



MONTEREY COUNTY EMERGENCY MEDICAL SERVICES AGENCY

2021 ANNUAL REPORT TO THE BOARD OF SUPERVISORS

COUNTY OF MONTEREY | HEALTH DEPARTMENT

EMS AGENCY MISSION STATEMENT

The mission of the Monterey County EMS Agency is to lead the Monterey County EMS System through establishing highest standards of emergency medical care, system operations, and medical disaster preparedness for the benefit of the people of Monterey County.

OUR VISION

To create a model EMS system that uses research, best practices, and quality improvement processes to equip providers of pre-hospital emergency medical care to provide compassionate and clinically appropriate care for the people of Monterey County.

VALUE STATEMENTS

The Monterey County EMS Agency is committed to:

- Advocating for the patient in all that we do.
- Personal, professional, and organizational integrity.
- Treating people with dignity, respect, honesty, and fairness.
- Working collaboratively in an environment of trust, transparency, safety, and teamwork.
- Leadership that brings accountability, responsibility, and success to our organization.
- Maintaining a working environment that fosters passion, creativity, and enjoyment.
- Striving to achieve excellence through expertise, innovation, and continued learning.

EMS AGENCY DIRECTOR'S MESSAGE

Honorable Chair and Members of the Board of Supervisors,

I am pleased to present the 2021 Monterey County EMS Agency Annual Report. This report describes some of our activities during this period and highlights some of our major accomplishments.

2021 was another challenging year as the COVID-19 pandemic continued to stretch thin EMS systems everywhere. In an effort to provide needed relief, EMS systems responded by exploring different ways of providing emergency medical care such as being able to transport low acuity patients to alternate care facilities, allowing BLS ambulances to respond to low acuity calls, and use telehealth. Despite the challenges and setbacks—staffing shortages, depleting resources, reimbursement system that has not kept up with increase in cost, EMS communities continue to come together to ensure the needs of our community for emergency medical care are met. EMS providers continue to show their unwavering dedication and commitment to our community. Despite our own staffing challenges, in addition to completing our usual prescribed responsibilities, including ongoing response to the COVID-19 pandemic, we implemented system changes that brought improvements in the EMS System and health of the people of Monterey County.

A common thread running through many of this year's enhancements in the EMS System was an effort to further strengthen our partnership with our stakeholders by increasing our direct engagement with those who provide patient care in Monterey County. In furtherance of this goal, we completed two surveys of our stakeholders, the first related to an overall analysis of the EMS System and the second related to educational opportunities. The results of these surveys led to further engagement through implementation of a series of continuing education offerings hosted by the EMS Agency's Medical Director, incorporating multiple question and answer sessions with our EMS System providers into our annual policy and protocol update cycle, and updating our MoCo EMS Mobile App the enable us to send real-time notifications and bulletins directly to subscribers.

We have also sought to expand access to patient outcome information through the health data exchange (HDE) capabilities of the countywide database system and access to other databases that will provide us with follow up information from the hospitals for patients who suffered strokes, heart attacks, trauma, and cardiac arrest. Having outcome information is critical to having a successful systemwide quality assurance and quality improvement programs (QA/QI), ongoing system improvement, and to ensure regulatory compliance. Very importantly, having direct access to outcome data will allow field providers to inform their future treatment decisions.

We are proud of our accomplishments. We celebrate and recognize the role our agency partners played in these accomplishments. We reiterate our commitment to provide the best possible EMS System for the citizens of Monterey County.

Respectfully submitted,



Teresa Rios
EMS Bureau Chief

EMS AGENCY MEDICAL DIRECTOR'S MESSAGE


We shall not fail or falter. We shall not weaken or tire. Neither the sudden shock of battle nor the long-drawn trials of vigilance and exertion will wear us down. Give us the tools and we will finish the job. - Winston Churchill

If 2020 was a year of sudden change and response to the many challenges of a global pandemic, 2021 was a year of sustained vigilance, fortitude, occasional setbacks, and the persistent thread of human determination. The world celebrated the introduction of vaccines against the pandemic, and then struggled with their imperfections and the reticence of many individuals to receive them. The medical community developed treatments of varying effectiveness against the ravages of COVID-19, while we debated as a society about the complicated balance of health, safety, personal liberties, and our responsibilities to each other.

In EMS we struggled as well, as prehospital providers, emergency department staff, and other front-line workers faced depleted resources, public frustration, and the unrelenting fatigue of a second year of the pandemic. It is often in such situations that we either succumb to adversity or find ourselves reaching deeper than we ever thought we could, finding strength and courage in each other, and surveying the landscape with renewed determination and the pledge that we will emerge victorious no matter the odds or obstacles.

In 2021, the EMS System received 39,485 calls for assistance and completed 22,346 transports, an 11.6% increase from the year before. We reviewed 68 policies and protocols and developed 28 new protocols to address the evolving needs of our system. The Agency streamlined data collection for stroke, STEMI, and trauma patients; established a unified scope of practice for flight paramedics serving multiple jurisdictions; launched TXA administration for critically injured trauma patients; expanded the scope of practice for EMTs and paramedics to administer COVID-19 vaccinations under the declared state of emergency; and worked with multiple committees on a renewed focus on quality assurance and improvement. Our Medical Health Operational Area Coordinator facilitated the procurement and distribution of medical supplies, personal protective equipment, and medications such as monoclonal antibody infusions throughout the county. We processed 380 applications for EMT certification or paramedic accreditation, established a continuing education series hosted by the EMS Agency Medical Director, and worked with a local consortium to establish a paramedic training program in Monterey County to address the need for additional paramedics in our system.

These are just a few of our accomplishments over the past year, and there are many challenges ahead. We value our collaborative partnerships with the EMS System's many agencies and providers. It is an honor to serve in this system, to deliver emergency services to the sick and injured, and to safeguard the lives of the residents of Monterey County.



John Beuerle, M.D.
EMS Agency Medical Director

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MONTEREY COUNTY EMS SYSTEM OVERVIEW

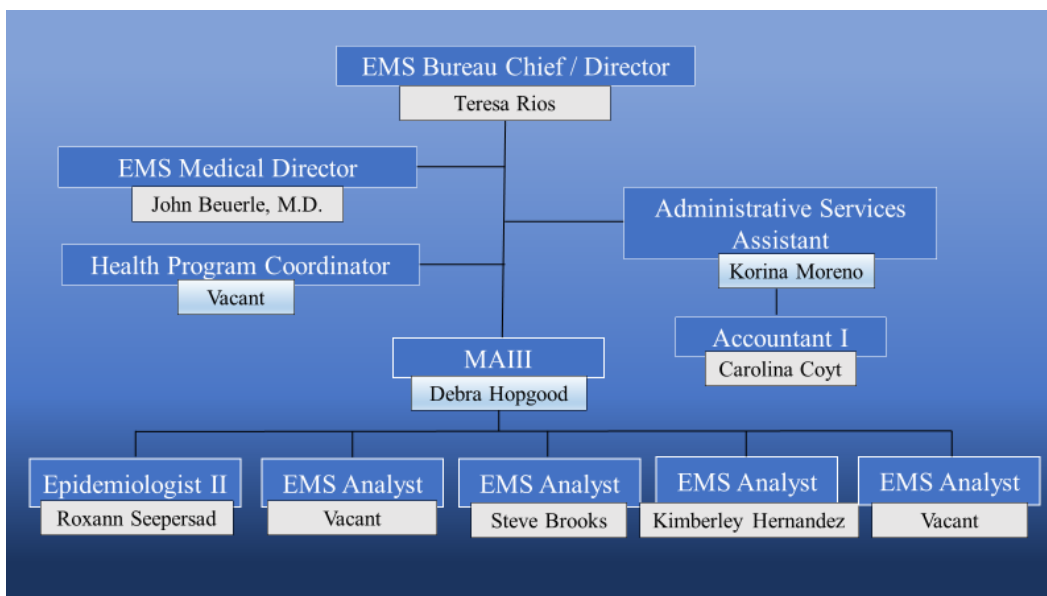
The Monterey County Emergency Medical Services (EMS) System is comprised of ground and air ambulance providers, dispatch/communications centers, fire and rescue service providers, hospital emergency departments, specialty care centers for trauma, stroke, and heart attack patients, and the Monterey County EMS Agency. The purpose of the EMS System is to provide high quality, patient-centered Emergency Medical Services with integrity, equity, dedication, expertise, effectiveness, efficiency, and collaboration at the forefront. The collaborative efforts of these EMS System partners strengthen our ability to provide emergency medical services to citizens of and visitors to Monterey County.



The Monterey County EMS Agency

The Emergency Medical Services Agency is a Bureau within the Monterey County Health Department and is designated by the Board of Supervisors as the local Emergency Medical Services Agency (LEMSA) that oversees the delivery of EMS within Monterey County. The LEMSA ensures that regulations pertaining to the EMS system are carried out as intended by the California Emergency Medical Services Authority. The role of the Monterey County EMS Agency is defined by California statute to plan, implement, and evaluate the EMS System. Additionally, the statute requires the EMS Agency to have a licensed physician as the medical director to provide medical control and to ensure medical accountability.

The Monterey County EMS Agency Organizational Chart



Monterey County EMS System Provider Agencies

Our dispatchers, first responders, Emergency Medical Technicians, Paramedics, and hospital staff provide thorough, timely, compassionate care at all times for all people in need. They are trained, caring professionals who have chosen to help others, often at their most dire time of need, and at any hour of the day or night. This dedicated service has been exemplary especially throughout the additional challenges of the COVID-19 pandemic. The Monterey County EMS Agency thanks our EMS Providers and everyone at their agencies who work hard to support them and make it possible for them to perform their work.

