



MONTEREY COUNTY EMERGENCY MEDICAL SERVICES AGENCY

2022 ANNUAL REPORT TO THE BOARD OF SUPERVISORS

COUNTY OF MONTEREY | HEALTH DEPARTMENT

EMS AGENCY MISSION STATEMENT

The mission of the Monterey County Emergency Medical Services (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 2022 Monterey County EMS Agency Annual Report. This report represents our attempt to encapsulate the innumerable tasks and projects that go into our efforts to fulfill our responsibility for planning, implementing, and evaluating the Monterey County EMS System. Most of the EMS Agency's work occurs in the background as our system partners, including dispatchers, first responders, ambulance providers, and hospitals, do their very visible work in the public eye. System design and management, plan development and implementation, policy and protocol development and improvement, and stakeholder coordination are not topics that make for successful TV shows. Yet, they are the necessary backbone of a highly functioning EMS system. The EMS Agency is proud of our efforts behind the scenes to facilitate the work and coordination of our system partners to ensure that all residents of and visitors to Monterey County have access to an excellent EMS System.

At the EMS Agency we often speak of the need to think about the challenges we encounter in the EMS System in new ways beyond the traditional paradigms. Many of the past pillars of EMS are no longer sufficient to meet the needs of the community and the increasingly complex healthcare environment. These complex challenges call for multi-faceted solutions. In many instances, there is not one ideal solution. Thus, we seek to add new tools to our toolbox and ensure our ability to address challenges in a plethora of ways. At the same time, the EMS Agency must balance the utility and value of each added tool against the cost to our system stakeholders and, ultimately, to the patients we care for.

In our 2021 report we highlighted our efforts to strengthen our partnerships with our stakeholders and to identify and create pathways for direct engagement with those providing care in Monterey County. In 2022, we continued and expanded upon these efforts by actively pursuing new paths and partnerships. In addition to continually adding new methods and programs, we must strive to establish new partnerships to make progress towards conquering the complex challenges we face.

In 2022 the EMS Agency sought and received approval from the state to move forward with a program permitting our paramedics to administer Buprenorphine to patients experiencing symptoms of withdrawal from opioids. This program not only provides the EMS System with a new tool to help in the fight against the public health emergency of opioid addiction, but it also allows us to strengthen our existing relationships and establish new partnerships. The program is a tri-county endeavor bringing together Monterey, San Benito, and Santa Cruz County EMS agencies, hospitals, and clinic-based treatment programs to develop, implement, and evaluate, the program as a team. Additionally, the program has expanded and strengthened the pre-existing partnerships with these groups within Monterey County.

Other efforts to forge new and strengthen existing relationships and partnerships took place in the area of education. In 2022, the EMS Agency approved a paramedic training program through the South Bay Regional Public Safety Training Consortium at Monterey Peninsula College that will provide local training and help to increase the pool of paramedics to address local system needs for paramedics. The EMS Agency continued our efforts to directly interface with our stakeholders by offering courses directly to our field providers and hospital staff. These educational offerings are typically led by Dr. John Beuerle, the Agency's Medical Director. One course this year addressed the

all too prevalent issue of human trafficking and came about as a result of a unique partnership with the YWCA Monterey County.

Late in 2022, the EMS Agency worked with American Medical Response to implement the Emergency Triage, Treat, and Transport (ET3) Model in Monterey County. This is a pilot program that permits AMR's crews to direct a subset of patients experiencing lower acuity conditions towards a telehealth physician evaluation instead of automatically transporting the patient to a local emergency department. The use of ET3 can lower the costs for patients and insurance providers while at the same time removing some of the burden from overfilled emergency departments. Unfortunately, there has been a resistance on the part of the patients to take advantage of this new program. We have learned from other systems that have implemented ET3 that it is not unusual for the program to have a slow start. In 2023, the EMS Agency will work with AMR to address the barriers that keep patients from taking advantage of this program.

Additionally, the EMS Agency sought to increase our direct contact with the general public through a series of educationally focused social media postings. These postings relay important health and safety information are often tailored to be pertinent to a particular event, holiday, or season. They help community members prevent, prepare for, and respond to a variety of situations and ultimately become stronger and more well informed as well as helping to establish the EMS Agency as a reliable and trusted organization.

We are proud of our accomplishments. We recognize and appreciate the role of our partners and stakeholders in the ongoing development of the EMS System. We reaffirm our commitment to building an advanced and equitable EMS System for everyone in Monterey County.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Teresa Rios', with a stylized flourish at the end.

Teresa Rios
EMS Bureau Chief

EMS AGENCY MEDICAL DIRECTOR'S MESSAGE

The Monterey County EMS System faced many challenges over the past three years. We were tested by a global pandemic that required high levels of planning, teamwork, courage, fortitude, and ingenuity. We battled floods and wildland fires, a narcotic epidemic, and we worked together to utilize our finite resources to continue to meet the needs of an ever-increasing number of patients. We emerged from those challenges stronger than we were before, and we used that inertia to develop new projects to improve the delivery of 911 services throughout the county.

Training, education, and outreach were an important focus of 2022. The EMS Agency worked with the South Bay Regional Public Safety Training Consortium to launch a paramedic training program through Monterey Peninsula College, where students receive EMS training, college credit, and an opportunity to serve as Advanced Life Support providers in their local communities. We worked with American Medical Response to create community educational posts through social media, focusing on such topics as avoidance of drunk driving and guidelines for street safety for children. In March 2022, the EMS Agency continued its series of continuing education with a lecture designed to improve effective communication between base hospital physicians and EMS personnel requesting medical direction. In August 2022, we partnered with the YWCA Monterey County to offer a course for prehospital and hospital providers to improve awareness, prevention, and recognition of victims of human trafficking. In December 2022, we hosted the first of a series of meetings with paramedic preceptors, providing an opportunity for training and ongoing dialogue between the EMS Agency and the dedicated mentors who work with new paramedics to hone their skills in the clinical setting.

In response to the ongoing narcotic epidemic, Monterey County joined forces with Santa Cruz and San Benito County EMS Agencies in a Tri-County program to enable paramedics to administer buprenorphine to patients in opioid withdrawal or following a near-fatal opioid overdose. The medication alleviates human suffering, reduces the likelihood of a fatal narcotic overdose in the future, and enables patients to take the first step toward substance use recovery. Patients are then transported to a local hospital and receive follow-up support from a Substance Use Navigator. The Tri-County initiative is a paradigm shift in how we approach and treat addiction, and it provides hope and assistance to patients during a time when they need it the most.

In addition to these projects, we continue to focus on our core responsibilities: coordinating EMS operations and quality improvement; procuring and distributing resources and supplies; approving EMT certifications and paramedic accreditations; working closely with our EMS, Fire, and hospital partners on annual revisions to EMS policies and protocols; and ensuring adequate and effective ambulance service throughout Monterey County.

When I look back on our year of challenges and accomplishments, I am reminded that our success relies on the hard work and collaborative efforts of hundreds of individuals: firefighters, EMTs, paramedics, first responders, air ambulance crews, dispatchers, law enforcement officers, hospital personnel, EMS analysts, administrators, epidemiologists, support staff, and community representatives, all working together toward a common goal. It is a privilege to be part of that

process, to work with so many talented and dedicated individuals, and to know that we are making a difference in the lives of the people we serve.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Beuerle". The signature is fluid and cursive, with a long horizontal stroke at the end.

John Beuerle, M.D.
EMS Medical Director

INTRODUCTION

Over the past several years, the Monterey County Emergency Medical Services Agency has worked to develop and improve and our Annual Report to the Board of Supervisors. In 2022 the EMS Agency transitioned our report to a format that we believe will help readers more easily navigate the content and identify the topics of interest to them. This year's report is divided into three sections based upon the following structure:

1. **Monterey County EMS System Overview** – This section provides background information regarding the EMS Agency and the EMS System. It describes the structure of the EMS Agency and the variety of roles that we play in managing and leading the EMS System. The section also explains the various components of the EMS System from dispatch to prehospital personnel, and through to the emergency department and specialty care centers throughout Monterey County.
2. **2022 EMS System Data** – This section provides data for 2022 related to several key components of the EMS System including EMS student training programs, processing of applications for certification and accreditation, emergency medical dispatch operations, ambulance call volume, disaster response efforts, and finances. The section also explains the EMS Agency's role in each of these areas.
3. **2022 Accomplishments and Highlights** – This section provides the reader with an overview of some of the EMS Agency's key accomplishments throughout the course of 2022. While the items discussed are but a small fraction of the improvements made to the EMS System, we feel that they represent significant strides towards our overall vision of creating and continuously improving a model EMS System for the people of Monterey County.

