



Monterey County Emergency Medical Services Agency: Annual Report FY 2014-2015

Prepared by Monterey County
Emergency Medical Services Agency
September 2015



Executive Summary

The 2014--2015 Fiscal Year was a period of accomplishment and transition for the Monterey County EMS System and the Monterey County EMS Agency. On January 1, 2015, Natividad Medical Center began to serve Monterey County and surrounding communities as a designated Level II Adult Trauma Center; one component of a comprehensive trauma system. This is a tremendous benefit to the community, because 80% of all trauma patients are now rapidly treated within Monterey County; rather than being transferred to out of County trauma centers. Also, during this fiscal year, the EMS Agency experienced significant staffing changes, based on retirements and transitions. With this change has come a renewed focused on collaboration among EMS System partners, a long term approach to data-based decision making, provider-focused quality improvement practices, and a reengagement in medical disaster preparedness. The EMS Agency would like to thank all Monterey County residents, community partners, and first responders for your dedication, commitment, and effort.

Michael Petrie, EMT-P, MBA, MA, Interim Director
Emergency Medical Services Agency

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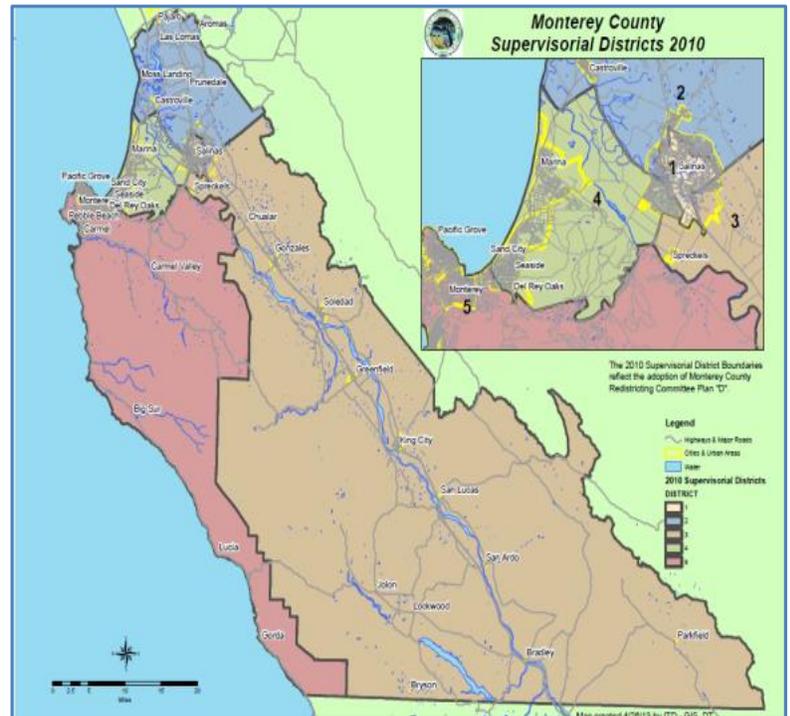
Lew Bauman, Ph. D.

Monterey County Health Department

Ray Bullick, Director

EMS Agency Staff

- Michael Petrie – Interim Director
- James Stubblefield, MD – EMS Medical Director
- Marissa Mclean – Trauma Coordinator
- Steve Brooks – EMS Analyst
- Erik Haselhofer – Business Technology Analyst
- Deanna Gunn – Finance Manager
- Mary Brownrigg – Office Assistant



Natividad Medical Center Trauma Designation

On January 1, 2015, Natividad Medical Center (NMC) began service as the county's first Adult Level II Trauma Center. This designation was the culmination of four years of work, which began in 2011. Two other key steps in this process occurred in September 2014, when expert trauma consultants from trauma centers in Santa Clara County evaluated NMC's ability to accept and competently treat trauma patients, and in December 2014, when another team of expert consultants from Los Angeles also determined that NMC was able to accept and competently treat trauma patients at the level expected of a designated Level II Trauma Center. The next key step in the trauma center verification and designation process is a comprehensive evaluation and verification by the American College of Surgeons (ACS) Committee on Trauma. The ACS site visit is scheduled to occur in 2016. A successful verification by ACS is the "professional gold standard" of excellent trauma care. Verification by ACS cannot occur until the trauma center has demonstrated significant experience successfully treating trauma patients.