Ground Ambulance Service Providers

- ❖ American Medical Response
- ❖ City of Carmel Fire Ambulance
- ❖ Fort Hunter Liggett Fire Department
- ❖ Monterey County Regional Fire District

Air Ambulance Service Providers

- ❖ CALSTAR Air Medical Services
- ❖ Mercy Air Services

Fire Departments

- ❖ Big Sur Fire
- ❖ CAL Fire
- ❖ Correctional Training Facility Fire Department
- ❖ Fort Hunter Liggett Fire Department
- ❖ Gonzales Fire Department
- ❖ Greenfield Fire District
- ❖ King City Volunteer Fire Department
- ❖ Marina Fire Department
- ❖ Mid Coast Fire Brigade
- ❖ Monterey County Regional Fire District
- ❖ Monterey Fire Department
- ❖ North Monterey County Fire District
- ❖ Presidio of Monterey Fire Department
- ❖ Salinas Fire Department
- ❖ Seaside Fire Department
- ❖ U.S. Forest Service

Hospitals and Medical Centers

- ❖ Community Hospital of the Monterey Peninsula
- ❖ Mee Memorial Hospital
- ❖ Natividad
- ❖ Salinas Valley Memorial Hospital

Law Enforcement Agencies

- ❖ California Highway Patrol – Monterey
- ❖ Carmel Police Department
- ❖ Del Rey Oaks Police Department
- ❖ Gonzales Police Department
- ❖ Greenfield Police Department
- ❖ King City Police Department
- ❖ Marina Police Department
- ❖ Monterey County Sheriff's Office
- ❖ Monterey Police Department
- ❖ Pacific Grove Police Department
- ❖ Sand City Police Department
- ❖ Seaside Police Department
- ❖ Soledad Police Department



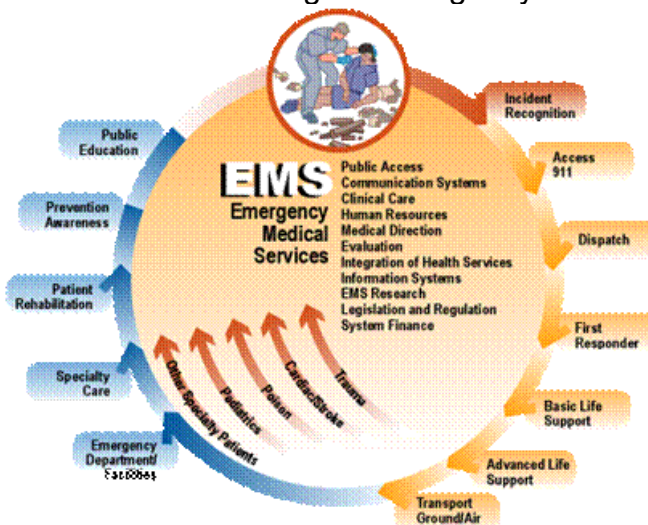
The EMS Agency's Role in the Monterey County EMS System

A high performing EMS System consists of multiple agencies with a variety of functions working together to provide care to those suffering from a medical emergency. The EMS Agency is responsible for managing and coordinating these agencies to ensure that the community receives a coordinated and appropriate EMS response when calling 9-1-1 and, ultimately, the best possible care. However, the EMS Agency's responsibilities do not stop when a patient reaches the doors of the hospital. The EMS Agency is also responsible for ensuring that our local hospitals are able to appropriately receive patients from EMS and, when needed, provide online medical direction to EMS providers in the field. Additionally, the EMS Agency has the responsibility for designation and oversight of specialty care centers for the treatment of trauma, stroke, and ST elevation myocardial infarction (STEMI) patients in Monterey County.

EMS System Management

Essential functions performed by the Monterey County EMS Agency include:

- Serving as an advocate for patients.
- Collaborating with other health officials to ensure a unified, coordinated approach in the delivery of health care.
- Carrying out regulations relative to the EMS systems.
- 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, and dispatchers).
- In collaboration with public health, developing local medical and health disaster plans and coordinating medical and health response to disasters (natural and man-made).
- Designating trauma centers and other specialty care centers.
- Coordinating activities and communications between various agencies that provide EMS System services so that care appears seamless to the patient.
- Coordinating community education programs regarding injury prevention, CPR, public access defibrillation, etc.
- Collecting, analyzing, and reporting on EMS data.
- Contracting for the provision of emergency ambulance service.
- Providing oversight for EMS quality improvement and quality assurance activities.
- Resolving consumer complaints.
- Providing information to public officials.
- Advocating for sufficient and stable funding for emergency medical services.



EMS Advisory Committees



There are three primary advisory committees to the EMS Agency. These committees are made up of members from various components of the EMS System, and in the case of the Emergency Medical Care Committee (EMCC), members of the public. The EMS Agency seeks out the wisdom, knowledge, and experience from those individuals who provide the care, directly manage the response and care provided by their organization, and those who live within Monterey County. Each member provides a unique perspective on EMS issues as a representative of his/her constituency. The varied viewpoints from our committee members help ensure that the EMS Agency makes effective decisions with regards to policies, treatment protocols, and system function. Our committee members play an additional vital role in communicating system changes to other members of their constituencies.

The primary advisory committees are the EMCC, Medical Advisory Subcommittee (MAC), and EMS Operations Subcommittee (OPS).

EMERGENCY MEDICAL CARE COMMITTEE (EMCC)

The EMCC advises on larger EMS System issues and includes members of the public to ensure the needs of the public are accounted for. The EMCC includes participants in the EMS System and members of the public who live throughout the County to ensure representation from all areas of the County. The EMS Agency leverages this broad-based experience for perspective on the EMS System.

The EMCC receives reports on ambulance contract compliance, EMS System metrics such as ambulance patient offload times, MHOAC activities related to COVID, and response times by the fire-based ambulance providers. The fire-based ambulance response time reports were created at the request of the EMCC members in an effort to review ambulance response across the whole of Monterey County and not just for the areas served by AMR.

MEDICAL ADVISORY SUBCOMMITTEE (MAC)

The MAC has a clinical focus and provides input to the EMS Director, EMS Medical Director, and the EMCC on medical control and other medical issues. This committee includes representatives from all four hospitals in Monterey County, first-responder agencies, both ground and air ambulance providers, and law enforcement. The MAC is where treatment protocols and policies are reviewed and our EMS stakeholders from the field and hospitals are able to provide their viewpoints and concerns.

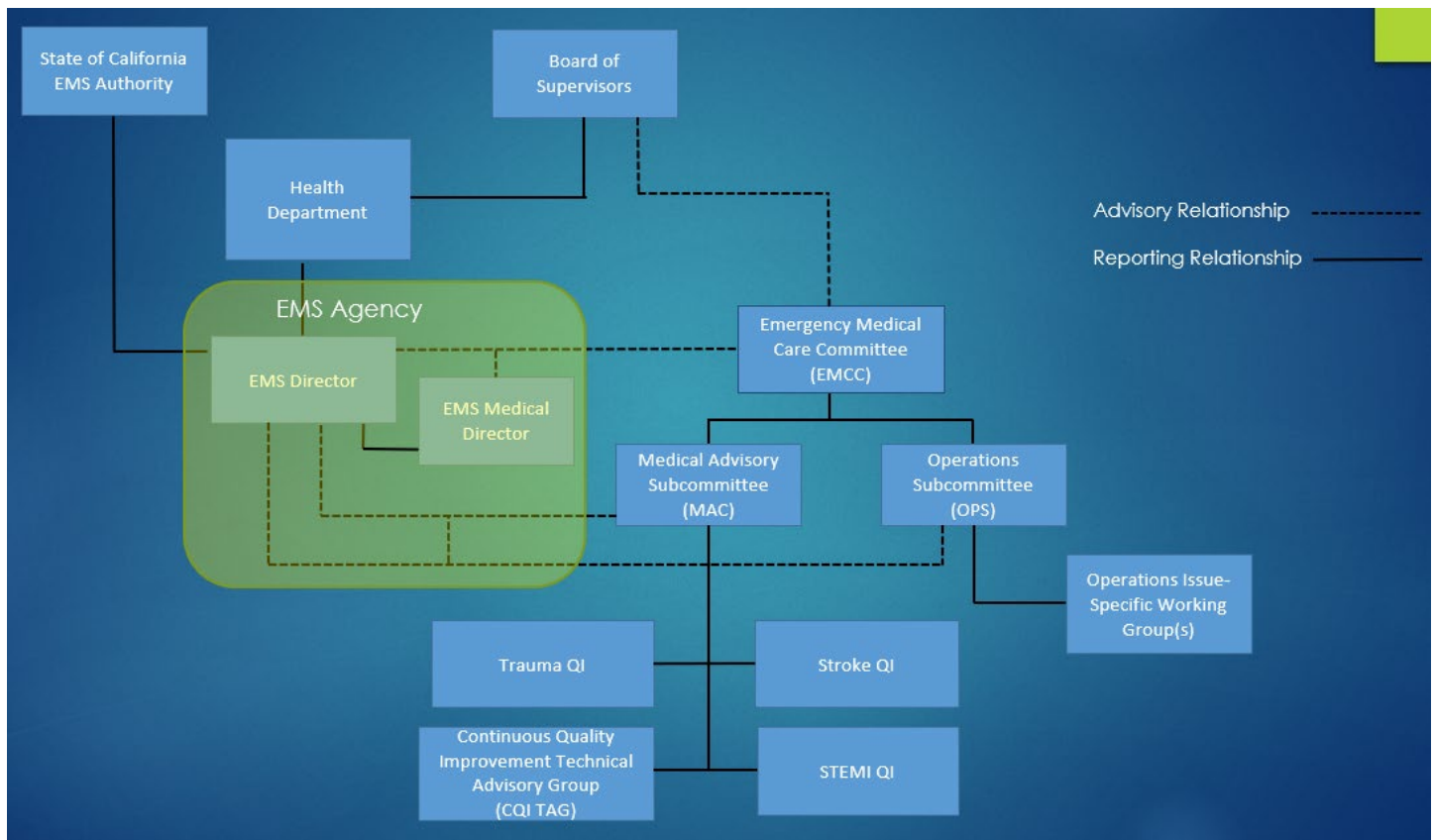
In 2021, the MAC played a large role in our significant revamp of the policy and protocol development cycle as well as the policies and protocols themselves. The EMS Agency began shifting its treatment protocols from a primarily text format to an algorithm format. This change makes the protocols easier to follow and thus more user friendly for our EMS system providers. MAC members spent a significant amount of time reviewing these policies and protocols. They offered feedback and ideas for improvement.