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MONTEREY COUNTY EMS SYSTEM OVERVIEW

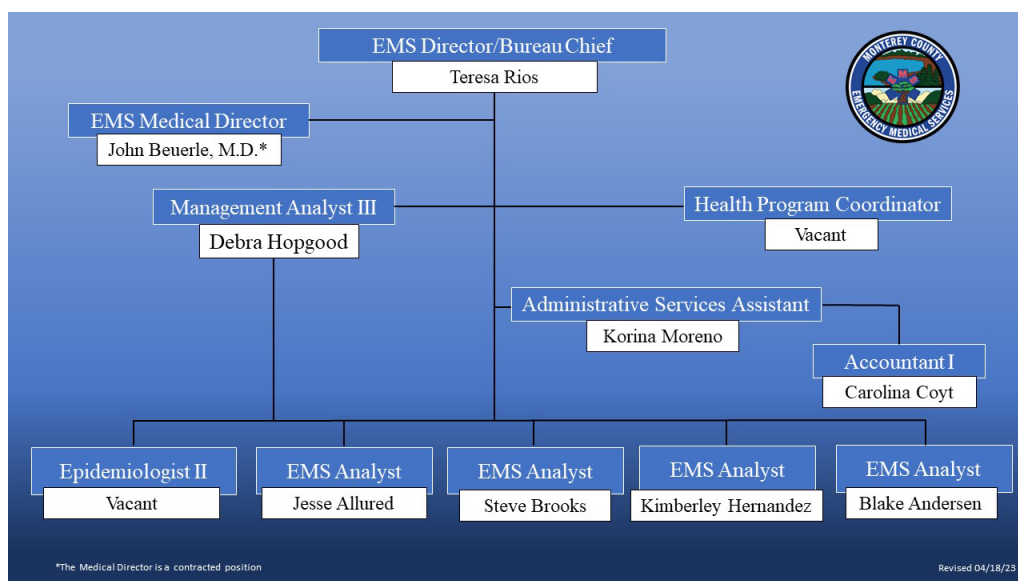
The Monterey County Emergency Medical Services (EMS) System is comprised of ground and air ambulance providers, dispatch/communications centers, fire and rescue service providers, hospital emergency departments, specialty care centers for trauma, stroke, and heart attack patients, and the Monterey County 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



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 patients in our community receive 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.

We approach our role emphasizing the Triple Aim.



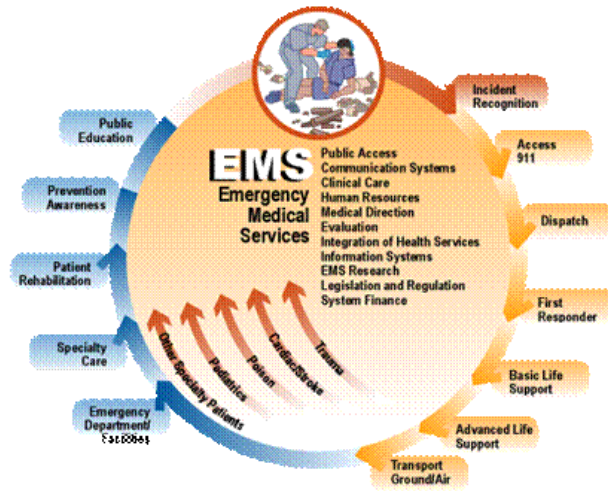
- *Implement efficient and effective structures, processes, and outputs*
- *Measure clinical, operational, and financial performance indicators*
- *Engage in continuous Quality Improvement*
- *Embrace concept of Just Culture*
- *Maintain transparency*
- *Ensure equity*

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.
- Ensure equity in the provision of emergency medical services.
- 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) to assure medical control of the EMS system.
- Organize EMS dispatch and communication standards, including medical dispatch protocols
- 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.



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.

Communications Centers

- ❖ County of Monterey Emergency Communications
- ❖ American Medical Response



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
- ❖ Cachagua Fire Protection District
- ❖ CAL Fire
- ❖ CTF 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 Health



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
- ❖ Salinas Police Department
- ❖ Sand City Police Department
- ❖ Seaside Police Department
- ❖ Soledad Police Department



EMS SYSTEM PERSONNEL

EMS personnel arrive at emergency scenes such as medical emergencies, traumatic incidents, and natural disasters to provide immediate care. They provide assessment, treatment, and transportation. EMS personnel typically have one of three levels of EMS training – Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), and Paramedic. Additionally, Registered Nurses (RNs) may work on EMS aircraft or on ground Critical Care Transport (CCT).

Emergency Medical Responder (EMR)

EMRs provide vital assistance at the scene of an emergency or accident. In many instances, they are the first person to arrive at the scene and they provide lifesaving help until other medical providers arrive.

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. 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. 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.

Emergency Medical Technician (EMT)

Most EMS providers have received training as an EMT. EMTs provide care at the basic life support (BLS) level. EMTs do everything an EMR does and can perform several additional treatments such as finger stick blood glucose testing, administering aspirin to patients experiencing chest pain, or administering epinephrine by auto-injector to patients experiencing severe allergic reactions/anaphylaxis.

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 or 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.

Paramedic

Paramedics provide care at the advanced life support (ALS) level. They have more stringent education and training requirements and are authorized to perform more complex levels of assessment and care interventions including several invasive procedures.

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.



EMS 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.

Emergency Medical Technician (EMT) Training Programs

The EMS Agency is responsible for approving and monitoring EMT training programs held within Monterey County. There are two active EMT training programs in Monterey County at Hartnell College and MPC. The EMT training program which was part of a healthcare careers program through the Monterey Peninsula School District has been discontinued.

Both EMT training programs received approval for the maximum of four years from the last review of their program by EMS Agency staff. Expiration of approval will come in 2023 and EMS Agency staff will again review these programs to ensure compliance with California regulations and Monterey County EMS policies.

Paramedic Training Program

The EMS Agency is also responsible for approving and monitoring paramedic training programs. The EMS Agency ensures that the program complies with all California EMS Authority (EMSA) and Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP) requirements. This process includes a thorough review of topics such as staff qualifications, syllabus and curriculum, equipment and facilities, and agreements for hospital and field student internships as well as a site visit.

Certification and Accreditation

The EMS Agency fulfills one of its core functions by providing for the initial certification and renewal of certification for EMTs. EMT certification is an important function of the EMS Agency as we seek to ensure the public health and safety by ensuring that each EMT applicant meets the qualifications for initial or continued certification. Besides ensuring completion of appropriate medical training and evaluations, the EMS Agency performs both a criminal and medical background check. The criminal background check is through the California Department of Justice Live Scan program where we also receive out of state information from the FBI. The applicant's medical background is checked through a National Practitioner Data Back review

Paramedic accreditation is an ongoing effort on the part of the EMS Agency. The accreditation process is to ensure that California licensed paramedics have met the qualifications to work in the Monterey County EMS system and understand and are able to function under Monterey County EMS policies and treatment protocols. The EMS Agency also reviews each active paramedic every two years to ensure that they continue to meet EMS policy requirements to continue to function within the Monterey County EMS system. One of these requirements is that they are trained and tested on several critical, but not often used, skills every year. The training and testing has been delegated to the paramedic employer who documents that the paramedic has completed the training and testing and continues to meet all other requirements for continued accreditation.

The other two key components of EMS Operations 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.

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. Call interrogation was implemented in Monterey County in 2019 for better management of system resources and to ensure that the right resource is sent to the patient.

Ambulance Services

Ambulance Provider Contract – Exclusive Operating Area (EOA)

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.

Contract Compliance

The current agreement for ambulance services requires a high level of performance by American Medical Response (AMR). The EMS Agency meets 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, monitors 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.

QUALITY ASSURANCE AND IMPROVEMENT

Quality Assurance (QA) and Quality Improvement (QI) are at the core of everything the EMS Agency does, from clinical programs to ambulance service contract compliance to policies and protocols. They EMS QA and QI programs are critical to our ability to improve patient experience and overall EMS system.

The EMS system QA program aims to ensure that EMS professionals in the system 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.

The EMS system QI program 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 patients and system stakeholders. The EMS Agency uses this mindset to inform our actions and continuously looks for potential areas of improvement throughout all components of the EMS System.

Unusual Occurrence Reports

An important component of the EMS Agency’s quality assurance and improvement programs involves identifying opportunities for improvement whether they be individual or system wide. The EMS Agency has a process in place by which anyone can submit a report regarding an incident, situation, or concern relating to the EMS System. These submissions are known as Unusual Occurrence (UO) reports. EMS Agency personnel review all available information pertinent to the UO report, compile a summary of the UO, and based on their review, draft recommendations for any needed actions.

Depending on the findings reached, actions may include identification of individual educational opportunities, performance improvement plans, disciplinary action, system-wide changes or training, or some combination of these items. Some reviews do not result in a need for action or may result in a recognition of clinical excellence.

Case reviews take place within a “Just Culture” framework and examine the system around individual behavior and action to look for opportunities for system/process design improvements. The term “Just Culture” refers to a system of shared accountability wherein the EMS Agency is accountable for the systems we have designed and for responding to the behaviors of EMS providers in a fair and just manner. EMS providers, in turn, are accountable for the quality of their choices and for reporting both their errors and system vulnerabilities. The goal is to foster an environment focused on learning from errors to support quality improvement.

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 existing policies and protocols regularly. The EMS Agency also develops new policies and protocols to ensure compliance with new, or changes in existing regulation, and to reflect best practices.

SPECIALTY CARE SYSTEMS

A highly functioning EMS System is made up of a system of systems, which is part of what makes EMS so complex. 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, there are systems of specialty care designed to get the patient with specific conditions to a hospital capable of treating their condition. In Monterey County, the specific conditions addressed with specialty care systems are: ST Segment Elevation Myocardial Infarction (STEMI), Stroke, and Trauma.

