CQIP
CONTINUOUS QUALITY IMPROVEMENT PLAN
2019

CONTENTS

ABOUT RIVERSIDE COUNTY EMS AGENCY (REMSA)

Mission statement:

To assure the timely delivery of high quality, compassionate, and cost-effective emergency medical services to the people of Riverside County and to optimize these services through a balance of collaboration with the community and regulatory leadership.

Values:

- We value the patient as the focus of what we do.
- We value honesty and integrity.
- We value personal and organizational accountability.
- We value collaboration in our endeavors.
- We value inclusive decision-making.
- We value evidence-based change as an avenue to excellence.

Philosophies:

- System success is measured in the well-being of the people we serve.
- Each interaction brings value to us and the EMS system.
- The success of the organization is success for all.
- Our duty is to lead intelligently and regulate with consistency.

Vision:

Support and uphold integrity, quality, and collaboration in the delivery of Emergency Medical Services.

INTRODUCTION

Continuous Quality Improvement (CQI) is a formal approach to the analysis of system performance and efforts to improve it. Riverside County EMS Agency (REMSA) is committed to the process of CQI. CQI is, by its very name, a continuous process. CQI includes such things as:

- ✓ Recognizing excellence, both individually and organizationally;
- ✓ Quantifying objectively what EMS does by trending, analyzing and identifying issues, concerns, and excellence based on those trends;
- ✓ Setting benchmarks;
- ✓ Promoting remediation rather than discipline. CQI also makes a powerful distinction between the two. Remediation is education. Discipline involves licensure.
- ✓ Working hand in hand with training, education and with risk management;
- ✓ Identifying system issues when possible rather than individual issues;
- ✓ Promoting itself as a business standard used in corporate strategic planning;
- ✓ Presenting itself as an evidence-based process equal to industry programs for education and personnel.

Continuous Quality Improvement (CQI) is an ongoing process in which all levels of healthcare workers are encouraged to team together, without fear of repercussion, to develop and enhance the system they work in. Based on EMS community collaboration and a shared commitment to excellence, CQI reveals potential areas for improvement of the EMS system, identifies training opportunities, highlights outstanding clinical performance, audits compliance with treatment protocols, and reviews specific illnesses or injuries along with their associated treatments. These efforts contribute to the continued success of Riverside County's emergency medical services through a systematic process of review, analysis, and improvement.

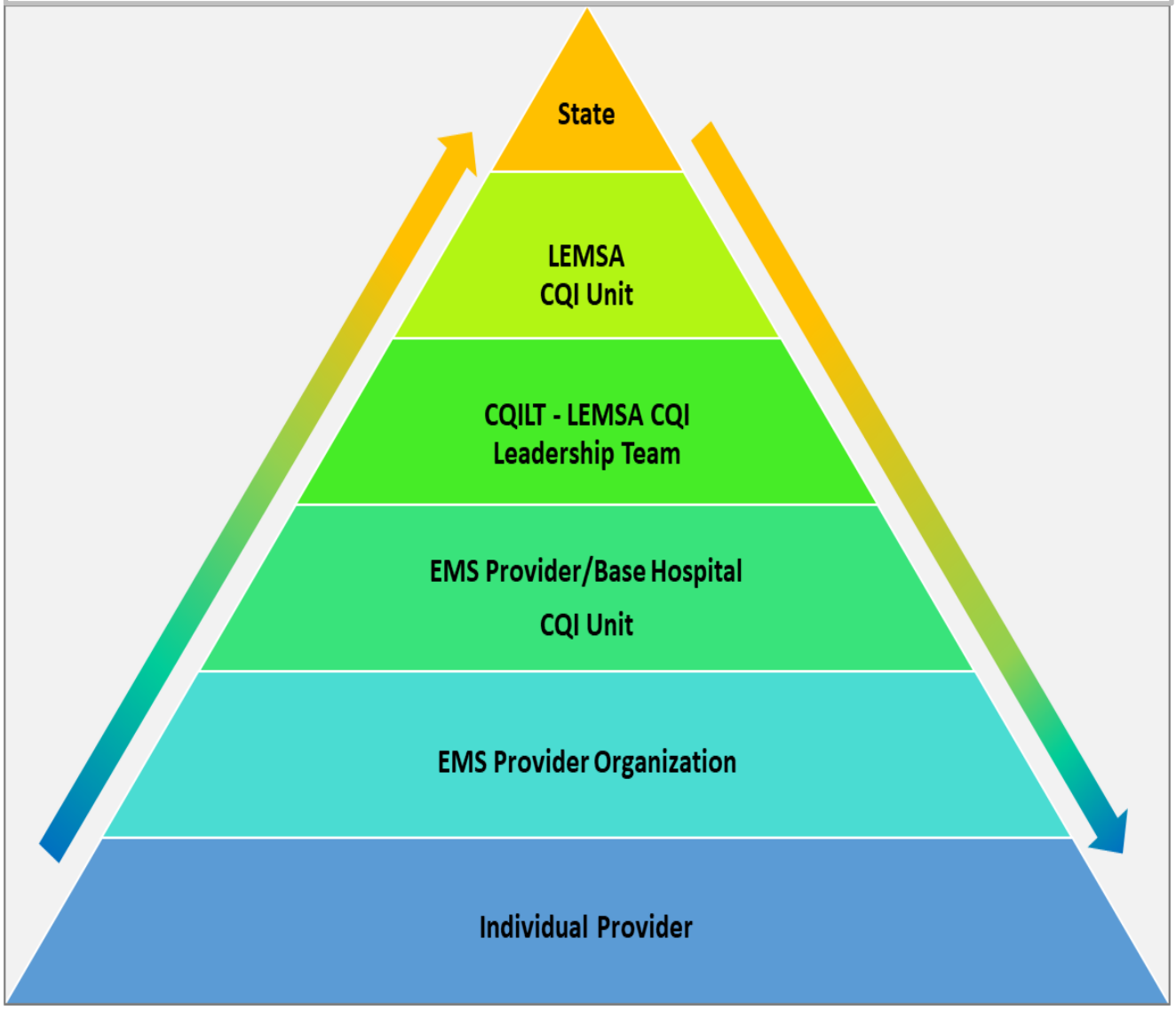
A by-product of the plan is the alliance of municipal agencies and private providers that offer EMS services within Riverside County. This affords all participants (administrator to first responder) an opportunity to work jointly, even when at peak capacity, with energy and focus in a system that they can support and have ownership in.