In addition, MAC members provided key input on several items related to the response to COVID-19. In particular, the EMS Agency worked closely with the MAC subcommittee to enhance masking requirements for EMS providers. This was done to help ensure safety and limit potential exposure for not only patients, but also for EMS providers in the field and the hospital staff receiving patients from EMS.

EMS OPERATIONS SUBCOMMITTEE (OPS)

The OPS subcommittee focuses on operational issues, along with system strategy and coordination. This subcommittee is comprised of various field providers, a County 9-1-1 Communications representative, and hospital representatives from the Monterey County EMS System.

In 2021, the EMS Agency worked with the Operations Subcommittee and AMR to change the response to unconfirmed medical alarm calls made by medical alarm companies. Traditionally, these calls would get a Code 3 response, which means the ambulance responds using red lights and sirens. EMS Agency staff analyzed data related to unconfirmed medical alarm calls and determined that 93% of the time, these calls result in no transport to the hospital and less than 1% of these calls result in a Code 3 transport. With the EMS Medical Director's support and endorsement from the Operations Subcommittee, a change was made such that these calls would receive a first responder response only, thus leaving ambulances available in the EMS System until first responders can confirm the need for an ambulance response. EMS Agency staff is monitoring the data related to this change closely.



CLINICAL CARE

Part of the EMS Agency mission is to lead the Monterey County EMS System through “establishing highest standards of emergency medical care...for the benefit of the people of Monterey County.” EMS providers and the care they deliver to those in need lie at the heart of any EMS System. Providing high quality clinical care encompasses far more than just the traditional image of an ambulance that one typically associates with EMS. Taking care of our patients truly involves an entire system, beginning with community education on recognizing and responding to emergencies; continuing into the communications center as trained personnel answer calls for assistance and provide potentially life-saving assistance over the phone; moving on to the first responder, specialized rescue, and ambulance service providers; and finally culminating with the nurses, physicians, and other care providers in our local hospitals. The EMS Agency plays a critical role in helping to ensure excellence at each of these links in the system. Some of the many ways that this is accomplished include policy and protocol development, implementation and monitoring of specialty care systems, and quality assurance/improvement (QA/QI) efforts. We discuss each of these important components in more detail below.

Policy and Protocol Development


It is the policies and treatment protocols that provide structure within the EMS System. The policies set standards for the medical care of the patient, direction for transport destination decisions, coordination and interactions between the various providers and organizations, and the management and coordination of the EMS System itself.

To ensure policies and protocols remain current, the EMS Agency in collaboration with agency partners reviews all policies and protocols regularly. In 2021, the EMS Agency put into effect 28 new and revised policies and protocols through the annual review process. Areas with significant revision include the reporting of unusual occurrences, authorization of paramedic preceptors, and the addition of magnesium sulfate to the paramedic scope of practice. For policies and protocols going into effect on July 1, 2022, the review cycle started in 2021. The EMS Agency reviewed or created a total of 68 policies and protocols.

Also in 2021, the EMS Agency improved the policy and protocol review process. These improvements include expanding the timeline to extend the public comment period to provide stakeholders ample time to review and provide comments and to establish multiple opportunities for additional direct comment via public meetings. Another major improvement was converting the protocols to a flow-chart format that provides an easier to understand treatment flow for the field providers.

In an environment as dynamic as EMS, policies and treatment protocols may need to be revised or created outside of the regular review process. 2021 was no exception as the EMS Agency took advantage of opportunities to create policies and protocols to allow paramedics and EMTs to provide vaccination for COVID during the declared state of emergency. As the paramedics who staff the air ambulances often function in multiple jurisdictions, each with their own specific policies, the EMS Agency joined with other local EMS agencies in establishing a policy to provide a unified scope of practice for the qualified flight paramedics so that they could function across multiple counties under a coordinated single scope of practice. January 1, 2021 also saw the results of our work in 2020 to allow paramedics to administer TXA. Studies have shown that TXA can help manage significant

bleeding in the trauma patient when administered within the first hour after injury, making the paramedic the ideal person to provide this treatment.

Monterey County EMS Agency

Presents:

Policies and Protocols Q&A Series

Join us for a one-hour session of our Policies and Protocols Q&A series. Come learn about the updates and changes in the EMS system.

Monday, December 20, 2021
11:00 AM
Via Zoom

compliance rules allowed PRACTICES rights POLICY expectations standards guidelines

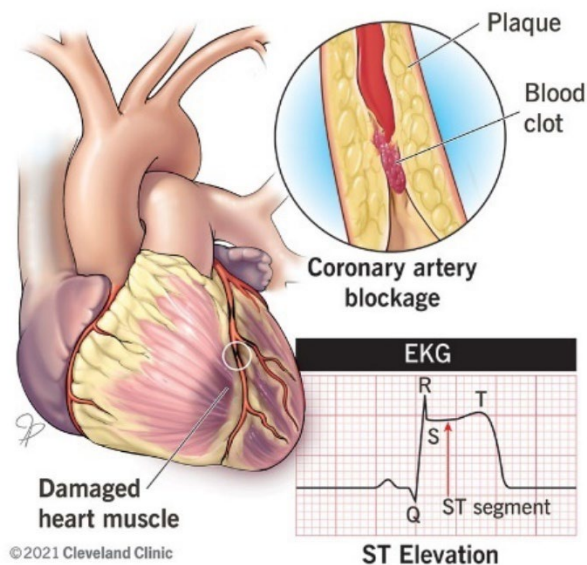
Zoom link below
<https://montereycounty.zoom.us/j/98235423364>
Visit our website for EMS Agency response to public comment at mocoems.org

Specialty Care Systems

A highly functioning EMS System is usually made up of a system of systems. The EMS System, as a whole, functions by bringing a variety of responders together to provide the care and transport needed by the patient. Within the EMS System, are systems of specialty care designed to get the patient with specific conditions to a hospital capable of treating their condition.

STEMI SYSTEM OF CARE

The STEMI system is a system of care for a specific type of heart attack that requires prompt recognition and treatment to bring about the best outcome for the patient. This system is designed to primarily identify those patients with a STEMI and to transport the patient directly to a hospital with the specialized staff and treatment capabilities required by the patient.



At the front end of this system is the paramedic who can perform a 12-Lead ECG to identify the STEMI and transmit it to the emergency department where the ED physician can activate the hospital's staff and interventional cardiologist to meet the patient upon his or her arrival in the emergency department.

At the back end of this system is the specialized hospital designated to receive STEMI patients from paramedics. Both CHOMP and SVMH have been designated to receive STEMI patients from paramedics, since both hospitals have a cardiac catheterization suite and interventional cardiologists readily available to treat coronary artery blockages that cause a STEMI.

In 2021, the EMS Agency began the process of streamlining the data collection process for STEMI patients to accurately capture data for these patients and to improve system efficiency. The EMS Agency also established an agreement with AHA-Get With The Guidelines to access their registry of chest pain patients seen at our STEMI Receiving Centers. This agreement should provide the EMS Agency access to both a robust data collection system as well as tools for data analysis.

STROKE SYSTEM OF CARE

The stroke system of care functions much like the STEMI system in that it is a system within the overall EMS System designed to improve the speed in which stroke patients receive care in the hospital.

EMS personnel have been trained in the use of a specific stroke assessment tool that identifies stroke patients so they can be transported to one of the designated Stroke Receiving Centers. Both CHOMP and SVMH have received designation as a Stroke Receiving Center.

Stroke is a time-critical illness. The more quickly a stroke patient is identified and transported to an appropriate hospital, the more likely it is that there will be a good outcome.

The EMS Agency agreement with AHA-Get With The Guidelines registry provides data for stroke patients in addition to the chest pain registry data described above. The EMS Agency will use this data to evaluate our stroke system and identify opportunities for improvement.



TRAUMA SYSTEM OF CARE

Monterey County's trauma system of care was initiated in January 2015. Since that time, the County has provided specialty trauma care to thousands of patients with traumatic injuries. The County's system of EMS Dispatch and pre-arrival instructions, EMS field triage, rapid transport to a Trauma Center, and care by a dedicated and specially-trained trauma team has resulted in lives saved and a reduction in disabilities associated with traumatic injuries.

The California EMS Authority (EMSA), through its regulations, tasks the EMS Agency with:

- Development of a trauma plan for Monterey County.
- Designation of a Trauma Center and ensuring that the Trauma Center provides care in a manner consistent with EMSA and American College of Surgeons (ACS) requirements.
- Ensuring that EMS providers are trained in the local trauma triage criteria, patient care methodologies, and treatment protocols.
- Developing a process for early notification of the Trauma Center of the impending arrival of a trauma patient.
- Developing policies that provide a clear understanding of the structure of the trauma system and the manner in which it utilizes the available resources.
- Collecting and analyzing trauma-related data.
- Developing a process for periodic performance evaluation of the trauma system.
- Ensuring that Trauma Centers and other hospitals that treat trauma patients participate in quality improvement processes.

Natividad is the Trauma Center designated by the EMS Agency to serve Monterey County. Natividad is accredited by the American College of Surgeons (ACS) as a Level II Trauma Center for adult patients. Pediatric patients with critical or serious injuries are usually transported by air ambulance to a Pediatric Trauma Center in Santa Clara County.

The EMS Agency bases our trauma triage criteria on the Center for Disease Control (CDC) Field Trauma Triage Criteria. This system categorizes the severity of the patient's injuries and helps ensure that patients with life-or-limb threatening injuries are rapidly identified and triaged to the closest, most appropriate Trauma Center. A similar triage system helps emergency department physicians at non-trauma center hospitals rapidly triage patients who arrive by means other than an ambulance and immediately transfer patients meeting trauma triage criteria to an appropriate Trauma Center.