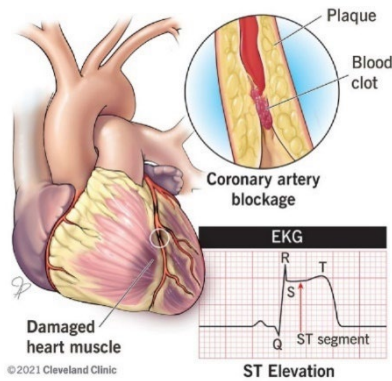
The California EMS Authority (EMSA), through its regulations, tasks the EMS Agency with:

- Development of plans addressing the provision of specialty care services within Monterey County.
- Designation of facilities to provide specialty care services. This designation process consists of the creation and adoption of standards for facilities related to topics such as staffing, personnel qualifications, facility and equipment availability, internal hospital written policy and procedure requirements, and quality improvement processes. Additionally, the EMS Agency conducts a review of written documentation as well as a site survey of the hospital. Once the EMS Agency has verified that a facility meets the established standards for a given specialty care service, the Agency works with the facility to implement a designation agreement. Specialty Care Centers must apply for redesignation on an established timeline.
- Ensuring that EMS providers are trained in the specialty care patient identification criteria, patient care methodologies, and treatment protocols.
- Developing a process for early notification of the facility of the impending arrival of a specialty care patient.
- Developing policies that provide a clear understanding of the structure of the specialty care system and the manner in which it utilizes the available resources.
- Collecting and analyzing data related to each specialty care service.
- Developing a process for periodic performance evaluation of each specialty care system.
- Developing quality assurance/improvement (QA/QI) processes and committees for each specialty care system.
- Ensuring that specialty care service providers and other hospitals that treat specialty care patients participate in quality improvement processes.

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

STEMI System of Care

The ST-Segment Elevation Myocardial Infarction (STEMI) is a severe type of heart attack. It happens when an artery supplying blood to the heart suddenly becomes partially or completely blocked by a blood clot. For this reason, STEMIs require prompt recognition and treatment to bring about the best outcome for the patient. The EMS STEMI system of care 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, an electrocardiogram performed while the patient is at rest that uses 12 wires that connect sticky electrode patches on the patient’s chest, arms and legs to a computer, 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 Community Hospital of the Monterey Peninsula (CHOMP) and Salinas Valley Health (SVH) have been designated by the EMS Agency to treat STEMI patients in Monterey County. Both hospitals have a cardiac catheterization suite and interventional cardiologists readily available to treat coronary artery blockages that cause a STEMI. This helps ensure that patients experiencing a STEMI receive timely care in a manner consistent with established standards.

Stroke System of Care

Stroke is a time-critical illness that occurs because the blood supply to part of the brain is interrupted or reduced, thus preventing the brain tissue from getting needed oxygen and nutrients. 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 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 SVH have received designation as a Stroke Receiving Center.



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.

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. The EMS Agency is tasked with ensuring that Natividad provides care in a manner consistent with EMSA and American College of Surgeons requirements.



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.

DISASTER MANAGEMENT

California's disasters often have an impact on public health and the medical system. EMS is a key part of the countywide disaster management system. EMS providers are usually the first medical care teams 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.

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 Department of Emergency Management (DEM) activates the Emergency Operations Center (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 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.

EMS ADVISORY COMMITTEES



There is one primary advisory committee to the EMS Agency, the Emergency Medical Care Committee (EMCC). The EMCC has two subcommittees, the Medical Advisory Subcommittee (MAC) and the EMS Operations Subcommittee (OPS). These committees are made up of members from various components of the EMS System, and in the case of the 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.

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.

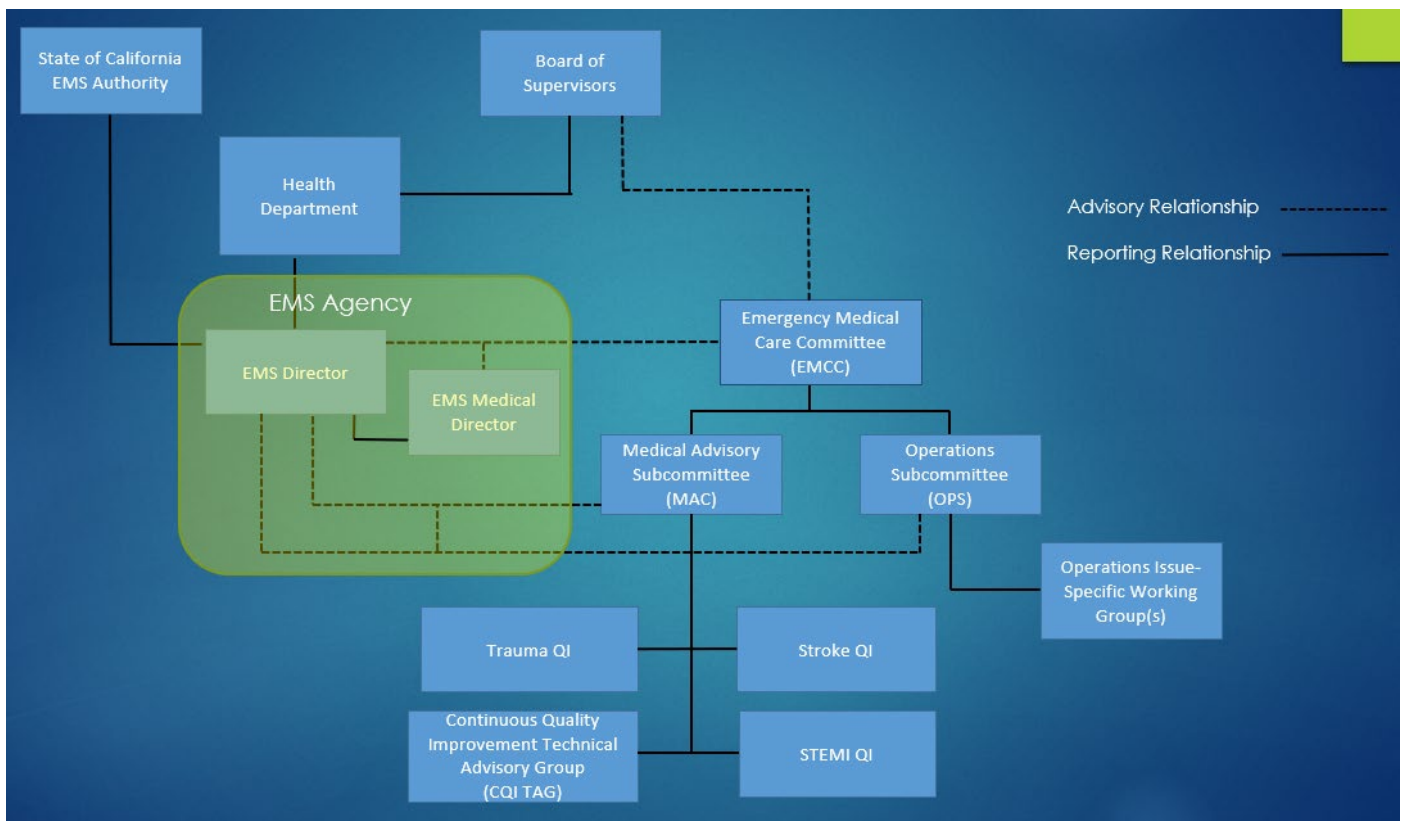
The EMCC receives reports on ambulance contract compliance, EMS System metrics such as ambulance patient offload times, MHOAC activities during disasters or other emergencies such as the COVID-19 pandemic, and response times by the fire-based ambulance providers.

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 advice so that policies and protocols comply with regulations and reflect best practice.

EMS Operations Subcommittee (Ops)

The OPS subcommittee focuses on operational issues, along with system strategy and coordination. This subcommittee is comprised of first-responder agencies, both ground and air ambulance providers, law enforcement, a County 9-1-1 Communications representative, and hospital representatives from the Monterey County EMS System.



2022 EMS SYSTEM DATA

EMS SYSTEM PERSONNEL TRAINING

2022 EMT Students Trained		
Training Program Name	Initial Training	Refresher Training
Hartnell College	60	0
Monterey Peninsula College	56	15
TOTAL	116	15

CERTIFICATION AND ACCREDITATION APPLICATIONS PROCESSED

In 2022, the EMS Agency processed a total of 462 applications for EMT certification or Paramedic accreditation. Overall, there was a 22% increase in the number of applications processed by the EMS Agency. EMT applications increased 16% since 2021 while paramedic applications increased 39%.



Applications Processed by the EMS Agency in 2022			
EMT		Paramedic	
Initial EMT Certification	70	Initial Paramedic Accreditation	23
EMT Certification Renewal	210	Continued Paramedic Accreditation	113
Transfer or Reinstatement of EMT Certification	46	Reinstatement of Paramedic Accreditation	0
Total EMT Applications	326	Total Paramedic Applications	136