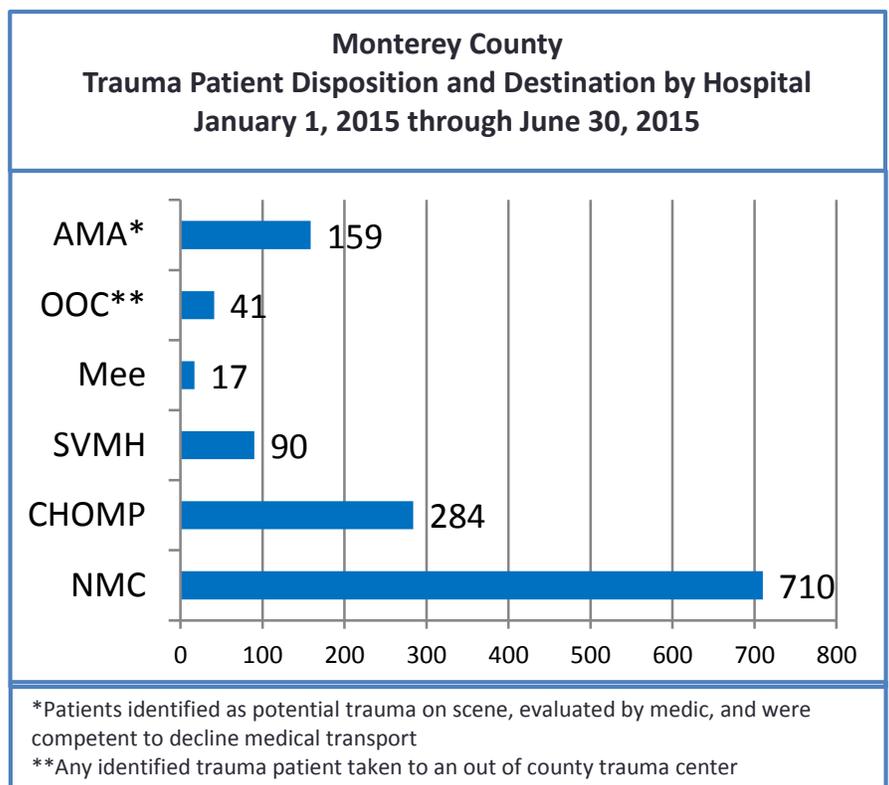
80%

The reduction in patients transferred to Santa Clara County trauma centers in the first six months of 2015.

The Monterey County EMS System has fully integrated the NMC Trauma Center into its practices. Clinically, pre-hospital providers are successfully using the Centers for Disease Control (CDC) four-step triage algorithm to identify trauma patients and get them to definitive treatment. Pre-hospital personnel are transporting most trauma patients to Natividad Medical Center. From January 1, 2015 through June 30, 2015, the first six months of trauma center operation, most trauma patients were transported to Natividad Medical Center. Most Box 4 patients—those patients that may be safely treated at a non-trauma center—continue to be treated at the Community Hospital of the Monterey Peninsula (CHOMP) and Salinas Valley Medical Center (SVMC).

Both the EMS Agency and NMC participate in a comprehensive quality improvement (QI) process, which includes hospital and EMS-based stakeholders throughout the county, to continually improve the level of trauma care in Monterey County. The QI process uses data to improve patient outcome, to increase the quality of life for patients and families, and continually assess the needs of our community. The quality improvement process includes coordinating with surrounding counties to ensure higher or specialized levels of care.

In addition to saving the lives of trauma victims, the Monterey County Trauma System make it easier for the families of trauma victims to stay near their loved ones. Between January and June 2015, the number of trauma patients transported to Santa Clara County Trauma Centers had decreased 80% over the similar period in 2014.