REMSA leads and monitors the Continuous Quality Improvement (CQI) activities for all different components of the EMS System in a ***prospective***, ***concurrent*** and ***retrospective*** manner.

- ***Prospective-*** Through guiding policies, protocols, and research.
- ***Concurrent –*** By monitoring the electronic patient record system and engaging in ride-alongs, and through field Training Officers.
- ***Retrospective-*** Using data extraction, incident investigations, and targeted and routine records review.

Many of the QI activities take place at the organizational level.

Reporting Relationships between Providers/Base Hospitals, REMSA, and EMSA



This plan is a guideline for each Riverside County provider and Base Hospital to use when writing their organization's CQI plan. All EMS providers and Base Hospitals are required to submit their CQI plan to REMSA for review and approval. All CQI plans must be in accordance with the Riverside County EMS Agency's CQI plan.

The Riverside County Emergency Medical Services Agency (REMSA) is responsible for the oversight of the Emergency Medical Services (EMS) system in Riverside County. This system consists of Advanced Life Support (ALS) and Basic Life Support (BLS) First Responders; ALS, BLS and Critical Care Transport (CCT) Ambulances; ALS and CCT airships; dispatch agencies with trained dispatchers; Base Hospitals; Prehospital Receiving Centers; and various specialty centers (STEMI Receiving Centers, Trauma Centers, and Stroke Receiving Centers).Guided by the REMSA Protocols, medical direction is provided by the Base Hospitals to EMS personnel in the field, as well as by the REMSA Protocol Manual.

California Statute states, "The local EMS agency shall plan, implement, and evaluate an emergency medical services system…consisting of an organized pattern of readiness and response services based on public and private agreements and operational procedures. The local EMS Agency shall be responsible for implementation of advanced life support systems and limited advanced life support systems and for the monitoring of training programs. The local EMS Agency shall be responsible for determining that the operation of training programs at the EMT I, EMT II and EMT P level are in compliance with this division and shall approve the training programs if they are found to be in compliance with this division" (Health & Safety Code Sections 1797.204, 1797.205, and 1797.206).

Each agency shall submit a CQI plan to the EMS Agency for approval (see Appendix A). The time frame for submission will be determined by REMSA in coordination with the agencies. Appropriate revisions shall be made as requested by REMSA. Each agency shall conduct an annual review of their CQI plan. REMSA will evaluate the implementation of each agency's CQI plan. Each agencies CQI plan will be updated annually and re – submitted.