Another piece of the trauma system oversight by the EMS Agency is quality assurance/quality improvement (QA/QI). Representation of all of the components of a trauma system in a single committee makes communication, identification of issues, and issue resolution within the system more effective. The EMS Agency's Trauma Evaluation and Quality Improvement Committee (TEQIC) fills this role in Monterey County. The committee brings together representatives from the emergency communications/dispatch center, first responder agencies, ground and air transport providers, law enforcement, the Coroner's Office, non-Trauma Center hospitals in Monterey County, and the trauma team at Natividad to help improve the trauma system and streamline communication between organizations. The TEQIC group reviews trauma data, provides input regarding policy and treatment protocol development/modification, serves as a forum for trauma-related education, and functions as a peer review group by conducting regular case reviews. Information and improvements gleaned from the TEQIC meetings are communicated back to stakeholders throughout the EMS System.

Quality Assurance and Improvement

Quality Assurance (QA) aims to ensure that individuals are appropriately following policies, procedures, and protocols or meeting established regulatory standards. QA ensures that individuals within the system are doing the right things in the right way. QA is a part of quality improvement (QI) and is needed to establish confidence that performance is at the expected levels in advance of making improvements to a system.

Quality Improvement (QI) focuses on systems rather than individuals. QI measures current processes and then creates and modifies the system to make things better. It involves a continuous reassessment to improve the delivery of a product. This “product” may be anything from high-quality patient care to educational offerings, or even the process for obtaining an EMT certification. QI strives toward meeting the current and evolving needs of stakeholders. The EMS Agency uses this mindset to inform our actions and continuously looks for potential areas of improvement throughout the many components of the EMS System.

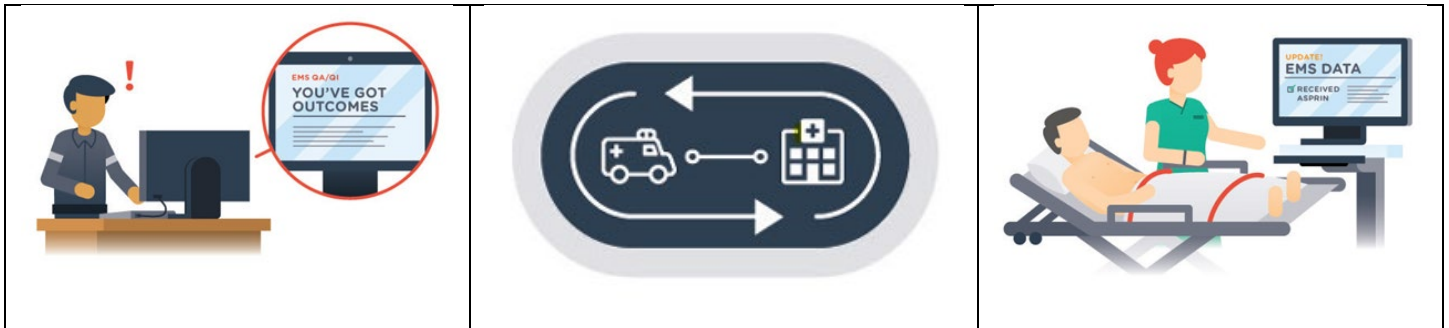
In 2021, the EMS Agency continued to adjust to the constraints imposed by COVID-19 and worked to refocus attention on many of our long-standing areas of responsibility. While activities related to COVID still occupied a significant amount of time and effort, we were able to make significant strides related to our clinical QA/QI programs.

One key effort involved resuming regularly scheduled meetings with our QA/QI groups including: the Continuous Quality Improvement Technical Advisory Group (CQI TAG), the Trauma Evaluation and Quality Improvement Committee (TEQIC), and the Stroke and STEMI Quality Improvement Committees. Restarting these meetings allowed us to meet regularly with stakeholders from these important clinical areas, raise new ideas and suggestions for improvement, receive feedback, and move important initiatives forward. At the beginning of the year, we distributed a SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis form to committee members. We used their feedback, along with a previously conducted internal SWOT Analysis, to inform our efforts throughout 2021, and into the future.

Some of our accomplishments during 2021 included:

- Implemented a new policy related to data utilization and governance to better secure data, provide for confidentiality, and define uses of data.
- Held multiple meetings with stakeholders including facility personnel, EMS service provider agency representatives, and field care providers to garner their input on proposed changes to the EMS Agency’s policies and treatment protocols.
- Resumed daily mass casualty incident (MCI) drills in ReddiNet, our emergency communications program, to ensure that facilities are better prepared and practiced in their response to future MCIs.
- Reached an agreement with the American Heart Association for access to their Get With The Guidelines (GWTG) software. This will allow the EMS Agency to obtain follow-up information on patients who receive care at our stroke and STEMI specialty care facilities.
- Reached an agreement for access to the Cardiac Arrest Registry to Enhance Survival (CARES) database. This provides access to EMS treatment, in-hospital treatment, and patient outcome information for patients who suffered from cardiac arrest in Monterey County.
- Secured access to the Trauma One trauma registry software that contains follow-up information on patients who sustained traumatic injuries and were transported to Natividad Medical Center. This allows us to provide meaningful feedback and follow-up to EMS providers and non-trauma center hospitals.

- Expanded the use of the Health Data Exchange (HDE) within our electronic patient care documentation system to include Salinas Valley Memorial Hospital and began work to expand use to two other facilities. This will provide EMS responders with patient outcome information and allow them to learn and improve for future patient encounters.



- Implementation of a unified scope of practice protocol for EMS aircraft-based Paramedics that will allow these Paramedics who often work in multiple jurisdictions to utilize the same scope of practice regardless of where they are based.
- Added ketamine to the Paramedic scope of practice. This provides paramedics with a non-narcotic medication for managing and treating patient's experiencing pain from a variety of causes.
- Enhanced the features included in the EMS Agency's mobile app to allow posting of memos and bulletins as well as sending push notifications to EMS System participants.



- Completed a stakeholder survey regarding continuing education offerings and training needs.
- As a result of stakeholder feedback, implemented a regular series of continuing education courses hosted by the EMS Agency's Medical Director.
- After a thorough review of data and obtaining stakeholder input, instituted a change to responses to medical alarms calls without patient contact/information. This change decreased unnecessary use of lights/siren responses and thus increases safety for the public.

OPERATIONS

EMS operations include many of the logistical and practical considerations involved in ensuring that appropriately trained EMS personnel reach patients in need of medical assistance in a timely and safe manner. Providing highly trained EMS responders begins with the initial training received, continues with certification and accreditation processes, and is maintained through continuing education and training. The other two key components are dispatch operations and field operations. Dispatch operations ensures that the needed resources arrive expeditiously while field operations involve the actual response to an incident by EMS System personnel.

EMS System Personnel

EMS personnel typically have one of three levels of EMS training – Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), and Paramedic. These levels of training are discussed below along with EMS Agency actions and responsibilities related to the certification of EMTs and the accreditation of paramedics. We also discuss the status of EMS training in Monterey County. Registered Nurses working on EMS aircraft or on ground Critical Care Transport (CCT) are responsible to the service provider’s medical director and their licensing board.



Certification and Accreditation

EMERGENCY MEDICAL RESPONDER (EMR)

Monterey County should be proud of its history in training EMS personnel to the level of EMR. Many years ago, EMS leadership determined that bringing Paramedic-level services required all EMS responders to be trained to provide EMS care and to assist Paramedics. The EMS Agency took on the responsibility of training and sent instructors to teach EMR courses in the county’s rural areas. The EMS Agency no longer provides this training. Instead, the EMS Agency distributes CSA-74 funds to the fire departments and districts to assist with the cost of training.

Currently, there is no certification in California for EMR. EMR is a training course that provides a course completion certificate to document the training. The EMS Agency is responsible for approving the training program, course content, and testing materials. It is through this approval process that

the EMS Agency ensures that the EMR-trained responder is capable of providing the level of care in which they have been trained.

EMR training continues in some of the more rural areas of the County as a way to utilize people in a first responder role who would otherwise not volunteer with the local fire agency due to the time and other requirements to become an EMT.

EMERGENCY MEDICAL TECHNICIAN (EMT)

Most EMS providers have received training at the EMT level of care. The EMS Agency is responsible for ensuring that the EMT has met the training requirements for certification, is free from a criminal history that would preclude the individual from having an EMT certification, and has no background of misconduct as a healthcare provider that would make them unfit to provide care for the people of Monterey County. When this has been verified by EMS Agency staff, the EMS Agency provides EMT certification to the applicant. The EMS Agency performs a thorough review of each application to ensure all the requirements are met.

Public safety is our highest priority. To that end, the EMS Agency receives reports through the Live Scan fingerprint process on the criminal background of EMTs who are certified or applying for certification through the Agency. The EMS Agency follows guidance established by the California EMS Authority related to criminal background actions to ensure consistency across the State. The EMS Agency also receives reports from the National Practitioner Data Bank on the healthcare background of each EMT and EMT applicant to ensure that they do not have a history of problems related to the provision of medical care or licensure.

The EMS Agency provides initial EMT certification for qualified applicants who have completed EMT training, passed the certifying examination, and are not disqualified due to a criminal background.

PARAMEDIC

Paramedics are licensed through the State EMS Authority. The Paramedic's ability to practice in Monterey County is provided through accreditation. The EMS Agency provides accreditation only to Paramedics affiliated by employment with a Paramedic service provider organization. Monterey County EMS also requires Paramedics to have additional training in trauma, cardiac, and pediatric care not required for licensure but required for accreditation to practice in the Monterey County EMS System.

The EMS Agency accreditation process ensures that Paramedics are able to function in the Monterey County EMS System by demonstrating that they know and are able to function under the policies and treatment protocols established by the EMS Agency and EMS Medical Director. In 2021, the EMS Agency prioritized prompt processing of new paramedic accreditation applications due to the paramedic shortage and need to get the paramedics working quickly.