EMERGENCY MEDICAL CALL DISPATCH

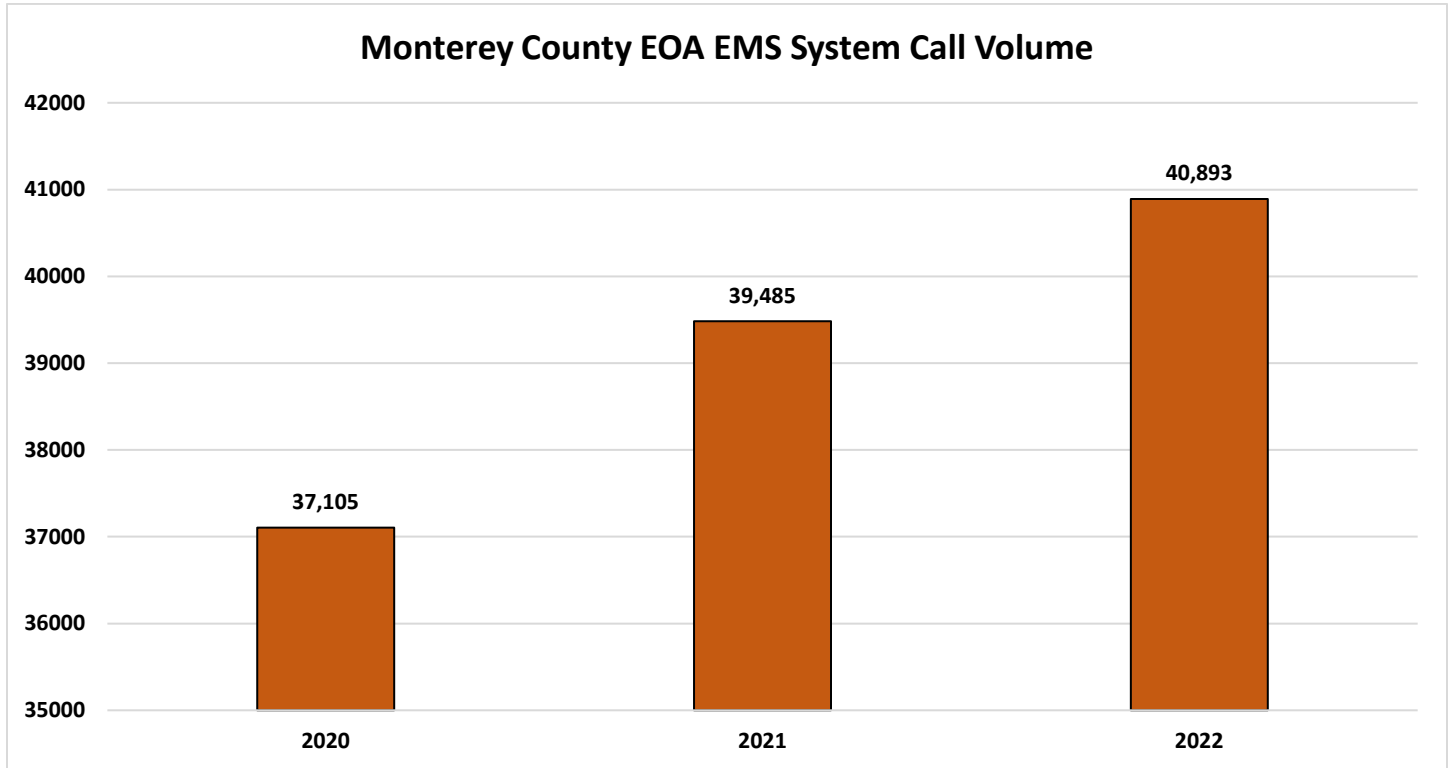
In 2022, the fine-tuning made to ensure the correct call categories were included in the formula by eliminating calls that never go through the call interrogation process resulted in a 4% increase in the number of calls that went through the call interrogation process (EMD'd).

Year	Total Calls	Number of Calls EMD'd	Percentage of Calls EMD'd
2021	31,740	21,690	68%
2022	33,377	23,904	72%

AMBULANCE SERVICES

Ambulance Call Volume

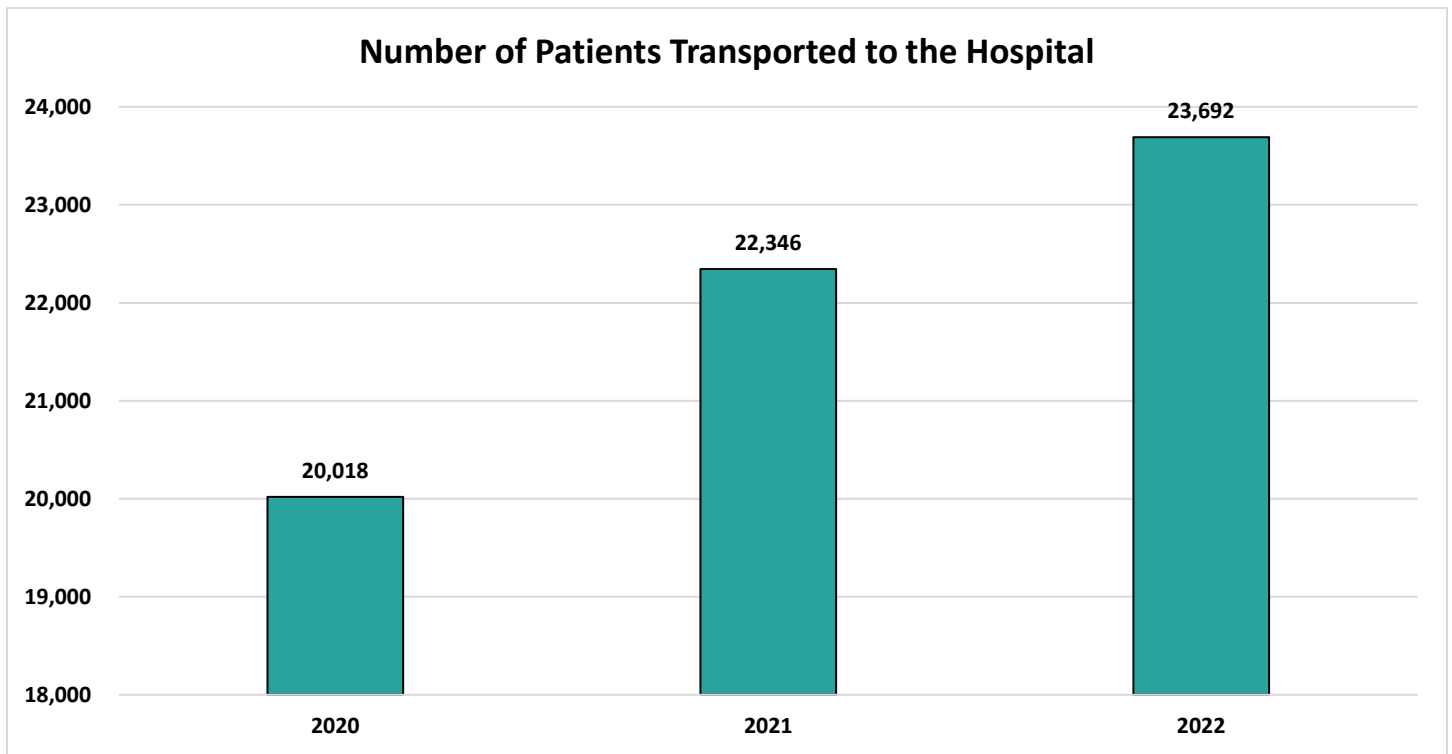
The chart below compares the total number of calls for emergency medical assistance that originated within the EOA during 2020, 2021, and 2022. Call volume has normalized to pre-COVID levels. The chart reflects a 1,408 (3.57%) increase in call volume between 2021 and 2022.



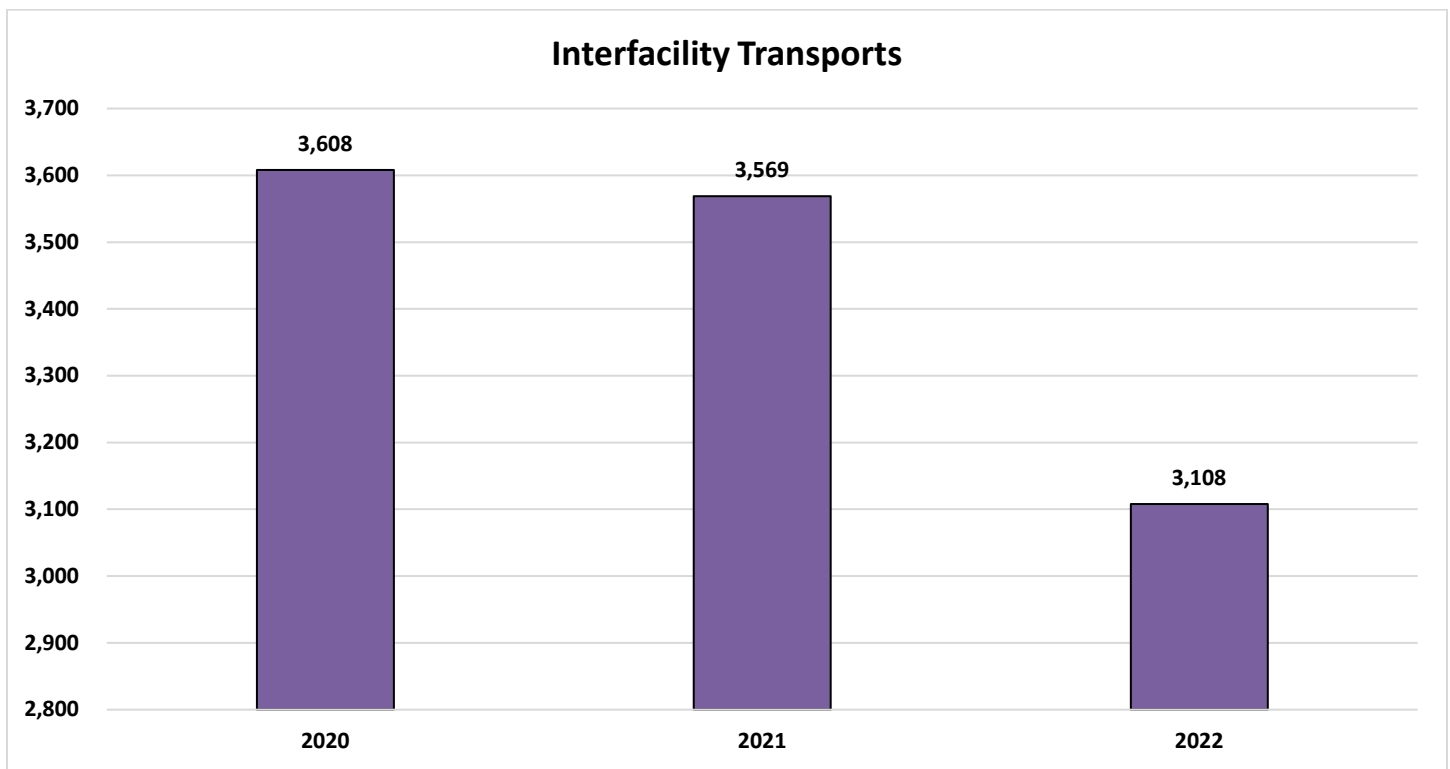
Ambulance Transport Volume

The chart below depicts the number of calls for emergency medical assistance within the EOA that originated through the 9-1-1 system that resulted in patient transport during 2020, 2021, and 2022. Approximately 72.60% of all calls placed to 9-1-1 for medical assistance resulted in the patient being transported to the hospital in 2022.