REMSA's CQI Plan has been written in accordance with the Emergency Medical Services System Quality Improvement Program Model Guidelines (EMSA #166, Rev. 3/04).

ORGANIZATION AND STRUCTURE

Riverside County is the 4th largest county in California, serving an estimated population of 2,450,758 citizens (United States Census, 2018), and comprising nearly 7,300 square miles. Riverside County consists of urban, suburban, rural, and wilderness areas. In 2019, there were a total of 204,131 9-1-1 calls for medical aid and over 400,000 patient records generated by fire department and

ambulance responders in Riverside County. 9-1-1 calls initially enter a Public Safety Answering Point (PSAP), and generally get re-routed to a secondary PSAP, which dispatches a fire unit. At the same time, the secondary PSAP also routes the call to the 9-1-1 Ambulance provider's dispatcher (if different), who dispatches the ambulance to the same call. Both the fire unit and the ambulance (usually from 2 different locations) go en route to the call. In most of Riverside County, the dispatchers are trained Emergency Medical Dispatchers, and they are giving pre-arrival/post- dispatch instructions to the reporting party and getting additional information about the call to relay to the responding units. In most areas of the County, the First Responder is an ALS unit. The City of Calimesa are served by Fire Department BLS first responders.

Once at the hospital, care is assumed by the Emergency Department personnel. At this point, the crews are available to respond to other calls. All of Riverside County 9-1-1 providers are on a unified electronic Patient Care Report (ePCR) system; documentation of the call is completed at this time, unless another call is pending.

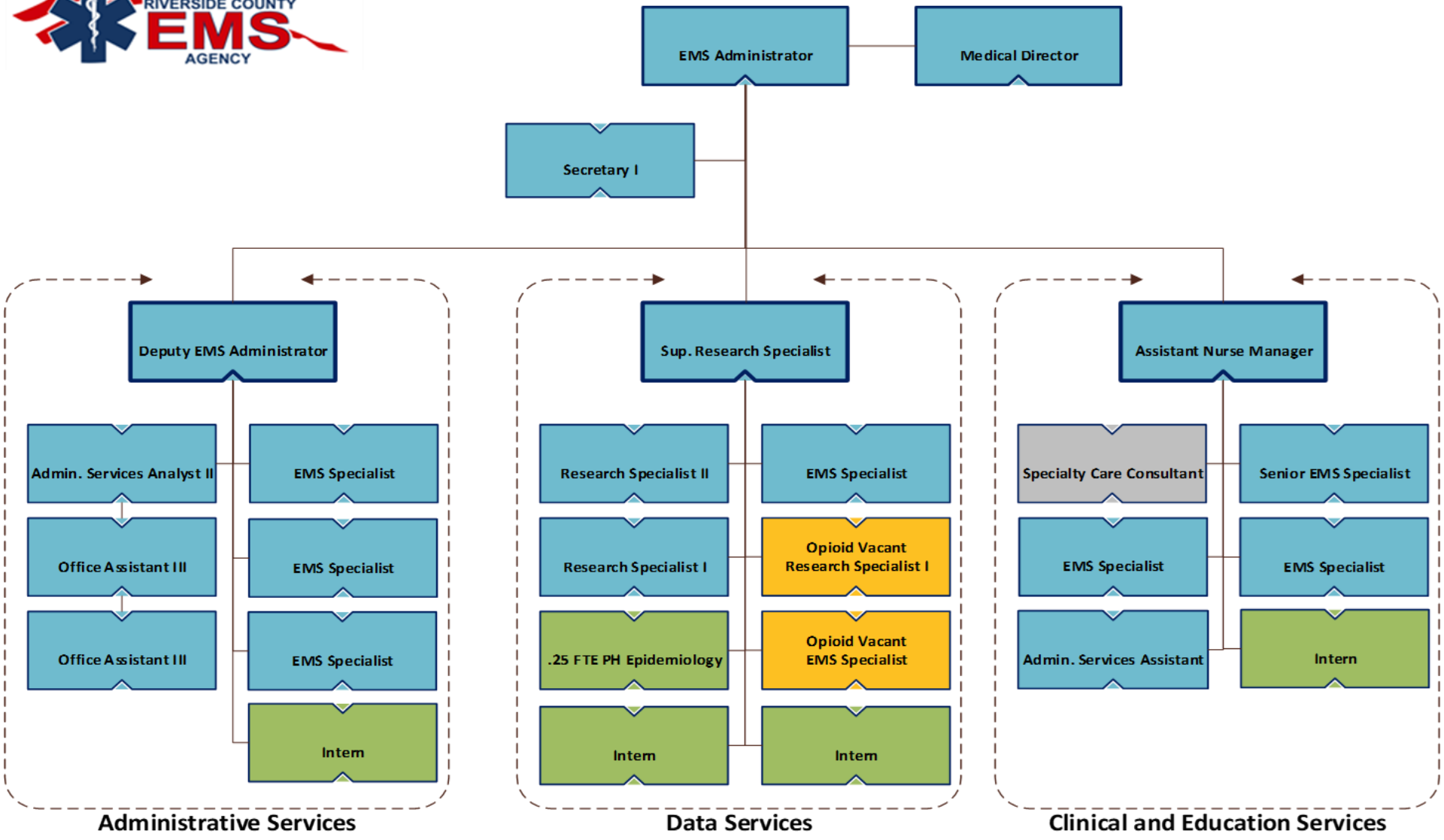
The Riverside County EMS system is made up of the following:

- 13 First Responder Fire departments
- 1 primary 9-1-1 Ambulance provider and approximately 14 other ground transport agencies
- 4 primary Helicopter EMS providers (HEMS)
- 17 Emergency Departments (EDs) supporting the following specialty care designations:
    - 12 Primary Stroke centers (Primary)
    - 6 STEMI centers
    - 4 Trauma centers (Level II)

Riverside County oversees certification for over 5,000 EMS providers. These consists of approximately 3,500 Emergency Medical Technicians (EMTs), 1,200 Paramedics, and 400 Mobile Intensive Care Nurses (MICN) and Registered Nurses (RNs).

The Riverside County EMS Agency (REMSA) is led by an EMS Administrator and a Medical Director who lead the Administrative, Data, and Clinical and Education Services units. Leading each unit are a Deputy EMS Administrator who oversees the Administrative unit, a Supervising Research Specialist who oversees the Data and Reporting unit, and an Assistant Nurse Manager who oversees the Clinical and Education unit. Along with support staff, each with their own area of expertise, REMSA fulfills its LEMSA CQI obligations through communication, evaluation implementation, and enforcement of its required activities.

REMSA Organizational Chart



EMS PERSONNEL AND REGULATION

REMSA is charged with regulating the issuing of EMT certifications, Paramedic accreditations, and MICN authorizations. The CA Health and Safety Code directs the state EMS Authority (EMSA) and the Medical Director to do this, and EMSA delegates the responsibilities for EMT certification to the local EMS agencies (LEMSAs). REMSA receives the specific direction of authority from legislation which is named the CA Code of Regulations (CCR), specifically Title 22, Division 9 of the CCR. These regulations give REMSA the authority and instructions of how to implement the Health and Safety Code.

EMT certification, once granted, is accepted statewide, each EMS agency is required to follow the specific credentialing practices outlined by Title 22 and further clarified by EMSA directives. While some specific points are open to interpretation, REMSA policies on EMT certification follow Title 22 regulations. The state EMSA monitors each EMS agency to verify certification is being carried out as intended. The State charges their fee for certification and each local agency (REMSA included) has a fee for administering this responsibility for the state.

The state EMSA regulates the scope of practice (SOP) for EMTs, paramedics, and holds responsibility for the statewide licensure of paramedics. But because each LEMSA has its own medical policies and procedures (based on the state SOP) the LEMSA Medical Director, paramedics must receive local approval – i.e., accreditation – to practice in that region. Therefore, REMSA issues local accreditation to paramedics to practice in our county once we confirm they have been trained in our local policies and procedures.

Mobile Intensive Care Nurses (MICN's) receive their initial training through a collaborative training program across REMSA and ICEMA. MICN's are cultivated by our base hospitals and the hospital Pre-hospital Liaison Nurse, then screened as potential candidates to then be sent to the initial training program. REMSA participates with this screening process both in creation of policies identifying qualifications, and also in ongoing competency monitoring in collaboration with the PLN. REMSA has a defined reauthorization process, and application that requires the MICN seeking to renew this credential be a participant in EMS education and training during the credential cycle. MICN reauthorization candidates maintain relevancy with the paramedic scope of practice by REMSA Policies and Procedures manual training updates, base station meetings, clinical ride outs and/or ALS Skills competency skills labs days.