Applications Processed by the EMS Agency in 2021	
57 Applications for Initial EMT Certification	27 Applications for Initial Paramedic Accreditation
192 Applications for EMT Certification Renewal	71 Applications for Continued Paramedic Accreditation
33 Applications for Transfer or Reinstatement of EMT Certification	0 Applications for Reinstatement of Paramedic Accreditation
282 Total EMT Applications	98 Total Paramedic Applications
380 Total Applications for EMT Certification or Paramedic Accreditation	

The number of initial EMT certification applications processed in 2021 is lower than past years as COVID restrictions decreased the number of students taking an EMT course. In addition, the EMS Agency processed 23 applications for reinstatement of an expired EMT certification and 10 renewal applicants who transferred from another county. These transfer applicants are coming to work in Monterey County and usually want the convenience of working with the EMS Agency in the area in which they work.

EMS Education and Training

2021 saw much change in EMS training. As described above, EMT training programs continued to see smaller numbers of students entering the programs. There are multiple factors for this. COVID contributed by discouraging people from entering the healthcare field as well as making class attendance harder.

The EMT training programs adapted by providing remote learning and utilizing small student groups to conduct the hands-on skills practice. Hartnell College EMT program invested in high-fidelity simulation manikins to enhance training, which also helped manage social distancing.

2021 saw the end of the Monterey County Regional ROP EMT class focused on high school students in the district, leaving the programs at Monterey Peninsula College and Hartnell College as the active EMT training programs in Monterey County.

The EMS Medical Director has increased his participation in EMS education by providing EMS continuing education courses. Last year's topics included trauma case studies and 12-Lead ECG interpretation, streamed through Zoom. These courses were well received by the EMTs and Paramedics who attended.

Perhaps the most significant change in EMS education was the application by South Bay Regional Public Safety Consortium to provide Paramedic training in Monterey County at the MPC Public Safety Training Center. The driving force behind bringing Paramedic training to Monterey County was the Monterey and Salinas fire departments. Monterey County has not had a Paramedic training program held within the county for several years. The target date for the first Paramedic class to start is at the end of May 2022. Having a paramedic training program in Monterey County is a big step to help to address the Paramedic shortages our system has been experiencing.

Emergency Medical Responder (EMR) training continues but is limited. It has found its greatest use in Big Sur Fire and with the Palo Colorado Fire Brigade. Having this level of training available to these remote area fire agencies allows them to provide a higher level of patient care than possible with basic first aid training. EMR trained personnel receive at least 40 hours of training every two years to maintain their skills.

EMS continuing education (CE) has seen a shift from in-person courses to courses taken online. COVID has contributed to this trend. Many fire agencies provide access to an online CE provider for their personnel and only provide in-person CE courses for training that is Monterey County specific such as for the annual EMS policy and protocol update review. To help facilitate this training, the EMS Agency publishes a PowerPoint-based training tool for the EMS service providers to use in training their personnel in the new and revised policies and protocols.

YOUR OPINION MATTERS!

The Monterey County EMS Agency is seeking to institute a regular series of continuing education offerings and is requesting your help.

We would like your input on any particular education topics you would like see addressed.

To provide your response please complete a brief survey available at <https://forms.gle/i6MDqv7PFXg9Fh1DA> and submit by Sunday, November 21st.

THE MONTEREY COUNTY EMS AGENCY NEEDS YOUR HELP...



Trauma Case Studies

A review of trauma triage, assessment, treatment, and destination considerations presented through a series of case studies

Presented by:
Dr. John Beuerle
Medical Director, Monterey County EMS Agency

Monday, November 1, 2021
1:00 PM to 2:30 PM
Via Zoom

Register in Advance at:
<https://tinyurl.com/h2kt4w>

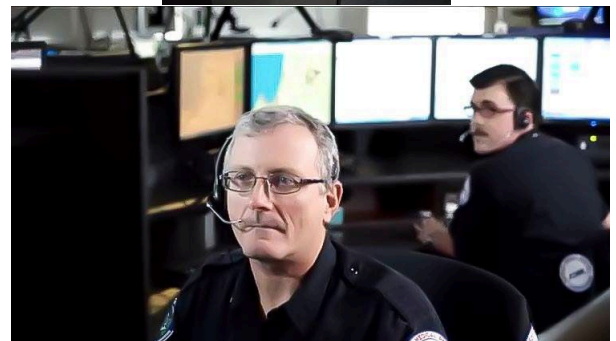
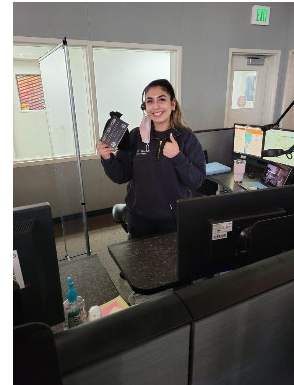
1.5 Hours of Continuing Education Credit
Offered free of charge to all provider levels
Monterey County EMS Agency
Continuing Education Provider # 27-0001



Emergency Medical Call Dispatch

9-1-1 CALL RECEIPT

Calling 9-1-1 is the first connection between the person needing emergency medical services and the EMS System. Monterey County Emergency Communications Department (MCECD) receives the majority of 9-1-1 calls placed in Monterey County. The California Highway Patrol (CHP) also maintains a dispatch center in Monterey County and receives a portion of 9-1-1 calls made by cell phone within Monterey County. Most of the 9-1-1 callers reporting a medical emergency are transferred to the EMS Dispatch Center for further processing. However, 9-1-1 calls such as those involving an active shooter or other dangerous situations may be retained by MCECD personnel as they gather information necessary for the safety of all emergency responders.



EMS DISPATCH

The EMS Dispatch Center (EMS Dispatch) is operated by AMR, the county's ambulance services contractor. EMS Dispatch is staffed with dispatchers who are certified Emergency Medical Dispatchers (EMDs) that have been trained in the Medical Priority Dispatch System (MPDS). MPDS is a well-researched and unified system used to prioritize medical calls and dispatch appropriate aid to medical emergencies. The goal of MPDS is to prioritize the highest acuity medical emergencies so they receive the fastest response from the closest available resources. EMDs use MPDS for caller interrogation to ensure that the proper pre-arrival instructions are given to assist the patient or reporting party until responders arrive. This may be through guidance in performing cardiopulmonary resuscitation (CPR), control of serious bleeding, childbirth, choking, or assistance with other types of medical emergencies.

The EMS Agency has been monitoring the number of calls that go through the call interrogation process (EMD'd) since its implementation at the end of 2019. In 2021, the EMS Agency worked with EMS Dispatch to finetune the formula for a more accurate calculation of the percentage of calls EMD'd. Together, we identified calls that never go through the call interrogation process. These calls were eliminated from the calculation. Another improvement was a better categorization of calls that

do go through the call interrogation process. These adjustments led to a more accurate reporting of the number/percentage of calls that go through the call interrogation process as shown below:

Year	Total Calls	Number of Calls EMD'd	Percentage of Calls EMD'd
2020	35,178	20,176	57.35%
2021	31,740	21,690	68.34%

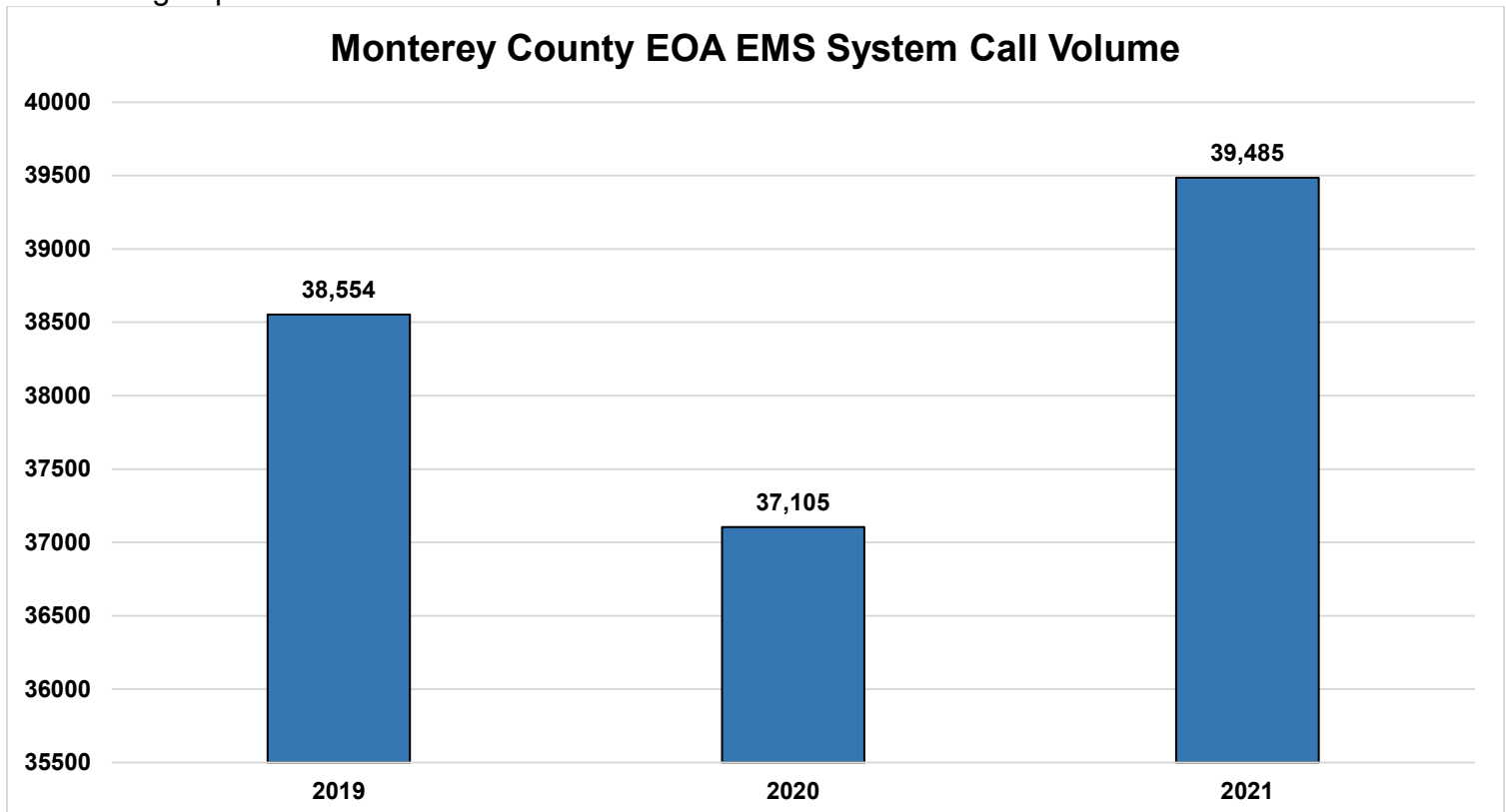
Ambulance Services

AMBULANCE PROVIDER CONTRACT – EXCLUSIVE OPERATING AREA

A primary function of the EMS Agency is to ensure there are adequate and effective ambulance services throughout Monterey County. In 2021, the EMS Agency successfully negotiated a three-year extension of the ambulance services agreement with American Medical Response (AMR). This ensures the continued provision of emergency ambulance services in the Exclusive Operating Area (EOA), which covers the majority of Monterey County, until the end of June 2025. The ambulance provider contract covers response to 9-1-1 calls, interfacility transports for patients who need continued medical monitoring during transport from one medical facility to another, and for medical standby services at special events within the county's EOA.