Similar to the overall call volume, the number of patients transported to the hospital has normalized to pre-COVID levels. The chart below also reflects a 1,346 (6.02%) increase in the number of patients transported between 2021 and 2022.



In addition to transporting patients to hospitals, the ambulance provider transports patients who need continued medical monitoring from one medical facility to another. These types of transports are referred to as Interfacility Transports (IFTs). The chart below includes the number of IFTs in 2020, 2021, and 2022. The data show that there was a 12.92% decrease in the number of IFTs between 2021 and 2022.



QUALITY ASSURANCE AND IMPROVEMENT

In 2022, the EMS Agency received 61 UO reports. These reports led to system-wide changes including improvements related to the processes surrounding the transmission of electrocardiograms (EKGs) from EMS providers to hospitals for patients suspected of having a ST-elevation myocardial infarction (STEMI), communication of upcoming training drills/exercises to ensure the awareness of all potentially impacted stakeholders, and the development of standardized guidelines for addressing those instances when EMS providers encounter challenges related to the transport of behavioral health patients to out-of-county receiving facilities.

POLICY AND PROTOCOL DEVELOPMENT

In 2022, the EMS Agency put into effect 56 new and revised policies and protocols through the annual review process. New policies or protocols included a policy related to approval of paramedic training programs and treatment protocols addressing routine childbirth, resuscitation of newly born infants, drowning and non-fatal drowning, and agitated or combative patients. Areas with significant revision include field trauma triage criteria, end of life care, patient destination guidance, and unusual occurrence reporting.

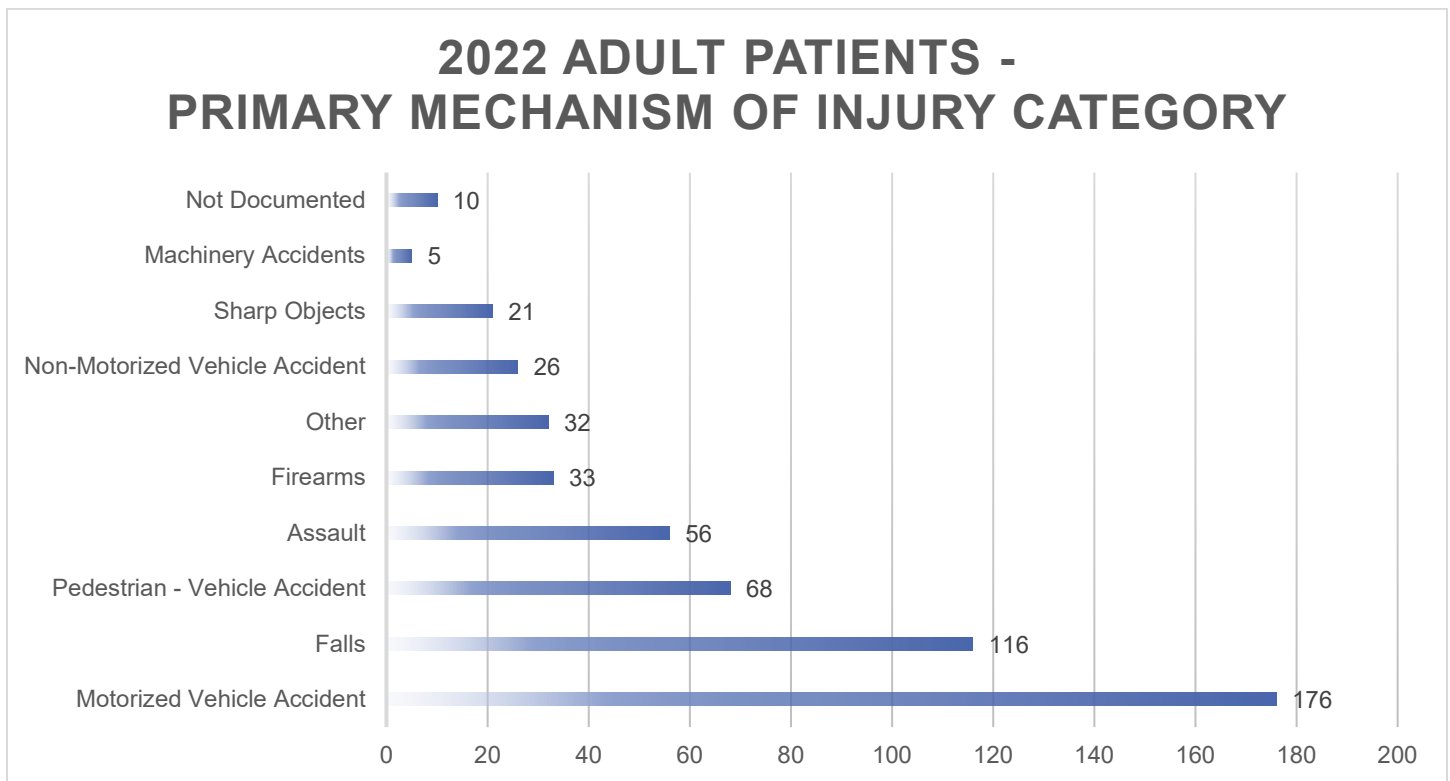
SPECIALTY CARE SYSTEMS

Traumatic injuries constitute one of the most commonly encountered reasons for calls for EMS service. The injuries evaluated by EMS may range from a minor laceration to significant trauma impacting multiple organs or systems within the body. Because of the range of injuries encountered and difficulty evaluating internal injuries, the EMS Agency has adopted the Center for Disease Control

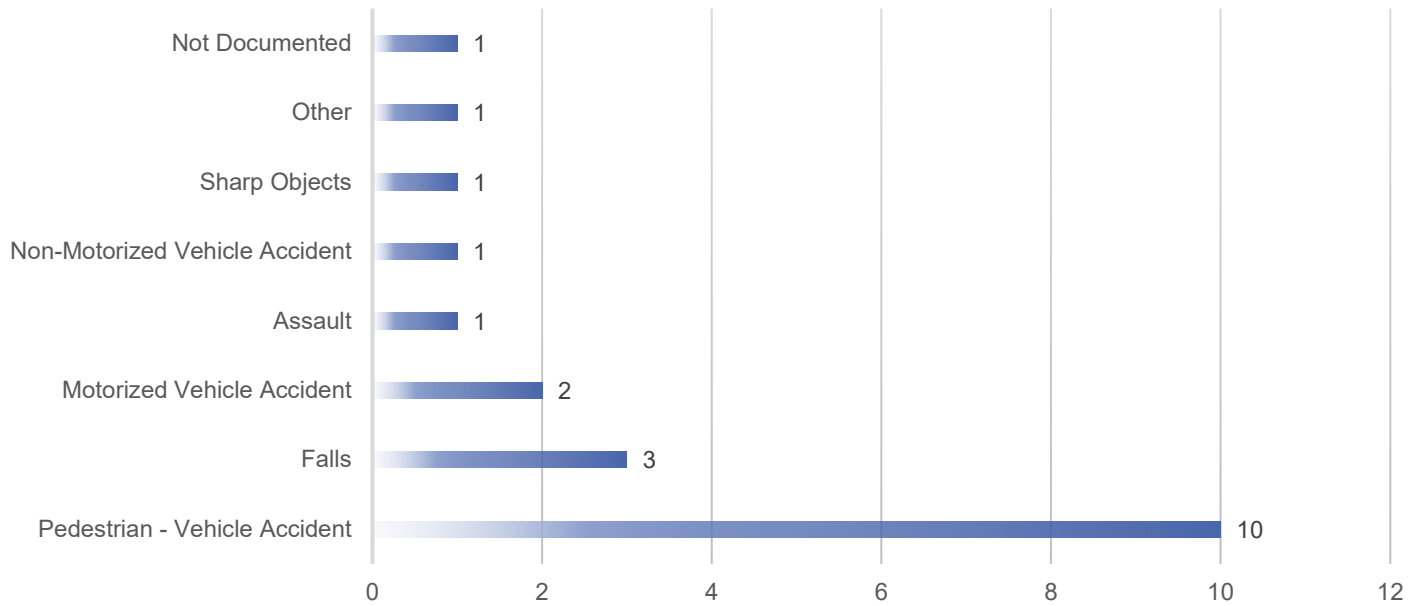
(CDC) Field Trauma Triage Criteria to give EMS providers a framework by which to determine the potential severity of a patient's injuries. The CDC's Field Trauma Triage Criteria assigns patients to a different "Step" in an algorithm based on their vital signs, injuries, mechanism of injury, or other factors that may affect the patient's response to their injuries. This same framework also helps guide EMS providers to select the appropriate destination for patients who have sustained traumatic injuries and thus helps ensure that patients most in need receive the specialized care available at a trauma center.