EMSA issues a credential to practice in the EMS field, therefore a credential falls under regulation to ensure correct practice and the safety of the public. The Health and Safety Code (H&SC) specifically states that any "threat to public health and safety may result in the denial, suspension, revocation, and/or the placement of an individual on probation. It outlines what is a threat. Title 22 has different

sections for paramedics and EMTs which more specifically explain some of the individual threats. Title 22 also details the procedures on how to implement discipline against a credential. Because EMSA issues paramedic licenses, they are responsible for any discipline against them. Since the LEMSA's are the entities actually issuing EMT certifications, the responsibility for issuing any discipline against the certifications also lie with the LEMSA's. In order, to ensure a level of uniformity across all LEMSAs, EMSA also has created documents and procedures that local agencies must follow when issuing discipline against an EMT certification. REMSA follows these procedures as well as H&SC and Title 22 when issuing discipline against a certification. The EMT discipline regulations and guidelines are very detailed and REMSA applies these same "rules" when reviewing an MICN authorization and issuing any discipline against it.

SKILLS MAINTENANCE AND COMPETENCY

REMSA maintains Performance Standards for high risk/low frequency skills, as well as high frequency/low risk skills. Field provider personnel at the EMT and Paramedic levels complete their Skills Competency Verification with the applicable form every 2 years. The EMT BLS SCV form is standardized at the CA EMSA level, while the ALS SCV form is maintained at REMSA. The ALS SCV form was adapted to include the BLS SCV skills of childbirth with neonatal resuscitation in 2018 in response to EMS System QI initiatives and stakeholder input. REMSA maintains policies to determine eligibility for Skills Competency Verification, form completion and audit. MICN completing their first MICN authorization are required to complete the ALS SCV process; for reauthorization they can elect to complete the ALS SCV process or complete an 8-hour field internship shift. REMSA also focuses on specific skills competency and review from stakeholder group QI as needed. REMSA partnered with providers to invest in skills mastery and proficiency related to cardiac arrest resuscitation since 2016.

EQUIPMENT AND SUPPLIES

REMSA has developed minimum inventory and supply requirements for the different identified EMS resources deployed throughout the County's EMS System. These inventory lists are available in REMSA operational policy 3301 – Drug and Equipment List (https://www.remsa.us/policy/3301.pdf), as well as a standardized process for the handling of controlled substances under operational policy 3302 (https://www.remsa.us/policy/3301.pdf)–. Each provider organization is inspected annually to ensure compliance with policy requirements. During the inspection process, approximately 20% of all items listed as required items in Policy 3301 are inspected by REMSA personnel. Additionally, provider records

are inspected for such things as compliance with OSHA standards, current certification/licensure of employees, etc.

TRANSPORTATION AND FACILITIES

Riverside County has a total of 17 prehospital receiving centers. There are six Base Hospitals, four Trauma centers, six STEMI centers and 11 Stroke centers. In the city of Calimesa, the first responder is BLS. The city of Blythe receives prehospital medical services from Blythe Ambulance and Volunteer Blythe Fire Department. Interfacility transfers and BLS and CCT calls are serviced by 11 non-emergency providers. Two helicopter services are permitted by REMSA, serving both emergency and non-emergency calls. California Highway Patrol is recognized as an air rescue helicopter service. Gurney van and wheelchair transport providers are not permitted or overseen by REMSA.

Policy 3203 (http://www.remsa.us/policy/3203.pdf) delineates responsibilities of the transferring hospital, the receiving hospital, and the permitted ambulance company regarding interfacility transfers. Specialty Centers in Riverside County (Trauma, STEMI, and Stroke) are expected to be in compliance with all EMTALA requirements, including accepting specialty patients as a higher level of care as long as the specialty center has the capacity to care for these patients. All interfacility transfers must include physician to physician contact between the sending and the receiving physicians, and this contact must be clearly documented in the sending hospital's records. Time critical interfacility transfers requiring ALS or CCT services should have a reasonable response time of one hour in the absence of previously agreed upon contractual obligations. Permitted Helicopters may be utilized as necessary for such transfers. As an alternative to a CCT service or a helicopter, the sending hospital has the option of sending one of their own nurses along on a BLS or ALS ambulance to monitor the patient with needs exceeding the scope of practice of a paramedic or an EMT. If an ALS service is requested for the transfer, the sending physician must submit written orders designating the precise level of care deemed necessary during the transport. These orders shall be in accordance with accepted REMSA paramedic protocols and policy and within the state-recognized paramedic scope of practice.