AMBULANCE CALL VOLUME

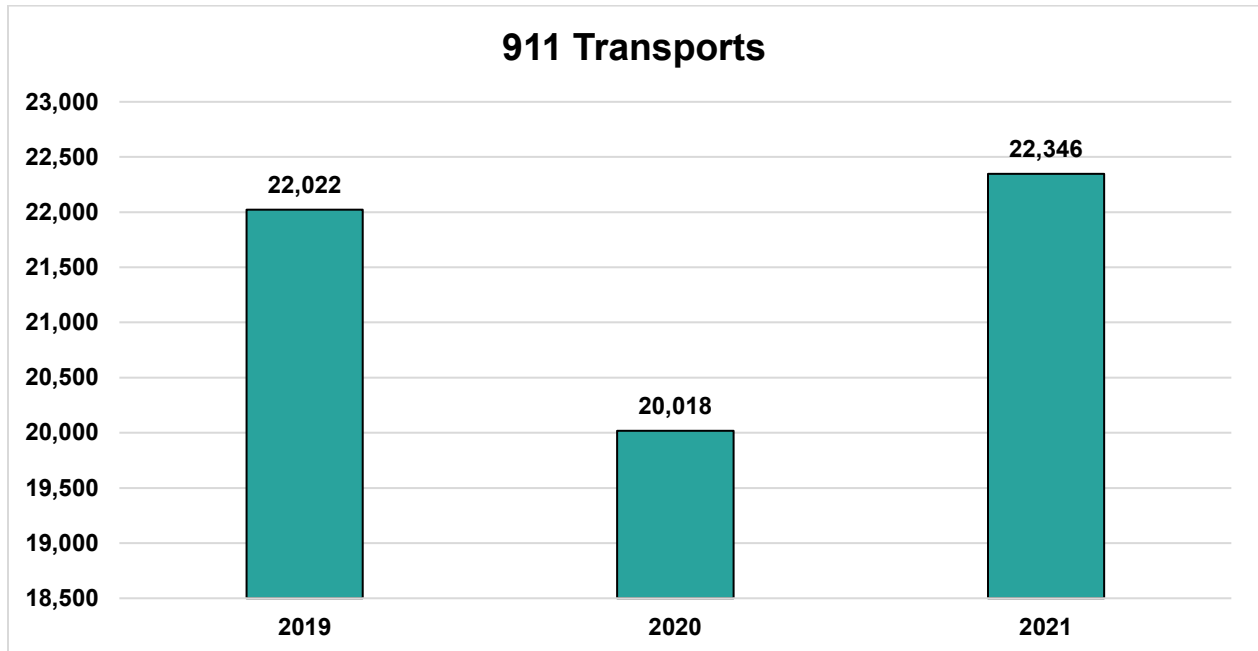
The chart below compares the total number of calls for emergency medical assistance that originated within the EOA during 2019, 2020, and 2021. The 2019 and 2020 data are provided for comparison purpose only. The EMS Agency has been monitoring call volume more closely since the start of the COVID-19 pandemic. Just like many other systems affected by COVID-19, Monterey County experienced a 3.76% decrease in call volume in 2020 during the beginning of COVID-19. In 2021, call volume increased 2.76%% compared to 2019 (a pre-COVID year), thus showing call volume normalizing to pre-COVID level.



AMBULANCE TRANSPORT VOLUME

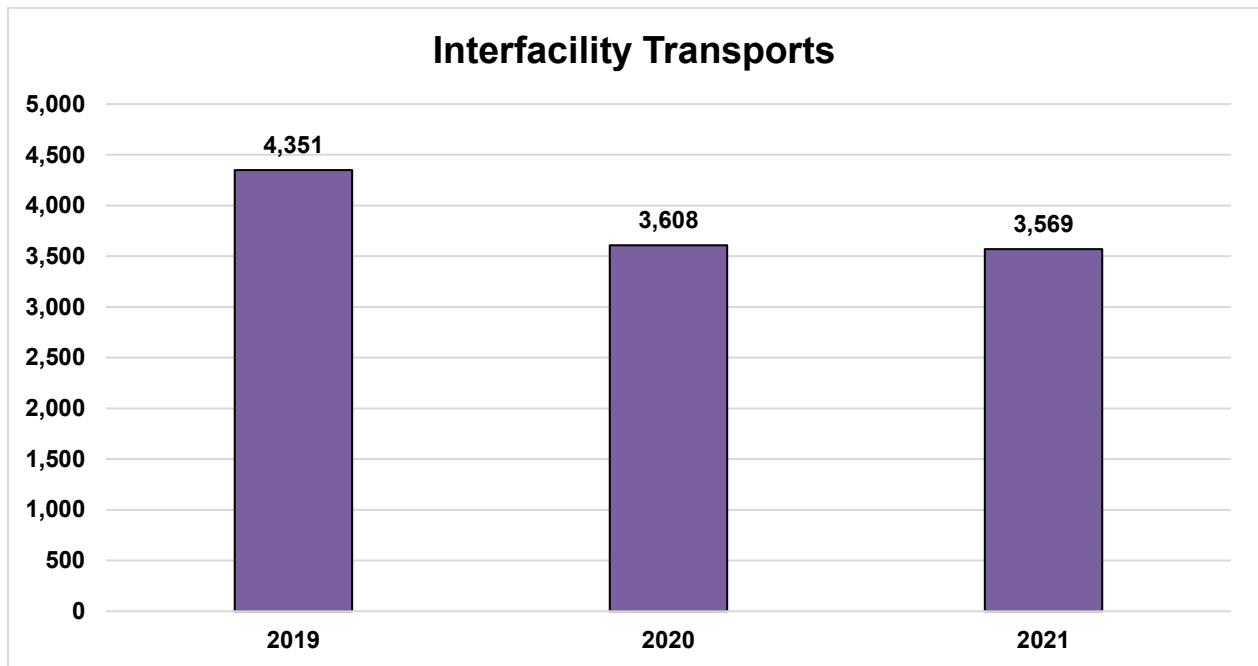
While the contracted ambulance provider responds to every medical emergency call, not every call results in the transport of the patient to a hospital. Based on the three-year data presented in this report, patients were transported to the hospital 57.12 % in 2019, 53.95% in 2020, and 56.59% in 2021.

The chart below indicates the number of calls for emergency medical assistance within the EOA that originated through the 9-1-1 system that resulted in the transport of a patient during 2019, 2020, and 2021. When compared to 2019 pre-COVID data, the number of transports decreased 9.10% in 2020; however, they increased 1.47% in 2021.



In addition to transporting patients to hospitals, the ambulance provider transports patients who need continued medical monitoring from one medical facility to another. One example of such a transport is a patient who sustained significant burns and requires intravenous fluids and pain management medications during transport from a Monterey County hospital to a burn center capable of providing specialized care for the patient's injuries. These types of transports are referred to as Interfacility Transports (IFTs). The next chart includes the number of Interfacility Transports in 2019, 2020, and 2021.

When compared to 2019 pre-COVID data, IFTs decreased 17.08% in 2020 and 17.97% in 2021. Unlike call volume and number of transports to the hospital, number of IFTs in 2021 did not go back to pre-COVID levels.



CONTRACT COMPLIANCE

The current agreement for ambulance services requires a high level of performance by American Medical Response (AMR). In 2021, the effects of COVID-19 continued to pose challenges for the EMS System, which included longer ambulance patient offload times (APOT), additional time to decontaminate the ambulance after each transport, and fewer EMS personnel available to staff ambulances as they were either ill or had been exposed to COVID-19.

The EMS Agency continued to meet with AMR to monitor performance and to address issues that could hinder performance. A Contract Compliance Working Group (CCWG) comprised of citizen representatives, EMS Agency staff, a local emergency room physician, and AMR leadership, monitor AMR's performance by reviewing a wide range of metrics to maintain a system that delivers vital pre-hospital emergency medical services to the community.

DISASTER MANAGEMENT

California's disasters often have an impact on public health and the medical system, which includes many public and private partners. EMS is a key part of this overall system and EMS providers are usually the first medical care to arrive at the scene of a disaster. Thus, EMS must be prepared to successfully respond to the public health and medical consequences of disasters.

The EMS Agency's Role in Disaster Management

The EMS Agency takes the lead in ensuring that EMS service provider agencies are prepared to respond to disasters and mass casualty incidents (MCIs) involving multiple patients. Advance preparations include building a robust system of mutual aid partners, regulating medical supply inventories, participation in training and exercise opportunities, and drafting and editing various disaster-related plans.