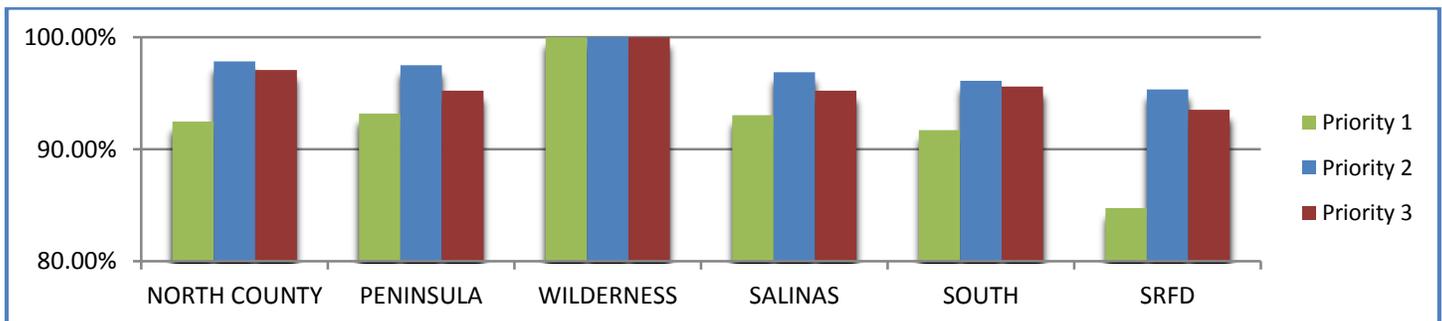
Transport Providers

AMR is Monterey County’s primary ambulance transport provider. During 2014, AMR responded to more than 30,000 calls and transported more than 20,322 patients. This is an increase in volume over 2013. In February of 2015, Inspironix began producing independently-verified reports that identify AMR’s dispatch and response time performance metrics. These reports verify that AMR is providing rapid ambulance response throughout the Monterey County Exclusive Operating Area. Additionally, starting in July 2015, AMR began working with the EMS Agency to provide more comprehensive clinical, operational and financial data, which helps the EMS Agency assure that AMR is providing a financially-stable, and clinically and operationally superior paramedic ambulance service. The EMS Agency would like to highlight the following accomplishments:

66%

Percentage of emergency transports to emergency calls in 2014.

- AMR and the Salinas Fire Department completed a trial study to examine whether ambulances should be automatically dispatched to auto accidents when a patient has not been identified. The preliminary results of this study suggest, that in urban areas, ambulances may not need to be part of the initial dispatch.
- Better integrated AMR into emergency preparedness meetings, exercises, and drill. This action will assure that the medical disaster plans developed during the next year are implementable and reflect the capabilities of the EMS System.
- Continued to control costs with the EMS System. AMR has not requested a rate increase since 2013
- Worked with the fire service to develop a “return to station” practice. This practice assures that firefighters who accompany the ambulance to the hospital to provide patient care are brought back to the fire station.
- Completed reviews of the AMR contract compliance and performance through the Contract Compliance Working Group. AMR is materially complying with contract terms, and the contract is in an “evaluate and improve” phase.



In addition to AMR, Monterey County Regional Fire Protection District, Fort Hunter Liggett and Carmel Fire also provide ground transportation services.

Air Transport

The EMS Agency has identified a significant decrease in helicopter transports to out of county hospitals. This reduction is attributable to the designation of NMC as a trauma center. Air transport continues to be a vital resource for patients in the remote areas of the County to ensure that they also are able to receive timely transport for critical trauma and medical emergencies.

Improvements to Patient Care

During the 2014-15 Fiscal Year, the EMS Agency updated the policies and procedures to improve long standing practices in the care of sudden cardiac arrest victims, better control patients' pain, and better care for trauma patients. Relative to the care of the sudden cardiac arrest victim, these changes included ensuring constant, regular, deep, and fast chest compressions, with the goal being to eliminate interruptions in CPR to maintain blood flow to the brain and vital organs and to reduce over-ventilation of the patient, which reduces blood flow from the chest compressions. We expect to see improvements in the rate of survival in Monterey County from sudden cardiac arrest.

94%

Of the time help arrives on scene within the contractually-prescribed timeframe.

Relative to the control of patients' pain, the EMS Agency and EMS Medical Director have modified treatment protocols to allow paramedics to better manage pain of all causes and to administer fentanyl, a potent pain reducer, to patients with orthopedic injuries.

Relative to the care of trauma patients, new policies implement a standing radio reporting format. This format helps ensure standardized and more effective paramedic to emergency department communication, which results in the emergency department personnel being better prepared to treat the patient upon arrival.