PUBLIC EDUCATION AND PREVENTION

REMSA collaborates with our clinical practitioners and hospitals for public education initiatives. REMSA has also partnered with our larger department – The Emergency Management Department, to offer public education and prevention events. Examples include: September Preparedness Month Events weekly in our communities to offer hands only CPR education and disaster preparedness materials, awareness and education; Stop the Bleed Campaign booths in collaboration with local trauma centers

and our UASI partners; and World CPR Day pairing REMSA staff with our local providers to teach CPR and AED skills at community groups, schools and businesses. REMSA also works with our Adult Protective Services and Child Welfare organizations to review clinical cases or abuse, injury or death to identify growth opportunities at the public, clinical practitioner or policy levels to prevent such abuse, injury or death. REMSA also participates in public health coalitions related to drowning prevention, combining 9-1-1 system awareness with public safety events to prevent submersion injuries.

RISK MANAGEMENT

REMSA fully investigates all complaints and issues regarding patient care or on-scene communications issues that are brought to our attention. These incident reviews are tracked and recorded and kept in a secure location. All incident reviews are protected from disclosure by the California Evidence Code 1157 and 1157.7. During annual inspections of each provider in Riverside County, records are reviewed to ensure compliance with Occupational Safety & Health Administration (OSHA) regulations.

DOCUMENTATION

Electronic Patient Care Reports (EPCRs)

Through collaborative support from Riverside County EMS providers, REMSA transitioned pre-hospital electronic patient care reports (ePCRs) to a single countywide platform (Imagetrend Elite®) in July of 2017 and established a 24/7 REMSA helpdesk to support it. The goal of a single, centralized, ePCR documentation system is:

- A shared purpose, method, and communication tool for patient care across EMS providers
- Enabling real-time data collection, communication, and response across providers
- Increase data efficiency and quality
- Eliminating the need for separate system integrations for pass through of mandated data for state compliance
- Ability to support field providers around-the-clock so increasing documentation requirements limit interference with patient care

The REMSA helpdesk is made up of three paramedics and technical staff from the REMSA On-Call Duty Officer program. These staff are trained in technical oversight of the ePCR system and provide support to providers through a simple, web-based portal which includes a ticketing system, FAQs, and resource documents. Tickets are trackable for issue assignment, reassignment and resolution. While the vendor provides high level support for major system modifications or outages, the REMSA helpdesk provides ongoing support to field providers on most time-sensitive documentation issues such as password lockouts and expediting system errors and outages.

Documentation fields in the ePCR system mirror state/NEMSIS required fields but their layout is flexible to better meet the workflow and efficiency needs of Riverside County's providers. Custom fields can also be built in the ePCR system to capture additional clinical elements that might better reflect the clinical targets of interest. Changes to the ePCR structure is implemented by the REMSA System Administration team, while the request for changes are driven by state and local policy updates, feedback from providers and oversight committees who work to improve documentation consistency and workflow.

REMSA's ePCR system is a HIPAA compliant cloud-based storage database that allows transfer of records between providers, and near real-time analysis and extraction of live data, directly through its reporting and CQI modules. Secondarily, REMSA subscribes to the FirstWatch® analytical software tool which continuously monitors the ePCR system for volume fluctuations and specific clinical profiles of interest to CQI or surveillance activities.

Electronic Patient Registries

Riverside County EMS currently participates in the following four patient registry systems which collect hospital outcome data on EMS transported non-traumatic cardiac arrest and specialty care patients (stroke, STEMI, trauma).

- Non-traumatic Cardiac Arrest Registry (CARES- Cardiac Arrest Registry to Enhance Survival)
- Trauma Registry (Digital Innovations, Inc®)
- Stroke Patient Registry (Imagetrend®)
- STEMI Patient Registry (Imagetrend®)

These registries link pre-hospital documentation to hospital outcome data for enhanced care quality review. Once a patient is linked to their pre-hospital record, there is a bi-directional flow of EMS data that creates a complete incident composite for patients from public access into the emergency medical system through hospital outcome. Stroke and STEMI patient registries are hosted and maintained by REMSA and provided by the current ePCR vendor, Imagetrend®. This allows hospital outcome data to directly link back into the ePCR system becoming viewable for providers on patients they treated.