During 2021, in addition to the COVID-related activities outlined below, the EMS Agency also:

- Participated in the planning efforts leading up to Monterey Car Week. EMS Agency staff attended multiple planning meetings with representatives from organizations throughout Monterey County, coordinated medical coverage and staffing, worked with the contracted ambulance provider to ensure adequate staffing despite the events additional demands on the EMS System, drafted a medical plan covering the week, and joined the daily briefings.
- Helped increase situational awareness, enhance readiness, and coordinate resources during the late January weather/flooding event. The MHOAC was in daily contact with providers in Monterey County, The Regional Disaster Medical Health Coordinator/Specialists (RDMHC/S) for Region II, the California EMS Authority, and other MHOACs and agencies throughout Region II.
- Participated in the Monterey and San Benito Healthcare Coalition.
- Completed multiple training opportunities related to disaster management and working within an Emergency Operations Center (EOC).

The EMS Agency provides staff to serve as an EMS Duty Officer. This position is on-call 24 hours per day every day of the year. EMS Communications notifies the EMS Duty Officer of significant incidents providing the EMS Agency with situational awareness. The EMS Duty Officer can confer with responding agencies and provide guidance as needed.

Depending on the scope and scale of the incident, the EMS Duty Officer may also decide to activate the Medical Health Operational Area Coordinator or MHOAC.

Medical Health Operational Area Coordinator (MHOAC)

The Medical Health Operational Area Coordinator (MHOAC) is a role with a set of duties defined by the California Health and Safety Code Section 1797.153. These regulations task the MHOAC with responsibility for seventeen essential functions related to health and medical needs. During normal operations, the MHOAC is responsible for collaborating with local and regional emergency planners to develop and maintain medical and health disaster plans. In Monterey County, the EMS Agency staffs the MHOAC position and maintains a 24-hour-per-day, 365-days-per-year single point of contact for the program.

When the local Office of Emergency Services (OES) activates the EOC due to a declared emergency, the MHOAC role becomes one of heightened significance. In the event of a local, state, or federal declaration of emergency, the MHOAC performs essential functions within the Operations Branch of the Emergency Operation Center (EOC) and becomes a primary point of contact for the coordination of medical and health resources between local, regional, and state authorities. Largely concerned with the procurement and distribution of necessary resources during emergencies and disasters, the MHOAC becomes increasingly vital to an effective emergency response the longer an emergency persists. The COVID-19 crisis has resulted in an unprecedented situation, a declared public health emergency that has remained in effect for over two years. As such, the MHOAC role has never been so thoroughly developed and exercised as it has been in the last year.

COVID-19 RESPONSE ACTIVITIES

The primary activities of the MHOAC during the declared COVID-19 emergency have included:

- In addition to the supplies and personal protective equipment (PPE) outlined below, the MHOAC played a role in the procurement and distribution of multiple therapeutics including monoclonal antibody and anti-viral medications. The MHOAC also worked closely with the California Department of Public Health (CDPH) to ensure that our local hospitals, clinics, and pharmacies were registered to receive these important medications.
- Participation in multiple weekly meetings with a variety of different participants from within Monterey County, Region II, and the state. These meetings focus on situation awareness, knowledge sharing, and coordination.
- Working with the county's Health IT team and Contracts and Purchasing to develop, modify, and improve an online request form for submitting supply and resource needs. The MHOAC also worked with these same groups to develop and improve a reporting system to allow access to the data contained within these requests.
- Receiving and processing multiple requests from Region II and the state related to requests for ambulance strike teams and hospital patient load leveling. Each such request requires polling of EMS or hospital resources in the county, communication with the requestor, and coordinating any resulting response or patient placement.
- Participating in weekly calls with local skilled nursing and long-term care facilities to provide situational awareness and support.
- Facilitating staffing requests.



COVID-19 VACCINATION AND TESTING EFFORTS

The EMS Agency and MHOAC continued to take an active role in the ongoing efforts to conduct COVID-19 testing and vaccinate Monterey County residents. Early in the pandemic, the EMS Agency applied to and was approved by the state to expand the scope of practice for EMS providers to include the ability to conduct nasopharyngeal swab testing and to administer the COVID-19 and influenza vaccines. In 2021, the EMS Agency successfully reapplied to the state to extend the expansion of the scope of practice and allow EMS providers to continue these practices.

The EMS Agency approved over 170 Paramedics and EMTs to administer COVID-19 and influenza vaccinations. At last count, these EMS providers had administered almost 12,000 doses of the vaccine.

Later in 2021, when the COVID-19 vaccine became available to pediatric patients between the ages of five and eleven years of age, the state put in place requirements for local EMS agencies to meet to be able to further expand the Paramedic scope of practice to include this age group. The EMS Agency moved rapidly to institute a program meeting these requirements and allow our local Paramedics to obtain authorization to vaccinate these patients.



At the end of 2021, the state established requirements to also allow EMTs to vaccinate this younger age group. Again, the EMS Agency moved swiftly to enact a program meeting the state's requirements and permitting our local EMTs to expand their scope of practice to vaccinate pediatric patients. We repeatedly championed this expansion to the California EMS Authority and advocated for EMT authorization to vaccinate pediatric patients as we believe that this adds a vital capability in many areas of Monterey County.

RESOURCE AND SUPPLY PROCUREMENT

The MHOAC has coordinated almost 2,000 resource requests since the beginning of the pandemic. Most of these requests included multiple different items. Nearly 500 of these requests occurred in 2021. Responding to this volume of requests was truly a team effort. The EMS Agency worked closely with members of the Contracts and Purchasing team. Their staff played a vital role in coordinating the receipt and delivery of all supplies.

The items in the following table represent just a small number of the types of items distributed through the MHOAC during 2021. The program has also facilitated the procurement and distribution of laboratory and pharmacy products including testing-related supplies and vaccine administration

supplies such as needles, syringes, sharps containers, and temperature-controlled storage/transport devices.



Testing Supplies

Over 63,700 COVID tests



Gloves

Over 779,000 gloves



Gowns

Over 150,000 gowns



N95 Masks

Almost 395,000 N95 masks



Surgical/Procedure Masks

Over 300,000 masks



Hand Sanitizer

Almost 1500 gallons of hand sanitizer

FINANCES

County Service Area (CSA) 74

In 1988, Monterey County sponsored a ballot measure for the establishment of the CSA-74 benefit assessment on real property within the county to finance a countywide Paramedic Emergency Medical Services (EMS) program. On March 7, 2000, Monterey County voters approved Measure A, replacing the former CSA-74 benefit assessment with an equivalent special tax, in compliance with Proposition 218. The special tax is collected and administered by the EMS Agency and is used "for the purpose of funding the countywide Paramedic EMS System, which will provide advanced life-saving support to victims in response to emergency calls."

The (now) special tax for CSA 74 is assessed in accordance with the Monterey County Land Use Codes. The basic unit is a single-family dwelling. All other land uses are either a percentage or multiple of that basic unit. Trailer Spaces and Hotel Rooms are calculated differently as there may be many of them on a single parcel.

The break down for fiscal year 2020-21 is as follows:

CSA Units	119,354	\$1,708,962
Trailer spaces and hotels rooms	415	\$113,793
Total	119,769	\$1,822,755

In addition to supporting operations of the EMS Agency in charge of overseeing the EMS System, CSA-74 funds also support the countywide EMS training and equipment activities of emergency first responders. The amount disbursed to each agency is calculated using the methodology established in the MOU dated June 17, 2011. During FY20-21, the EMS Agency streamlined the expenditure report and fund application form to make it easier for participating agencies to submit expenditure reports and funding requests and the required supporting documents.

During FY20-21, the EMS Agency used CSA-74 monies to continue to pay for the costs of the single integrated electronic patient care reporting (ePCR) system county-wide to ensure compliance with Assembly Bill 1129, which revised the California Health and Safety Code, Section 1797.227 to require local emergency medical care providers to submit electronic data.

Maddy Fund

In 1989, the Monterey County Board of Supervisors established the County Emergency Medical Services Fund (EMSF) under Section 1797.98 of the Health and Safety Code (Maddy Fund) to provide for collection and distribution of fine proceeds authorized by the California State Legislature adopting of Senate Bill 612 and 1773. These laws allow counties to levy an assessment of \$4.00 per \$10.00 of fines for specified traffic violations.

Pursuant to state law, the money in the fund is disbursed and utilized in the following manner:

- Up to 10% of the proceeds are available to fund the program's administration.
- The remaining 90% compensates health care providers for emergency medical services provided to individuals who do not have healthcare insurance and cannot afford to pay for emergency medical care and for discretionary EMS purposes.

The distribution breakdown of the remaining 90% of the funds is as follows:

- 58% to reimburse physicians for a portion of unreimbursed indigent services/bad debt costs;
- 25% to reimburse hospitals which provide a disproportionate share of unreimbursed emergency medical care; and
- 17% for Health Department's Emergency Medical Services Agency discretionary activities.