In 2022, in Monterey County there were a total of 563 patients who were identified as meeting Step 1, 2, and/or 3 of the CDC Field Trauma Triage Criteria. These patients are the potentially most severely injured and likely will benefit from evaluation and treatment at a trauma center. Of these 563 patients, 543 were adults and 20 were pediatric patients (defined as less than 15 years of age). 515 of these patients were transported by EMS with 92% (472 patients) transported to a trauma center.

The mechanism of injury encountered varied between adult and pediatric patients. Adult patients were most likely to need EMS services for injuries resulting from motorized vehicle accidents (32%) followed by falls (21%). In contrast, pediatric patients were most likely to sustain injuries from pedestrian-vehicle accidents (50%) followed by falls (15%). The EMS Agency's development and tracking of this type of data may help inform the selection of future community education campaigns.



2022 PEDIATRIC PATIENTS - PRIMARY MECHANISM OF INJURY CATEGORY



DISASTER MANAGEMENT

One of the responsibilities of the MHOAC program during COVID has been the procurement and distribution of supplies. The MHOAC has coordinated over 2,600 resource requests since the beginning of the pandemic. Most of these requests included multiple different items. Almost 800 of these requests occurred in 2022. The EMS Agency worked closely with members of the Contracts and Purchasing and Department of Emergency Management teams in coordinating the receipt and delivery of all supplies.

The items in the following table highlight just a small number of the types of items distributed through the MHOAC during 2022. The program has also facilitated the procurement and distribution of laboratory and pharmacy products including medications for the treatment of COVID-19; testing-related supplies and vaccine administration supplies such as needles, syringes, and sharps containers; and temperature-controlled storage/transport devices.



Testing Supplies

Over 200,000 COVID tests



Gloves

Over 360,000 gloves



Gowns

Almost 100,000 gowns



N95 Masks

Over 420,000 N95 masks



Surgical/Procedure Masks

Over 150,000 masks



Hand Sanitizer

Over 6000 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 special tax for CSA 74 is assessed in accordance with the Monterey County Land Use Codes. The basic unit is a single-family dwelling. The current rate per parcel is \$12.00. 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 based on billed parcels for FY21-22 is as follows:

CSA Units	119,729	\$1,712,310
Trailer spaces and hotels rooms	<u>415</u>	<u>\$148,736</u>
Total	120,144	\$1,861,046

In addition to supporting operations of the EMS Agency to comply with its responsibility to oversee the EMS System, CSA-74 funds are also used to supplement the countywide EMS training efforts and equipment acquisition of emergency first responders. The amount disbursed to each participating 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. This resulted in positive feedback and quicker submittal of expenditure reports from the participating agencies during FY21-22.

During FY21-22, the EMS Agency continued to use CSA-74 monies to pay for the costs of the countywide, integrated electronic patient care reporting (ePCR) system 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:

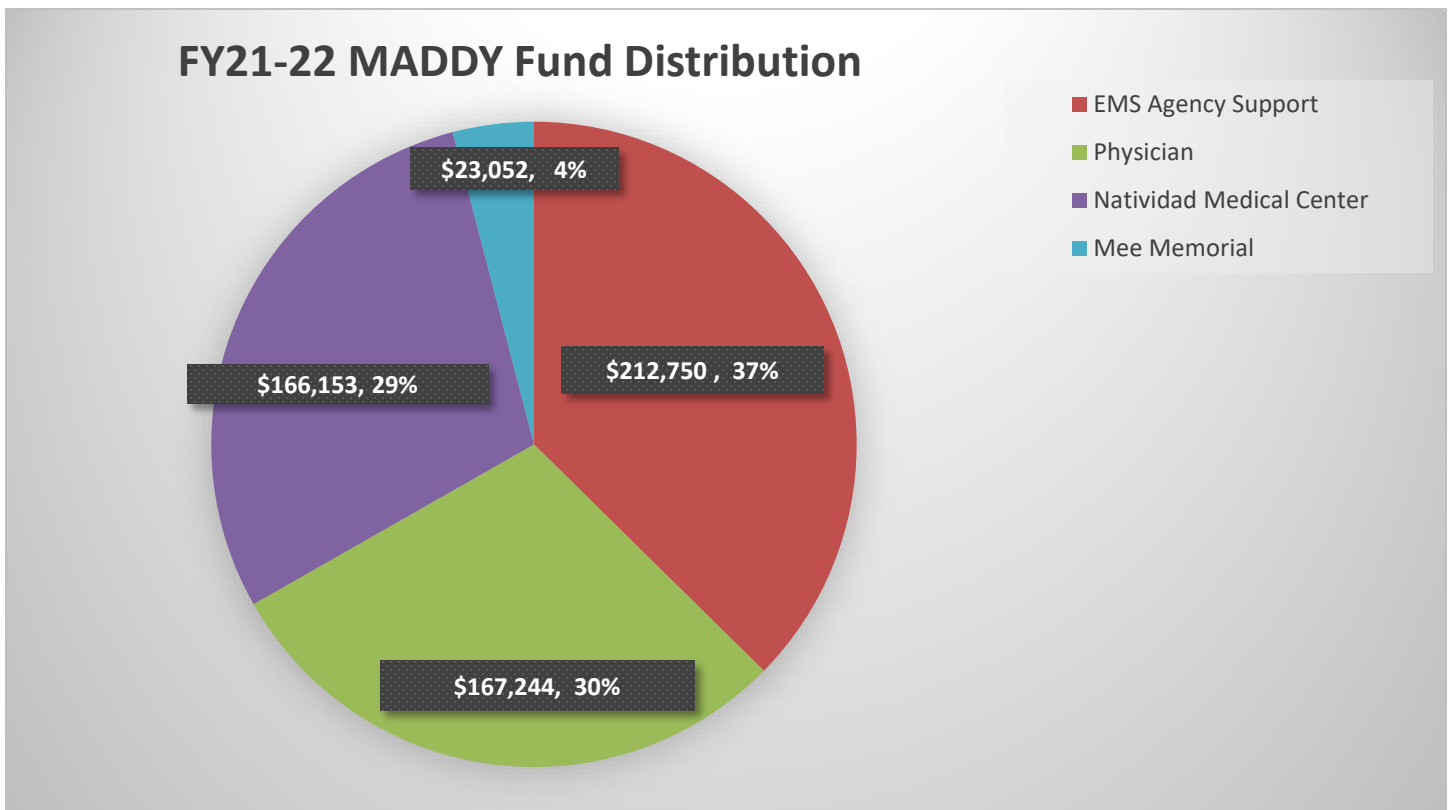
- 58% to reimburse physicians for a portion of unreimbursed indigent services;
- 25% to reimburse hospitals which provide a disproportionate share of unreimbursed emergency medical care and
- 17% for Health Department's Emergency Medical Services Agency discretionary activities.

Maddy funds are distributed on a quarterly basis to physicians and on an annual basis to the hospitals.

Health & Safety Code Section 1797.98(b) (4) also allows each administering agency to maintain a reserve fund of up to 15% of the amount of the fund reimbursable to physicians and hospitals. The purpose of the reserve is to ensure that physicians and hospitals continue to receive reimbursement for a portion of their services. The EMS Agency had not established a reserve. Beginning FY2022-23, the EMS Agency will begin to maintain a reserve in accordance with State law.

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 was 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, Health IT, and providers' teams have been working together to complete the transition. However, due to staffing shortages and some technical difficulties, the transition could not be completed in FY21-22. The EMS Agency is confident that the transition will be completed in 2023.

A table showing the disbursement of Maddy Funds in FY21-22 appears below:



It is worth noting that there has been no change in the per parcel rate since FY 2000-01 and therefore, the revenue generated from CSA-74, the EMS Agency's primary source of funding, has not kept up with the continued rise in costs. Applying an average inflation rate of 2.50% per year

between 2001 and today, the per parcel rate today would have increased to \$20.66, or a cumulative 72.15% increase. In addition, we experienced a decrease of approximately \$65,000 in the EMS Agency's share of Maddy revenue in FY2021-22 compared to the revenue generated in FY20-21. As a result, the EMS Agency has been exploring the implementation of fees to generate additional revenue with the goal of maintaining the fiscal stability of the EMS Agency.

2022 ACCOMPLISHMENT HIGHLIGHTS

PARAMEDIC TRAINING PROGRAM

In November 2021, the South Bay Regional Public Safety Training Consortium (SBPSTC) met with the EMS Agency to express their intentions to build a Paramedic Training Program through one of their member colleges, Monterey Peninsula College (MPC) thanks to a grant secured by the City of Monterey Fire Department.

EMS Agency staff worked closely with SBPSTC's Program Director to ensure that SBPSTC's proposed program fulfilled all of the standards contained within Monterey County EMS System Policy #2200 (Paramedic Training Program Approval), California EMS Statutes, and California Code of Regulations, Division 9, Title 22. Approval of a paramedic training program also requires receipt of a Letter of Review (LoR) from the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP) prior to the start of classes.

After several months of hard work and dedication to ensure all requirements were met, SBPSTC received their LoR from CoAEMSP and approval from the Monterey County EMS Agency effective June 27, 2022. Approval is for four years and is contingent on SBPSTC continuing to meet statutory, regulatory, and Monterey County EMS policy requirements.

On July 12, 2022, SBPSTC commenced training its first cohort of 15 students.