Starting this year, all paramedics are required to receive specific training in trauma and pediatric care. Previously, this specified training was only mandatory for the AMR paramedics. Paramedics have also been retrained to assess potential spinal injuries, with the goal being to place a patient on a spinal immobilization board only when absolutely necessary. Clinical research has shown that immobilization to a board, in the absence of a spinal injury is detrimental to the patient.



EMT Certification and Paramedic Accreditation

Emergency Medical Technician (EMT) Certification

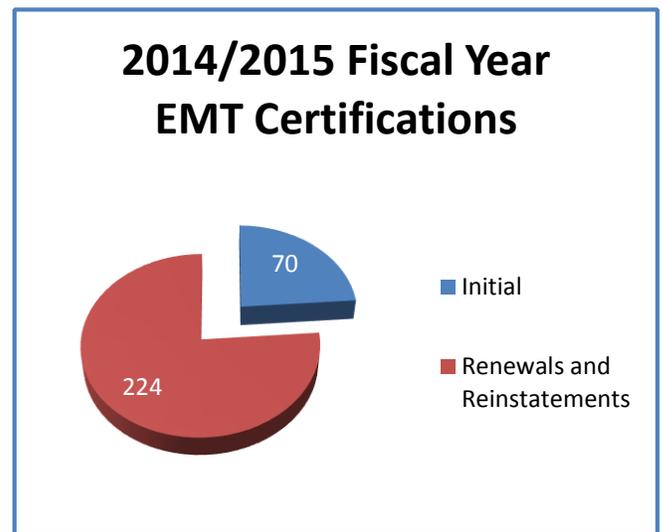
There are currently 634 emergency medical technicians certified through the Monterey County EMS Agency. During the 2014-2015 Fiscal Year, 294 applications for certification and renewal of certification were processed leading to initial or continued EMT certification.

Paramedic Accreditation

Before working in Monterey County, paramedics must be licensed by the State of California EMS Agency, employed by an authorized employer, and be accredited by the Monterey County EMS Agency. There is no local accreditation fee.

There are 175 accredited paramedics in Monterey County.

During the 2014-2015 fiscal year, the EMS Agency processed 115 initial or renewal applications for paramedic accreditation.