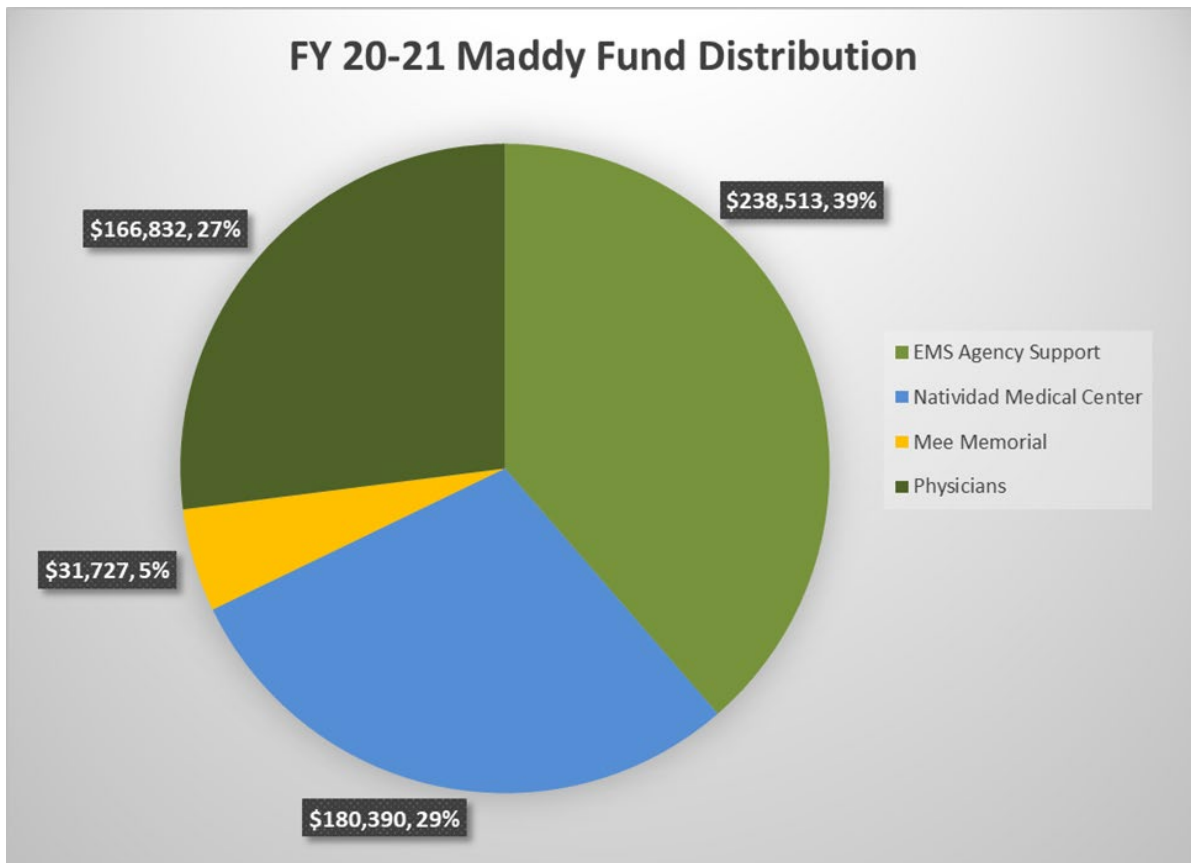
The distributions from the fund to hospitals are made on an annual basis. The distribution from the fund to the EMS Agency and physicians are made on a quarterly basis.

In 2019, the EMS Agency began working with providers to transition to a secure, electronic submittal of claims to increase data accuracy. Due to the COVID-19 pandemic, this work had to be suspended. The EMS Agency's effort to transition providers to a secure, electronic submittal of claims was resumed in the latter part of 2021. The EMS Agency anticipates the transition will be completed in 2022.

During FY20-21, the EMS Agency established a Maddy Reserve Fund pursuant to state law. The Reserve Fund is comprised of 15% of the amount in the portions of the fund reimbursable to physicians and 15% of the amount in the portions of fund distributed to hospitals providing disproportionate trauma and emergency medical care services.

The purpose of having a reserve fund is to ensure that physicians and hospitals continue to receive reimbursement for a portion of their services regardless of the amount of revenue generated from the assessment.

A table showing the disbursement of Maddy Funds appears below:



LOOKING AHEAD

Challenges Facing the EMS System in 2022

As we see a waning in the impact of the COVID-19 pandemic, other challenges loom on the horizon. Below we describe two challenges that the EMS Agency and the EMS System as a whole will face in the coming year.

SHORTAGES OF EMS PERSONNEL

Across the country headlines tell stories of communities facing extended response times or even not having an ambulance available to respond due to a shortage of EMTs and Paramedics. We are fortunate here in Monterey County that we have been spared the extreme effects of this shortage, but we are not immune. AMR has been challenged to meet their response time standards as a direct result of staffing issues. Our fire departments are also finding it difficult to maintain desired staffing levels. COVID-19 impacted staffing in many ways, not the least of which was preventing ill and exposed personnel from working. Fatigue and burnout from battling the pandemic led many EMS providers to leave the field, and EMS training institutions were not able to educate new providers in the numbers that they had previously. As a result, the remaining Paramedics and EMTs are expected to put in greater hours of overtime to cover open shifts to maintain ambulance and fire response.

To assist with retention and recruitment, in 2021, AMR's paramedics and EMTs received a significant increase in their wages such that they are now competitive with those in the surrounding areas. The EMS Agency will continue to work with the South Bay Regional Public Safety Consortium to process the application to establish a Paramedic training Program in Monterey County. Having a paramedic training program in Monterey County is a big step to help to address the Paramedic shortages our system has been experiencing.

FINANCIAL CONSIDERATIONS

For many years, Monterey County has fortunately had the cost of ambulance services supported primarily through insurance reimbursement for services provided. Fire departments and districts provide medical first response services as part of their community service mission. The cost of administering the EMS System, providing essential coordination and direction, implementing and ensuring compliance with increased unfunded State mandates, and assisting fire-based organizations with training and supplies has been funded primarily from CSA-74 and Maddy funds.

EMS, along with emergency departments (EDs), function as a healthcare safety net. Regardless of ability to pay, a call to 9-1-1 for a medical need will result in an ambulance response. The patient will receive a medical assessment and, if necessary, transport to the ED.

Similar to other industries, costs of providing EMS services continues to rise, fueled by inflation, staffing, medication and equipment requirements, and other factors. EMS also continues to expand the treatments and procedures provided. While this expansion improves outcomes for patients with serious injuries and illnesses they often come with an increased cost. Unfortunately, reimbursement for EMS services has not kept up. In Monterey County, approximately 69% of patients transported by EMS have government provided insurance such as Medicare or Medi-Cal (locally administered by Central California Alliance for Health). Both Medicare and Medi-Cal cap the amount they pay for services. Medicare caps the payment to an amount that Medicare determines to be reasonable. The ambulance provider is then allowed to charge up to an additional 15%, which is only a fraction of the actual cost of providing these services. Medi-Cal has even lower reimbursement rates. The low

reimbursement rates, denials for reimbursement, private insurance companies being increasingly unwilling to pay for services, and private payors who are unable to pay, create a gap in the cost of service and the revenue generated for services provided.

The Monterey County EMS System provides an advanced level of services by providers with a wide scope of practice supported by evidence-based medicine. To support this system and level of care, the EMS Agency continues to work to improve the system, increase efficiency with one of the goals to decrease cost without decreasing the scope of care provided, and to ensure that appropriate care and service is available for those in need.

The EMS Agency also faces its own financial pressures. The EMS Agency has been funded primarily through the CSA 74 special tax and Maddy funds. The amount of funding from these sources has remained fairly static for many years while the costs of meeting our regulatory responsibility to provide system coordination and oversight have continued to increase. The EMS Agency must explore additional funding opportunities. Potential sources of funding the EMS Agency will be exploring are grants and /or fees to help recover some of the costs for system coordination and oversight provided by the EMS Agency such as oversight of specialty care centers for stroke and STEMI and issuing EMT certification and paramedic accreditation.

EMS Agency Goals for 2022

As we progress through 2022, we look forward to the possibility of redirecting energy and time that has been focused on the response to the ongoing COVID-19 pandemic to other areas. While we remain wary of a possible resurgence of the virus, the decrease in the number of COVID-19-related activities results in an opportunity for the EMS Agency to move forward with our ideas for system improvements that have been postponed by the pandemic.

Our goals for the coming year include:

- Increasing EMS Agency staffing. The EMS Agency, like many other entities, had multiple open staff positions throughout the previous year. We are currently working to fill two EMS Analyst positions and a Health Program Coordinator position. Filling these vacant positions will allow the EMS Agency to better meet its regulatory and oversight responsibilities and to resume working on initiatives for the improvement of the system that have had to be postponed due to the pandemic and the staffing shortage.
- Beginning preparations for the drafting of a Request for Proposals (RFP) for a comprehensive ambulance services provider for the Exclusive Operating Area (EOA) that covers the majority of Monterey County. The current agreement addresses responses to 9-1-1 calls, interfacility transports, and the provision of medical stand-by services at special events.
- Expanding the number of hospitals providing patient outcome information via our electronic documentation system's Health Data Exchange (HDE) capabilities. This system accomplishes two important tasks. First, it incorporates the EMS patient care record directly into the patient's hospital chart and provides the hospital staff with access to information on the care rendered before the patient reached the hospital. Second, it provides patient follow-up and outcome information to the EMS providers who cared for the patient, which provides an important educational opportunity and improves future assessment skills and treatment decisions.
- Implementation of PulsePoint AED, a web and app-based program for implementing and maintaining a public AED registry. This program will simplify the registration process for individuals and businesses, streamline review processes for the EMS Agency, and provide dispatch center staff with information on nearby AEDs when they are assisting callers.

- Continuing to standardize documentation practices across all EMS provider agencies. This will allow the EMS Agency to obtain more accurate data in the most expeditious manner possible.
- Implementation of a database system for processing and tracking “unusual occurrence reports” submitted to the EMS Agency as well as the details of the resulting case reviews. A new database system will allow the EMS Agency to track completion progress and to identify trends in the issues submitted, ultimately leading to EMS System improvements.
- Implementation of an online system for submission of applications for EMT certification and Paramedic accreditation. The online system will simplify the process for our EMS providers to submit their applications, decrease or eliminate the submission of incomplete applications, decrease EMS Agency time to process applications, and send EMS providers an automated reminders as their certification or accreditation nears its expiration.
- Improving our system’s capabilities to respond to incidents involving many patients at once. These types of incidents are commonly referred to as Mass Casualty Incidents or MCIs. We have recently resumed daily MCI communication drills between the EMS Communication Center and all Monterey County hospitals. Future projects related to this topic include the following: review and revision of the EMS Agency’s Response Plan for MCIs as well as policies related to active shooter incidents; implementation of regularly scheduled “Triage Tag Days” during which our EMS providers gain skill and practice at classifying severity of injury/illness; and exercises or drills to give our providers opportunities to practice response to these types of incidents.
- Exploring ways to increase and diversify funding for the EMS Agency.

CONCLUSION

The EMS Agency would like to thank the Board of Supervisors for the opportunity to present the 2021 EMS Annual Report to highlight some of the work the team, along with our agency partners, achieved during 2021, bring attention to of the challenges our system faces today, and outline our goals for 2022. We are proud of what we have accomplished, grateful of the relationship with our partner agencies, and honored and committed to serving our community.

