health of patients in the community, but it also adversely affects hospital standing with regulatory agencies.

SCEMSA's Technical Advisory Group has spent more than two years evaluating documentation data. In some cases, the data are not positive. However, the evaluation program is not robust enough to determine if the data reflect poor outcomes in the field or documentation errors. Specific cases have not yet been reviewed to determine trends in care, and the Technical Advisory Group meets only quarterly. In other LEMSAs, however, counterpart organizations called Continuous Quality Improvement commonly meet every other month. At their meetings, they review cases and identify interventions that may be needed. With increased resources, SCEMSA could develop the bandwidth to hold Continuous Quality Improvement meetings that

review specific patient care cases using performance improvement algorithms to identify negative trends and correct them promptly.

Public Accountability
When an EMS provider is accused of violating a statute or is the subject of a citizen complaint, there needs to be an investigation. This is vital for public accountability to the public, identifying significant misconduct, and taking the appropriate action to remove the problem or improved performance. Sadly, SCEMSA is not able to perform investigations as it needs to. The administrator is the only one experienced and trained in the skill. Because of this, even though the investigations are spread out among the team, more oversight by the administrator is required.

Notably, other like-sized LEMSAs have an EMS coordinator dedicated to conducting personnel investigations.

Increased Strain on Hospital Emergency Departments
SCEMSA has 13 ground ambulance providers that are approved for advanced life support services (ALS). Although it is common for a LEMSA to have more than one ALS provider agency, the complexity that comes with 13 providers when there is little oversight can be dangerous.

Because SCEMSA has not implemented any form of documentation standardization amongst its 13 ALS providers, the hospital ED staff are charged with training on four different patient care record (PCR) platforms to interface with hospital electronic health records. These platforms are subject to frequent password changes, information technology updates, and education updates. Each ED must employ dozens of people who are proficient in accessing these platforms at all hours of the day. Of the provider agencies not on a software PCR platform, ED staff have been left to hunt four PCRs by telephone and email so that the hospital can attach documentation to the patient's electronic medical record in order to maintain compliance with requirements set by regulatory agencies. The labor costs just in this area are profound for hospitals.

The lack of standardization is not the only issue with obtaining these critical documents from EMS providers. County policy gives specific instruction on PCR availability and distribution to hospitals. However, there is not always compliance with this. Again, the lack of SCEMSA staff resources means that this is not addressed as it needs to be. As a result, hospitals are at great risk for:

1) Failure to notify provider agencies of prehospital exposures in the time frame required by regulators;
2) Failure to provide a complete patient chart upon regulatory agency request; and
3) Failure to have documentation of details from events at the scene/time of onset of symptoms/and care including procedures that happened in the field prior to arrival at the ED (a quality and regulatory issue for specialty programs like trauma, stroke, and STEMI).

Destinations, Oversight, Enforcement, and Compliance
EMS operates under the authority of both online and offline medical direction. online medical direction happens when a field provider calls a predesignated hospital to speak with a specially

trained nurse or physician to obtain directions for care. EMS providers more commonly operate under offline medical direction, otherwise known as "policies and protocols" or "standing orders." It is imperative for a LEMSA to be keenly aware of the level of compliance with these policies and protocols, as they directly influence patient care and outcomes. Repetitive deviations from protocol pose a significant risk to patients and create dysfunction in the system.

For example, a patient being taken to the wrong destination facility creates angst, may generate complaints from patients and their family members, and can even compromise patient safety. Non-compliance with existing destination policies may also require a facility to arrange an interfacility transfer, which leads to unnecessary delays in care and is quite costly to patients and/or their health insurance plans.

LEMSAs are expected to monitor EMS providers' compliance with policies and protocols. Other jurisdictions do this by collecting and sharing data that demonstrate compliance. SCEMSA has not been able to establish compliance with protocols, as it is stretched thin and in many different, equally important, directions. With little oversight by SCEMSA to institute adverse consequences, there is little motivation for EMS providers to become fully compliant. EMS is not a field that can be loosely compliant. Traumas and other emergency situations allow little room for error.