Investigation/ Disciplinary Actions

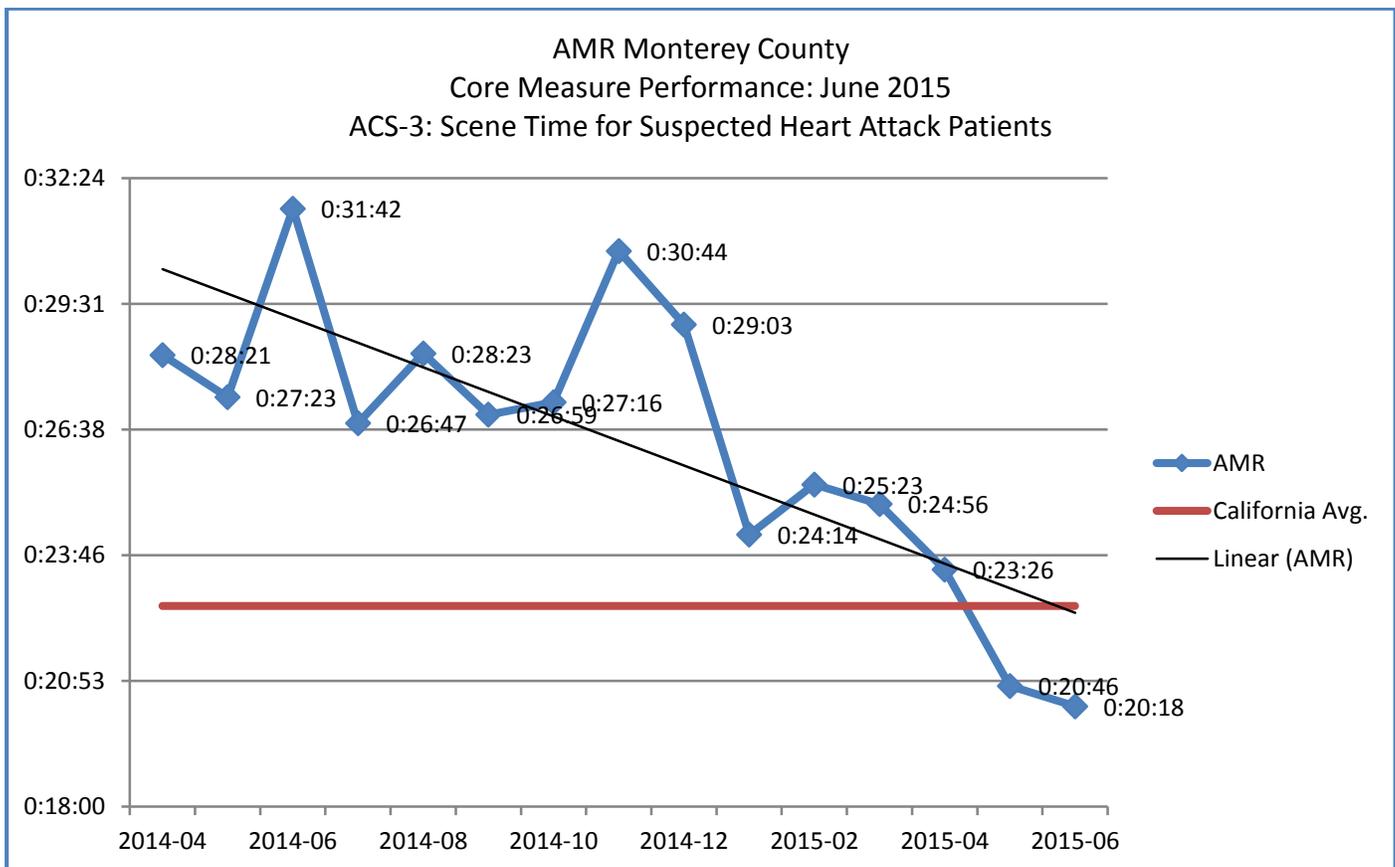
The EMS Agency investigates, and if necessary takes disciplinary actions, including formal investigations, suspensions, probations and revocations, against pre-hospital personnel who have committed certain crimes or taken clinical actions that endanger patient care. EMS Agency investigations help assure that the pre-hospital personnel that treat and transport those in Monterey County are of good character and conduct, which helps assure the public's trust in the EMS providers who respond to medical emergencies.



Data and Technology

While the EMS Agency implemented a limited number of technological improvements during Fiscal Year 2014-2015, the following initiatives are critical to the future development of the Monterey County EMS System.

- Inspironix is now producing independent third-party reports and evaluations of American Medical Response (AMR) prehospital data.
- The EMS Agency has implemented the use of the California Core Measures to evaluate AMR's clinical performance. During the next year, the EMS Agency will expand this reporting format to first responders.
- The EMS Agency selected Trauma One as the software to manage our Stroke, STEMI (serious cardiac patient) and Trauma Quality Improvement Registries. We are also implementing data sharing agreements with the hospitals in our system.
- We are now receiving and processing NEMSIS v2 data from AMR utilizing our SQL Server database server. The data in this system is used for both ad hoc reporting and QI purposes.
- The work on our Health Data Exchange (HDE) continues as we evaluate the performance of ESO Solutions.
- The EMS application for use on smart phones continues to make our policies and procedures available to paramedics and EMT's in the field.



Financial Management

Community Service Area (CSA) 74

The special tax for CSA 74 is assessed according to 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. The present rate for one unit is \$12.00. The rate is set annually, by the Board of Supervisors through a public hearing process. The total number of units collected by CSA 74 for Fiscal Year 2014-15 was 116,930 units, 3,807 Trailer Spaces and 11,503 Hotel Rooms. Trailer Spaces and Hotel Rooms are calculated differently as there may be many of them on a single parcel.