INTER-AGENCY COMMUNICATION SYSTEMS

Rapid Emergency Digital Data Information Network (ReddiNet) is the primary emergency communications system used by all hospitals in Riverside County to communicate with REMSA, with other hospitals, and with American Medical Response Communications Center and the Perris Emergency Command Center (ECC). Each hospital is required to have a dedicated satellite internet-based unit specifically for ReddiNet. Various drills (MCI and message drills) are held periodically throughout the year, run either by REMSA or by the hospitals initiating drills themselves. Hospitals are expected to respond to bed capacity polls within 2 minutes, whether those polls are a drill or an actual MCI. ReddiNet is also used by the EMS system for operational communications including: ambulance diversion status, multiple casualty incident (MCI) management, disaster and public health assessment, system wide operational messaging and emergency notifications. REMSA allows ambulance diversion for Trauma, Stroke, Internal Disaster (ID) and Ambulance Redirection due to extended Ambulance Patient Offload Delay (APOD). ReddiNet has a separate terminal which is run via a satellite internet connection. Its function is the dissemination of authorized EMS system operational information including diversion status, multiple casualty incident management, disaster assessment communications, patient tracking/alert, disease surveillance, public health alerts, and bed capacity. Riverside County's two largest medical dispatch centers, AMR and Riverside County Fire Department's Emergency Communication Center, are also on ReddiNet. All providers are welcome to subscribe to ReddiNet but are not required to do so.

LiveProcess serves as one of our interoperable communication systems. It is web-based and all 17 hospitals, six SNF/LTCs, 3 Clinicas de Salud and 10 Ambulatory Care Centers utilize the system as it is specifically designed for emergency management for healthcare facilities. LiveProcess functions include: bed tracking, information sharing, NIMS, resource and education tracking. The system assists Health care Facilities (HCFs) in their emergency management programs by providing tools to assist with the development of effective emergency management and operational plans, mitigating treats and developing sufficient response activities during an event to ensure the safety of patients and hospital staff. The system is also used for communication between the Riverside University Health System – Public Health (RUHS-PH) Emergency Management Department (EMD) Medical and Health Department Operations Center (MH DOC), the Medical and Health Communication Center (MH COMM) and Hospital Command Centers (HCCs) when activated.

WebEOC serves as another interoperable communication system. The purpose of WebEOC is to communicate with the County EOC. It is also used in the MH DOC to post significant events and provide situational status for the DOC staff.

Duty Officer/Duty Chief program – REMSA has a Duty Officer on call twenty-four (24) hours per day, seven (7) days per week to respond to requests for help from the EMS System, such as large-scale incidents, resource requests from the field, extended ambulance delays at hospitals impacting the EMS System, and other such issues. The Duty Officer is one of several EMS Specialists in REMSA. If the issue is complicated, political, or large, the EMS Duty Officer notifies the Duty Chief (the EMS Administrator, Deputy EMS Administrator, or Senior EMS Specialist) on call. Both the Duty Officer and the Duty Chief can be contacted via a single phone number given out to all EMS providers and hospitals in Riverside County. During a large event, REMSA will activate the MH COMM immediately and staffing will include the Duty Officer, the Duty Chief, and various other personnel from REMSA, EMD and RUHS-PH. Riverside County Fire Department, dispatches for most of the County, and utilizes ProQA, a dispatch software that standardizes the case entry and key questioning, identifying the appropriate determinant code for each case, and displays the response configuration for that particular type of call. It also lists instructions that dispatchers may give to the caller. Two other fire departments operate as Emergency Medical Dispatch as well; Riverside City Fire Department and Corona Fire Department also utilizes Pro QA software. Corona Fire Department utilizes a homegrown system based upon the Pro QA software, which is reviewed and approved by REMSA. Currently, the cities of Hemet and Murrieta are in the process of implementing ProQA Emergency Medical Dispatch Program. Other city fire departments, including Palm Springs, and Cathedral City, have expressed interest in implementing an Emergency Medical Dispatch Program, but currently dispatch all resources Code 3 (lights and sirens) to all 9-1-1 requests for medical aid. The city of Blythe police department dispatches Blythe Volunteer Fire Department and contracted ambulance service provider

There are four major types of radio and data communications systems that are currently being used for medical/ health communications in Riverside County (700 MHZ PSEC system, VHF, Cellular and Data/ReddiNet). The medical communications system supports the operational and administrative needs of the EMS systems execution of the following mission critical responsibilities of the EMS Agency:

The PSEC system covers 99% of Riverside County and is utilized by a variety of County agencies including RUHS-PH, EMD, Riverside County Sheriff Department, Riverside County Fire Department, RUHS-MC, RUHS-CC, and the Department of Animal Services. Staff use the PSEC system to exchange critical information (e.g. HAvBED data, MH Situation Status Report, and Resource Requests) with all public health and medical partners including hospitals, SNFs, clinics, and EMS providers.