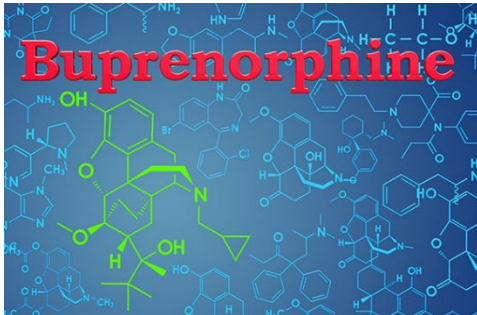
SBPSTC's Paramedic Training Program at MPC is both a Certificate and Associate Degree Program, which allows students to further their educational goals by receiving college credit.

Having a paramedic program within Monterey County will benefit local EMTs who wish to increase their knowledge and skills in order to seek licensure as a paramedic. Local paramedic providers will have a local training option for their staff that will be convenient and reduce logistical barriers from travel to a more distant training program. And, the people of Monterey County will have the benefit of a local source of paramedics to help maintain staffing levels of paramedics with our local ambulance and fire services.



PARAMEDIC ADMINISTRATION OF BUPRENORPHINE – A TRI-COUNTY EFFORT TO REDUCE DEATH FROM OPIOID USE DISORDER (OUD)

The opioid crisis continues to plague our nation so much so that the Secretary of Health and Humans Services renewed the 2017 determination that a public health emergency exists nationwide. In the County of Monterey, CHOMP has led an effort to combat this crisis through the Prescribe Safe Program. The Monterey County EMS Agency has supported this effort by implementing a Narcan Leave Behind program in 2020. In addition, in 2022 the EMS Agency partnered with the Santa Cruz and San Benito County EMS Agencies in a buprenorphine administration project. As a Tri-County initiative, we applied and received CA State EMS Authority (EMSA) authorization to allow our paramedics to administer buprenorphine in the pre-hospital setting as a local optional scope of practice (LOSOP) item.



Buprenorphine is an opioid used to treat OUD as well as acute/chronic pain. It can be used under the tongue (sublingual), in the cheek (buccal), as a skin patch (transdermal), by injection, or as an implant. This Tri-County project will allow local EMS providers to administer buprenorphine by a sublingual film (seen below in Image A).

Opioid withdrawal is a syndrome of distressing physical and psychological symptoms that can occur after stopping illicit opioids or prescription opioid medication. Withdrawal symptoms can also occur after precipitated withdrawal, such as after naloxone administration. Symptoms are painful and unpleasant, often leading patients to relapse. Buprenorphine administration in the prehospital setting provides relief from withdrawal symptoms and establishes a pathway for the patient to receive medication assisted treatment through a designated 'Bridge' program. Key elements of the Bridge program model include low-barrier, immediate access to medication assisted treatment; navigation to ongoing care in the community; and a culture of harm reduction.



Image A. Example of the form of Buprenorphine paramedics can administer

Our tentative timeline for initial implementation is April 15, 2023.

Our Tri-County long-term outcome goal for the first year following implementation is two-fold; one goal focusing on EMS response and transport processes and the other goal focusing on hospital-based outreach and follow-up processes (described as EMS and Substance-Use-Navigator [SUN] Outcome Measures – below).

EMS Outcome Measure A: To offer buprenorphine to 80% of EMS patients in opioid withdrawal who meet criteria under applicable LEMSA protocol(s) by April 1, 2024.

SUN Outcome Measure B: To initiate connection with 80% of patients who are administered buprenorphine in the prehospital setting with a Substance Use Navigator (SUN) who can help the patient with ongoing system navigation and substance use

We strongly believe that initiating buprenorphine treatment in the prehospital setting to individuals experiencing opioid withdrawal or to those who experience a nonfatal opioid overdose provides an opportunity to reduce both all-cause and overdose mortality and morbidity among individuals with Opioid Use Disorder.

EDUCATION AND OUTREACH EFFORTS

Throughout 2022 the EMS Agency undertook a concerted effort to increase both the type and number of education and outreach events. We view these efforts as an opportunity to connect with stakeholders from the various components of the EMS system as well as with the community as a whole.



Educational efforts for our EMS system participants focus on needs identified through our quality improvement programs and initiatives.

Our community outreach efforts focus on preventative health and safety education for citizens of Monterey County. The EMS Agency can serve as a valuable resource for health and safety information while demonstrating our value and commitment to the communities we serve.

Paramedic Preceptor Training

A paramedic preceptor is an experienced paramedic with a desire and passion to train the next generation of paramedics in the out-of-hospital clinical setting. The preceptor is responsible for creating a positive learning environment by educating, supervising, and evaluating the paramedic student. A preceptor should serve as a role model for the attitude, demeanor, professionalism, leadership, communication, teamwork, and critical-thinking capabilities required of a successful paramedic. Monterey County EMS Agency system policy establishes the qualifications and requirements to become a paramedic preceptor.



	<p style="text-align: center;">MONTEREY COUNTY EMS AGENCY PARAMEDIC PRECEPTOR TRAINING AGENDA</p> <p style="text-align: center;">Thursday, September 15, 2022 10:00 A.M. to 12:00 P.M. Monterey County Emergency Medical Services Agency Cayenne Room 1441 Schilling Place, Salinas, CA 93901</p> <p style="text-align: center;">Zoom attendance information is attached</p>	
<p>I. CALL TO ORDER/INTRODUCTIONS (10 min)</p> <ul style="list-style-type: none">A. Call to orderB. Introductions <p>II. PURPOSE AND GOALS (10 min)</p> <ul style="list-style-type: none">A. Purpose<ul style="list-style-type: none">1. Provide information from the EMS Agency useful to preceptors and interns.2. Provide a forum for discussion of topics to assist preceptors in their responsibility to effectively train interns and provide clear and accurate information to the interns.3. To provide a direct conduit of information from the EMS Agency to the preceptors.B. Goals<ul style="list-style-type: none">1. To improve the knowledge and skills of paramedic preceptors.2. To have better prepared new paramedics entering the Monterey County EMS system. <p>III. EMS POLICIES AND PROTOCOLS (20 min)</p> <ul style="list-style-type: none">A. Policies<ul style="list-style-type: none">1. 4100-Prehospital Determination of Death2. 4504-Drowning and Non-Fatal Drowning3. 3080-Hospital Communications		

In December 2022, EMS Agency staff and the EMS Medical Director hosted a meeting with Monterey County paramedic preceptors. The purpose of the meeting was for EMS Agency staff to present EMS policies and treatment protocols that were either new or seem to be the source of unexpected actions by paramedics and EMTs. The opportunity to ask questions about the policies and protocols to the EMS Medical Director helped to solidify the information and knowledge of the preceptors. The

preceptors will be able to take this information to their paramedic students and help ensure an accurate understanding of EMS policies and protocols from the beginning of their EMS career.

EMS Agency staff also walked through several areas of patient care record documentation that are often completed inconsistently. The intent of this is to improve patient care documentation and to ensure common understanding of the expectations for patient care reporting. The meeting included discussion on best practices in training paramedic students in the field.

This meeting was well-received by the paramedic preceptors who found the opportunity to hear directly from and ask questions directly to EMS Agency staff and EMS Medical Director beneficial. The next paramedic preceptor meeting is planned for the first half of 2023

EMS Provider Continuing Education

The EMS Agency began to offer continuing education courses to our stakeholders in 2021. These efforts continued and expanded throughout 2022. These continuing education courses provide EMS providers and hospital staff with opportunities to refresh or expand their knowledge base. Additionally, the courses include free continuing education credit that assists our EMS providers to meet the requirements to maintain their certification or license.

In 2022, the EMS Agency organized and offered a course for physicians working at the Base Hospitals throughout Monterey County. Base Hospital physicians provide concurrent medical direction and guidance for EMS providers in the field. Because of this, it is vital that the physician's obtain and maintain a thorough knowledge of EMS system protocols and policies. Dr. John Beuerle, the EMS Agency's Medical Director, prepared and presented the training materials. The training session was recorded, and it is available on the EMS website to allow physicians to refresh their knowledge as needed or to be utilized by new physicians as they begin working in Monterey County.



BASE HOSPITAL PHYSICIAN ORIENTATION

Base Hospital Physician Orientation

A review of requirements for Base Hospitals, communication methods, and circumstances frequently encountered by Base Hospital Physicians.

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

Tuesday, March 29th, 2022
1:30 PM to 2:30 PM
Via Zoom


Register in Advance at:
<https://711myurl.com/2vth483xt>

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

The EMS Agency also partnered with YWCA Monterey County to offer a course for prehospital and hospital care providers addressing the topic of human trafficking awareness, prevention, and recognition. Instructors included law enforcement representatives with special knowledge and training on the topic and a survivor of human trafficking. The course was well attended and provided participants with vital information to incorporate into their day-to-day contacts with patients from throughout our county.

COMMERCIAL SEXUAL EXPLOITATION OF CHILDREN TRAINING FOR MONTEREY COUNTY MEDICAL RESPONDERS AND COMMUNICATIONS CENTER PERSONNEL

August 22, 2022
9:00AM – 12:00PM
Monterey College of Law
Community Justice Center
2620 Colonel Durham Street, Seaside
(Beside the Public Safety Training Center)






Detective Jason Collins has over twenty-four years of experience with Sacramento Police Department, is currently assigned to their Human Trafficking Unit and to the Sacramento FBI Child Exploitation Task Force.

Sergeant Shannon Catalano's has fourteen years of experience with Santa Clara Sheriff's Office as investigator and is currently the Detective Sergeant in the Human Trafficking Unit.

Marjorie Saylor is a survivor of child sexual abuse and teen rape that pushed her into the arms of sexual exploitation in the adult industry which she bravely escaped in July of 2013. Marjorie now takes every opportunity to share her experiences and why she ended up there to help shed light on what is such a major problem within the US.