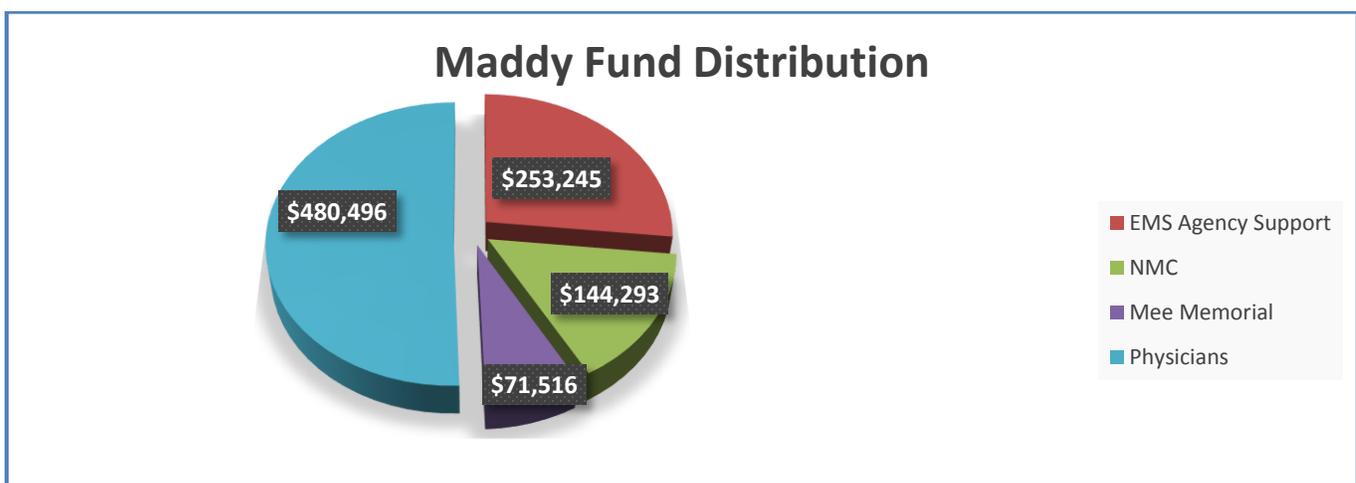
The allocation for fiscal year 2014-15 is as follows:

CSA units	116,930	\$1,589,564
Trailer spaces	3,807	\$46,684
Hotel rooms	11,503	\$27,607
		<hr/>
		\$1,662,855

“It is the intent of the Board of Supervisors of the County of Monterey to provide for the continued funding of the Monterey County Emergency Medical Services System, including paramedic, ambulance, and related services...”

Maddy Fund

In 1987, the Legislature enacted Senate Bill 12 allowing each county to establish, finance, and administer an Emergency Medical Services (EMS) Fund, called the Maddy EMS Fund. It was subsequently amended in 1988 (SB 612, Maddy) to create a penalty assessment of \$2 per \$10, levied on applicable fines, penalties, and forfeitures (California Penal Code 76000). It was again amended in 2006 (Senate Bill 1773, Alarcon) to add another penalty assessment of \$2 per \$10 and modified the purpose and distribution including adding the Richie’s Fund for pediatric trauma (Penal Code 76000.5). The EMS Fund compensates health care providers for emergency services for people who do not have health insurance and cannot afford to pay for emergency care and for discretionary EMS purposes.



Participating hospitals are Mee Memorial and Natividad Medical Center

Committees and Meetings

The EMS Agency provides oversight to all providers of emergency medical services, including fire departments, transport providers, hospitals, trauma centers, EMS communication centers, and paramedic/EMT training programs. To facilitate these functions several committees and groups have been established.

Contract Compliance Work Group (CCWG)

The Contract Compliance Work Group monitors American Medical Response's (AMR) compliance with the 400+ requirements of the Exclusive Operating Area Contract. The CCWG meets every other month, and is composed of representatives of the community, EMS stakeholders, the EMS Agency, and AMR. Activities include reviewing of AMR contract extension and rate increase requests, contract changes, billing complaints and medical care concerns, and performance response. This year, the CCWG will focus on data dashboards and reports that verify—and logically display—clinical, financial, and operational performance.

Medical Advisory Committee (MAC)

The Medical Advisory Committee is an advisory body to the EMS Medical Director, consisting up of EMS system representatives from hospitals, ambulance providers, and first responders. In this last year, MAC has:

- Completed a review and revision of the pediatric protocols to ensure the most up to date care is provided to the youngest members of our County.
- Policies related to the trauma center were revised and endorsed along with several other policies.
- MAC bylaws were revised to more clearly define the function and membership requirements of MAC.
- MAC has initiated discussion related to teaching CPR in the community in an effort to improve cardiac arrest survival.