In Sacramento County, hospitals report ongoing non-compliance with infection control policies, behavioral health dispositions, and law enforcement violations of the federal Emergency Medical Treatment and Labor Act by "ED hopping" with jail inmates/patients. Hospitals will sometimes also report increases of non-compliance with protocols from neighboring hospitals. Due to the lack of resources, SCEMSA has not yet monitored hospitals for performance measures or protocol compliance to show if they are meeting standards.

Essential Regional Disaster Plans

SCEMSA has a policy that includes a disaster plan. Unfortunately, the policy is one that was written based on adherence to what was once known to be "OES Region IV Disaster Plan: Manuals 1, 2, and 3." This plan was written in 1997 and has not been appropriately updated since then. As a result, the original design which included participation from all eleven counties and Region IV is no longer relevant as we have seen active disengagement from neighboring LEMSAs. They have recognized the risk of indorsing it disaster plan that has not been updated and more than two decades. The lack of relevance has unintentionally caused all Sacramento area hospitals and providers to improvise every time there is an incident that meets multi-casualty incident (MCI) criteria. Is well documented in emergency care that the primary target for performance in MCIs is a standardized and predictable response. Unfortunately, the current process is neither standardized nor predictable. Prior to the pandemic, SCEMSA was working with a stakeholder workgroup to update the MCI plan. That a draft document was sent to the small workgroup members. Response back from the workgroup is slowed due to pandemic.

There are many other plans and policies that are long past-due for review and revision. However, there are just not enough staff members to conduct the work.

COVID-19 Response

The County has been right in the thick of the fight against COVID-19 from the beginning. SCEMSA's complimentary role as the MHOAC has made it an important communication hub for health care providers of all kinds. The constantly changing guidance from federal and state agencies coupled with evolving processes for supporting facilities in need have pushed staff close to the breaking point. Simply keeping up on the latest developments and performing critical tasks like securing and distributing PPE it is a full-time job.
Under these circumstance, it is not difficult to understand why day-to-day issues like training new providers, reviewing policies, and performing quality improvement might fall to the wayside. The reality is that too few people are being asked to do too much. Unfortunately, key functions may also fall through the cracks if the situation remains unaddressed — and some of those functions can significantly impact whether an individual receives the right care in the right place at the right time, or whether an organization can meet the demand for its services during times of disaster.

Recommendation: Right-Size SCEMSA to Ensure Timely, Quality Care for Sacramento

Sacramento County is experiencing tremendous challenges on many fronts; none more apparent than the COVID-19 pandemic. Yet some problems have not been so obvious. The purpose of this report is to shine a light on an emerging risk – negative health outcomes resulting from the underfunding and understaffing of SCEMSA. **The time has come to budget for and staff the agency appropriately so Sacramento County can meet its mission of assuring the public receives high-quality emergency medical care.**

Potential Revenue Sources
How have other LEMSA's achieved more robust funding and staffing? What are some commonly available revenue sources of which the County has not taken advantage?

Some LEMSAs establish exclusive operating areas in which an EMS provider pays to be the sole responder to calls for service. That is not an option in Sacramento due to a legal settlement dating back two decades between the County and local fire/EMS providers.

Other LEMSAs, such as in Contra Costa County, benefit from a sales tax enhancement enacted by voters. Obviously, a sales tax increase or new parcel assessment could establish protected revenue but can be difficult to achiever on many fronts. Voters in Sacramento County have a mixed record of supporting service or infrastructure enhancements at the ballot box.

Yet other LEMSAs, like Orange County's, dip deeper into the General Fund for support. Orange County guarantees a certain amount of funding so that if Maddy and Richie Fund revenue is down, the General Fund covers the shortfall.

There are benefits and drawbacks associated with any means of funding an agency, particularly in a period of strained budgets. Nevertheless, it is imperative that County leaders prioritize this element of public health and safety commensurate with its importance. Emergency medical system providers unitedly call on the Board of Supervisors to fund and staff SCEMSA at the level required to meet residents' needs today and into the future.