Register at: <https://tinyurl.com/2f96we52>
3.0 Hours of Continuing Education Credit, Offered free of charge to all provider levels
Monterey County EMS Agency – Continuing Education Provider # 27-000

MONTEREY COUNTY EMS AGENCY CONTINUING EDUCATION CERTIFICATE

Name _____
License/Certification _____

Has completed a course of instruction in
Commercial Sexual Exploitation of Children Training

This course has been approved for 3.0 hour of Continuing Education by an approved California EMS CE Provider and was **Instructor** based.

Instructors: **Detective Jason Collins**
Sergeant Shannon Catalano
Marjorie Saylor

August 22, 2022

Program Director _____ Date _____

This document must be retained for a period of four years.



Monterey County EMS Agency
1441 Schilling Place
Salinas, CA 93901
California CE Provider #27-0001

Community Education and Outreach

In 2022, the EMS Agency collaborated with AMR to increase EMS System visibility and engagement in the community by creating various informational and educational posts to share on social media platforms. Community education through social media is an effective way to reach a larger audience and can help raise awareness about important issues to build a stronger and more informed community. EMS Agency and AMR staff increased their social media presence by following several community-organized Facebook pages to facilitate the re-posting of AMR and/or Agency-created posts. The EMS Agency and AMR develop targeted campaigns throughout the year with a focus on topics that would be most relevant to the community we serve. Some topics of posts created were:

- Flu Recovery Tips
- Drunk Driving Avoidance
- Street Safety

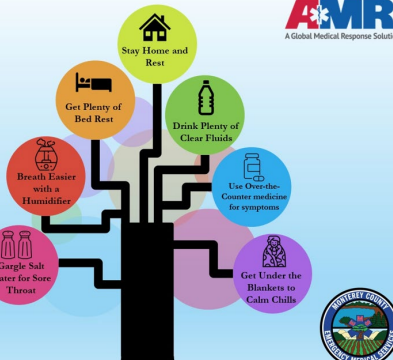


SAFETY TIPS: RECOVERING FROM THE FLU

Recover from the flu with these helpful tips and turn the page after the flu...

The flu is a contagious respiratory illness caused by influenza viruses that infect the nose, throat, and lungs. It can cause mild to severe illness and can sometimes lead to death. Each year, 200,000 people are hospitalized due to complications from the flu.

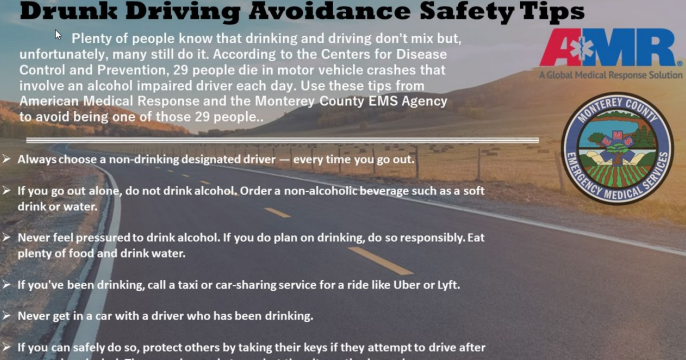


If you have been diagnosed with the flu, follow your health care provider's recommendations. Most people can recover from the flu at home without medical care. A normal case of the flu usually resolves after three to seven days, although cough and fatigue can persist for more than two weeks.

American Medical Response and the Monterey County EMS Agency offer the following recommendations for flu patients recovering at home, after seeing a health care provider:

Drunk Driving Avoidance Safety Tips

Plenty of people know that drinking and driving don't mix but, unfortunately, many still do it. According to the Centers for Disease Control and Prevention, 29 people die in motor vehicle crashes that involve an alcohol impaired driver each day. Use these tips from American Medical Response and the Monterey County EMS Agency to avoid being one of those 29 people...

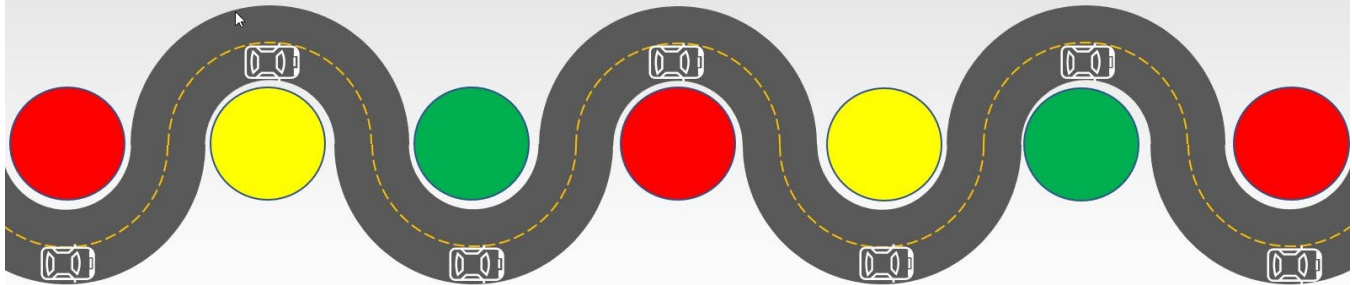




Safety Tips: Street Safety



Playing outside is a fun way for children to get exercise and fresh air, especially when the weather is nice. However, it is important that families practice street safety to avoid preventable accidents. Every year, emergency rooms treat more than 9,000 children for injuries that occurred when they were alone in or near motor vehicles.

American Medical Response and the Monterey County EMS Agency would like you to remember to adhere to the following street safety guidelines:



Supervise Outdoor Play.

Accompany children when they are playing outside and walking across or near roads.

Look Both Ways

Teach children to look left and right before stepping into the street and remind them to continue looking

Check The Driveways

Before pulling out of a driveway, walk all the way around your car to ensure that no children are nearby.

Set a Good Example

Put down phones or any other distracting devices when walking around cars.

In addition, the EMS Agency participates in community events such as National Night Out, an annual community-building event that encourages the community to come out and get to know one another, build camaraderie, and have the opportunity to communicate with law enforcement agencies and other government agencies that participate. EMS Agency staff attended the event held in August. The goal is to engage with community members, answer questions, educate the community on various topic related to emergency medicals services such as when to call 9-1-1, what to do during a medical emergency, how the EMS system works, and to provide prevention tips.

LOOKING AHEAD

While the EMS system achieved many goals in 2022, the EMS system continues to face challenges. The EMS Agency's responsibility is to implement solutions to these challenges that address the needs of the patients and stakeholders without raising cost to the users of the system.

One of these challenges is finding a way to meet the needs of behavioral health patients who require transport to an out-of-county facility for continued care. This is not a challenge unique to the County of Monterey. In the County of Monterey, the current ambulance agreement requires AMR to transport these patients, regardless of where the behavioral health facility is located. The number of facilities that provide continued care for behavioral health patients has decreased dramatically since the current agreement went into effect in 2010. At the same time, the numbers of behavioral health patients have increased. With these changes, hospitals find it more difficult to secure placement for patients. In addition, ambulance service providers are having to travel greater distances to deliver patients to appropriate facilities. The farther away the receiving facility is, the more taxing transporting the patient becomes on the system because ambulances are taken out of the EMS system for an extended period. The longer a patient must travel in an ambulance increases safety risks for the patients and the ambulance crews.

Critical Care Transport (CCT) services for critically injured patients who need to be transported between medical care facilities present another challenge. In the County of Monterey, the current ambulance service agreement requires AMR to maintain a Registered Nurse (RN) on-call 24/7 to accompany and provide medical care to critically ill or injured patients who require transport to the appropriate medical facility. With only one RN available, the challenges arise when there may be more than one critically injured patient in needs of transport. The EMS Agency is exploring ways to expand capabilities to ensure patients receive the care they need when they need it.

As reported in the Finance section of this report, the CSA-74 special tax, which is the primary funding source of the EMS Agency, has not changed since FY 2000-01 and therefore, the revenue generated has not kept up with the continued rise in costs. A projection using a conservative average inflation rate of 2.50% per year between 2001 and today, indicates that the per parcel rate today should have increased to \$20.66, or a cumulative 72.15% increase. We also reported that we experienced a decrease of approximately \$65,000 in the EMS Agency's share of Maddy revenue in FY2021-22 compared to the revenue generated in FY2020-21. As a result, the EMS Agency has been exploring the implementation of fees to generate additional revenue with the goal of maintaining the fiscal stability of the EMS Agency. In 2023, the EMS Agency plans to bring for the Board of Supervisor's approval a schedule of fees to recoup some of the cost for the services we provide.

Our goals for 2023 include to continue to strengthen our relationship with stakeholders, establish new partnerships for more efficient use of resources, "add more tools to our toolbox" to better serve the needs of patients and stakeholders of Monterey County. The EMS Agency will continue to work with stakeholders to explore ways to address the needs of behavioral health and critically ill and injured patients while addressing the challenges that meeting these patients present to the EMS system. We will also continue to explore ways to expand the services available in Monterey County, particularly to address equity issues as it relates to south county. Lastly, our goal is to see full implementation of the bi-directional Health Data Exchange (HDE), a key tool to provide clinical outcome data to the EMS system and thus allow us the opportunity to further improve patient care and experience and the EMS system.

CONCLUSION

The EMS Agency would like to thank the Board of Supervisors for the opportunity to present the 2022 EMS Annual Report to highlight some of the work the team, along with our agency partners, achieved during 2022, bring attention to of the challenges our system faces today, and outline our goals for 2023. We are proud of what we have accomplished, grateful of the relationship with our partner agencies, and honored and committed to serving our community.