EMS Operations Committee (EMS Ops)

The EMS Operations Committee is an advisory body to the EMS Director regarding emergency medical services operations. This year, the EMS Operations Committee:

- Developed and endorsed revision of the bylaws to replace outdated membership designations and create a clearer document.
- The use of tourniquets was enhanced with the tourniquet policy developed through Ops.
- Ops tasked the fire chief's training officers with developing a training class related to management of patient's in behavioral health crisis.
- Ops has begun the discussion of updating the MCI Plan to reflect the presence of a Level II trauma center within Monterey County.

Emergency Medical Care Committee (EMCC)

The Emergency Medical Care Committee tasked Salinas FD and AMR to determine if vehicle crashes classified as “Unknown Injury Accident” by 911 communications should not have an ambulance response. All surrounding counties do not have an ambulance respond to these incidents. Data provided by SFD showed most UIA incidents do not result in having a patient. Out of 245 UIA responses in Salinas, 43 resulted in a patient on scene. Of these, only 21 received ambulance transport to the hospital. EMCC tasked SFD to work with a BLS FD and a rural FD to expand the study area. UIA incidents resulting in a patient were found to have some similarities which may be managed by classification changes at 911 communications.

Trauma Evaluation Quality Improvement Committee (TEQIC)

The Trauma Evaluation Quality Improvement Committee meets every other month. Key stakeholders from around the county attend this meeting, which include representatives from all four hospitals, pre-hospital providers, law, and a representative of the Coroner’s office. This diverse group meets to address policy, process, and other issues. They also discuss data related to the trauma system, both in and out of the hospital setting. Using a multi-disciplinary approach, it is easier to identify and address issues early.

STEMI Quality Improvement Committee

STEMI is a clinical term for S-T Elevation Myocardial Infarction, which is a serious type of heart attack associated with high rates of morbidity and mortality. The STEMI committee meets quarterly. Key stakeholders from the STEMI centers, (SVMH and CHOMP), non-STEMI centers, (Mee Memorial and NMC), and pre-hospital providers attend. Policy, process, and other system related issues are discussed in this meeting. Data is presented by the STEMI centers and cases are reviewed for improvement or for showcasing excellent care. This year the STEMI centers focused on determining ways to improve efficiency with STEMI patients from the field to the catheterization lab and data standardization.

Stroke Quality Improvement Committee

The Stroke Quality Improvement Committee meets quarterly. Key stakeholders from Stroke centers, (SVMH and CHOMP), non-Stroke centers, (Mee and NMC), and pre-hospital providers attend. Policy, process, and other system related issues are discussed in this meeting. Data is presented by the Stroke centers and cases are reviewed for improvement or for showcasing excellent care. This year the Stroke centers focused on determining ways to improve efficiency with Stroke patients from the field to CT and other treatment modalities. They also worked on data standardization and ease of transport from a non-Stroke hospital to a Stroke Center. Pre-hospital providers have had additional training for stroke specific care to help them better identify stroke symptoms.

Advanced Life Support Quality Improvement Committee (ALS QI)

The Advanced Life Support Quality Improvement Committee is composed of representatives from the base hospitals and the paramedic service providers and EMS Agency staff. This group identified paramedic skill retention as an area of concern. The group established consensus benchmarks related to skill performance for both the number of times and success rate the skill needed to be performed on an annual basis. Should any individual paramedic not meet the benchmarked standard, skills review and testing need to be taken prior to receiving continued accreditation by the EMS Agency. ALS QI reviewed policy compliance related to pain management which saw a marked improvement in policy adherence which resulted in better patient care evidenced by consistent patient assessment and better documentation.