ADDENDUM 1

Roster of EMAG Members

Barbie Law
Assistant Chief
Sacramento Metropolitan Fire District

Karl Pedroni
Regional Director
AMR

Mike Kaslin
Regional Program Manager
REACH/CALSTAR

James Hendricks
Chief
Herald Fire District

James Pierson
Vice President/COO
Medic Ambulance Services

Jason Hemler
Paramedic Program Director
Sacramento State University

Lt. Shaun Hampton
Sacramento County Sheriff's Department

Michael Korpiel
President
Mercy San Juan Medical Center

Kevin Smothers, MD
Chief Medical Executive
Sutter Medical Center Sacramento

J. Douglas Kirk, MD
Chief Medical Officer
UC Davis Medical Center

Kevin Smith
Area Finance Director
Kaiser Permanente South Sacramento Medical Center

Sandy Damiano, PhD (Ex-Officio)
Deputy Director
Department of Health Services Primary Health Division

David Magnino, BS/EMT-P (Ex-Officio)
EMS Administrator
SCEMSA

Hernando Garzon, MD (Ex-Officio)
EMS Medical Director
SCEMSA

ADDENDUM 2

Recent SCEMSA Budget Growth Requests

FY 2013-14

- Growth Request Approved: $244,651
    - Add 1 EMS Coordinator and 1 EMS Specialist
- Funding:
    - General Fund = $50,356
    - New provider fees = $194,295. MICN certification, MICN, EMT and Paramedic Training Program, CE Provider and ALS Provider.

FY 2014-15

- No Growth Request

FY 2015-16: The Board approved new EMS fees (Late, Rush and Photocopy) and an annual fee adjustment based on CPI. This provided EMS $25,000 additional fee-based revenue to help offset the decreasing VCF revenue.

- Growth Request Approved: $104,632
    - Add 1 EMS Specialist
- Funding:
    - General Fund = $104,632

FY 2016-17

- No Growth Request

FY 2017-18: The Board approved adding the Richie effective 01/01/2018. Richie fund revenue was not used to fund the growth requests.

- Growth Requests (4): $59,033
    - Assign the ASO II fulltime to EMS, instead of splitting time (80:20) with Juvenile Medical Services.
    - Reclassify the Office Assistant position to a Sr. Office Assistant. Cost -
    - Increase Medical Director hours from 50 hours/month to 60 hours/month. General Fund cost $15,000. ***Not Approved.***
    - Fund EMS participation in CARES (Cardiac Arrest Registry to Enhance Survival). Cost - $5,000
- Funding:
    - General Fund = $44,033

FY 2018-19

- Growth Request Approved: $15,000
    - Increase Medical Director hours from 50 hours/month to 60 hours/month.
- Funding:
    - EMS Maddy/Richie Fund = $15,000.

FY 2019-20

- Growth Requests: $181,518
    - Increase Medical Director to a 0.5 position. $30,000
    - Add STEMI and Stroke Programs
    - Add 1 EMS Coordinator to oversee the new Critical Care Programs (STEMI and Stroke). $151,518. ***Not approved for inclusion in recommended budget***.
- Funding:
    - Revenue from new Critical Care Programs.
    - Revenue from increased annual adjustment from CPI to up to 5%.

FY 2020-21

- Growth Requests: $270,223
    - Both ***not approved for inclusion in recommended budget***.
    - Add 1 EMS Coordinator to provide oversite of the new Critical Care Programs (STEMI and Stroke).
    - Add 1 EMS Specialist to conduct EMS investigations, develop and oversee BLS provider programs and vehicle inspections.
- Funding: $270,223: These funding sources were not approved for inclusion in recommended budget
    - EMS proposed adding a new programs and new fees: $126,500:
        - EMS for Children - State permissive program
        - Critical Care Paramedic - Stakeholder requested program
        - BLS Provider Agreements
        - BLS Vehicle Inspections
    - Proposed General Fund cost = $143,723