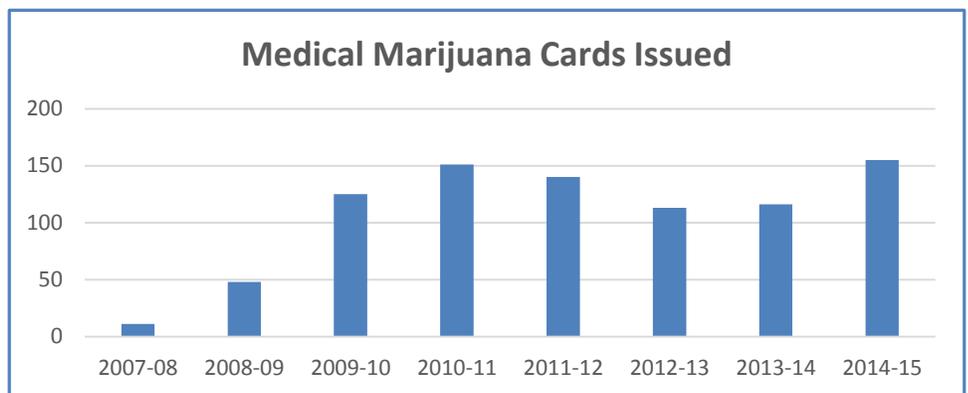
EMS Agency Activities and Functions

Ambulance System Issues Review and Analysis of Options

The EMS Summit is a committee of fire agencies, law enforcement, healthcare, ambulance provider, and EMS management, formed to facilitate communication among EMS System participants and to assure completion of the recommendations in the November 2013 report by Citygate Associates. Since the EMS Summit's first meeting in January 2014, almost all of Citygate's recommendations have been completed, the remaining issues are being worked through, and the group has started to discuss the EMS System's strategic assessment, strategic planning, RFP, and contracting process, which must be completed by 2020. While this deadline is years away, based on the increasing complexities in EMS System financing and organization, the EMS Agency will advocate starting this process in the 2015-16 Fiscal Year.

Medical Marijuana Identification Card

The EMS Agency administrates the Medical Marijuana Identification Card program for Monterey County. The Compassionate Use Act of 1996 (prop. 215) provides protections to seriously ill persons who have a doctor's recommendation to use marijuana for medical purposes. It also provides protections to the physicians and primary caregivers who assist these seriously ill persons.



In Fiscal Year 2014-15, the EMS Agency issued 155 cards and collected \$6,032 in fees.

Communication

Citygate has been contracted to revise the EMS Communication Plan; includes NGEN and voiceover Internet initiatives. Citygate has researched the state of EMS communications and completed the first working document upon which to build an EMS Communications Plan. There are also other communication, documentation, and operational issues being addressed with Emergency Communications; current CAD has inherent limitations and system requires a costly upgrade. EMS stakeholder needs have been identified and will be included in the CAD upgrade scope of work and discussion. EMS communications and priority dispatch issues remain a high priority and will hopefully be resolved with CAD upgrade and integration.

EMS Week

We celebrated EMS Week 2015 with our largest event to date. Under the theme "EMS Strong", we had 20 different displays from 18 separate organizations. We moved the event from the parking lot at the Health Dept. to the Salinas Soccer Fields on Constitution Dr. We had almost



400 people attend the EMS Week event. The highlight of the event was the aerial rescue display put on by the CAL FIRE Heli-tack team from Bear Valley.

This event demonstrated the many organizations and people who may be involved in responding to and caring for those who have a medical emergency. The Coast Guard, CAL FIRE helitack, and Monterey FD heavy rescue vehicle showed the rescue response which may be called upon to assist in a medical emergency. Multiple first responders displayed their equipment and vehicles. AMR not only displayed an ambulance but also provided instruction in “compression-only” CPR. Those interested in a career in EMS were able to talk with people who are actively working in this field. Not only that, but the Monterey Peninsula Unified School District Regional Occupational Program’s EMT and the Northern California Training Institutes’ training programs not only demonstrated what they had learned, but shared the process to become an EMT or paramedic. The event drew the attention of the local news media resulting in welcome media exposure.



The Emergency Medical Services (EMS) Operating Unit plans, coordinates and evaluates the Countywide EMS System. This includes maintaining Countywide advanced life support services, contracting for ambulance and pre-hospital care services, monitoring training, planning for disaster medical response, and coordinating public information and education. In addition, staff administers funds received through the CSA 74 Fund and the Uncompensated Care Fund 016.

Prepared by Monterey County
Emergency Medical Services Agency