The VHF system is designed to be used for day-to-day ambulance dispatch by American Medical Response countywide (Med Net 2, Med Net 3, and Med Net 4). In addition to day-to-day ambulance dispatch, Med Net 1 is being used as the primary radio frequency for online medical direction and day-to-day ambulance to hospital medical communication.

The private cellular networks are the current and most convenient method for prehospital providers to contact receiving and base hospitals for online medical direction and general communications. It is the position of the Riverside County EMS Agency that "Cell Phones" should not be a primary means of communication between Paramedics and Base Hospitals for the purposes of online medical control. Simulated and real-world emergencies have shown that cellular networks are frequently unreliable during large scale incidents and during disasters.

STAKEHOLDER COMMUNICATION AND RELATIONSHIPS

REMSA has established strong working relationships with EMS stakeholders including, but not limited to, ALS, BLS and CCT ambulance companies, air ambulance providers, Base Hospitals, Prehospital Receiving Centers, Fire Departments, city councils, and the Riverside County Board of Supervisors. REMSA works under the philosophy that we collaborate when we can, regulate when we must. Stakeholder committees meet quarterly and are aimed at taking a multidisciplinary approach to evaluating the quality of patient care and evening the playing field across disciplines to share perspectives and influence change when appropriate.

Stakeholder committees that influence and direct Quality Improvement are as follows:

- **Prehospital Medical Advisory Committee** (PMAC) provides advice and expertise to the County of Riverside EMS Agency and enhances cooperation between multiple EMS system participants on administrative, operational, and emergency medical issues. Active membership consists of representatives from hospitals, fire departments, law enforcement, ambulance service providers, and various committees. Field personnel are welcome to attend and are formally represented by an EMT-at-Large and a paramedic-at-large.

- **The Emergency Medical Care Committee** (EMCC) advises the Board of Supervisors on all aspects of emergency medical care within the County and reports to the Board of Supervisors the observations and recommendations of the EMCC concerning the feasibility and content of emergency medical care programs within the County. The composition of the EMCC is determined by Resolution 2001-358, dated December 18, 2001 and includes 15 members appointed by the Board of Supervisors representing hospitals, prehospital providers, the Board of Supervisors, fire departments, city managers, and law enforcement.

- **Helicopter EMS CQI Committee** (HEMS) is an open committee of participants from permitted air and ground ambulance providers, fire departments, and hospital personnel. Each helicopter run

from the scene, excluding interfacility transfers, is reviewed for such things as scene times, appropriateness of use of the helicopter, documentation, overall provider care, and outcome.

- **STEMI System Committee** is an open committee of participants from ambulance providers, air providers, fire departments, Emergency Department and Cardiac Catheterization Laboratory personnel. System issues are discussed, and data is collected and aggregated by REMSA for presentation and discussion.

- **Stroke System Committee** is an open committee of participants from ambulance providers, air providers, fire departments, Emergency Department and Specialized Stroke/Neurology personnel. The structure mirrors that of STEMI.

- **Trauma Audit Committee (TAC)** is a quarterly regional trauma case review including trauma centers in Riverside and San Bernardino Counties. Membership includes Trauma Program Managers and Trauma Medical Directors from the seven (7) regional trauma centers, as well as County representatives. All proceedings, documents and discussions of the Trauma Audit Committee are confidential and are covered under Sections 1040 and 1157.7 of the California State Evidence Code, all members sign a confidentiality agreement prior to the meeting. This meeting identifies peer review indicators which are updated annually focusing on the appropriateness of trauma patient care. Trauma centers prepare cases for this committee after they are vetted through internal peer review processes. TAC is also a venue to review trauma data, research and trial study discussions and a venue to drive trauma policy change. Issues requiring system input may be sent to the EMS Agencies for presentation to the System Advisory Committees (PMAC or EMCC) for input.

- **Ambulance Zone Meetings** are held quarterly for each of Riverside County's 12 zones. Response time compliance for the contracted ambulance provider is reviewed with all interested parties, and system issues identified are discussed with the participants. Participants include ambulance companies, fire departments, city managers, hospital personnel and other interested parties.

These committees meet quarterly to discuss patient care issues, case reviews, performance improvement indicators and all are advisory committees to the Prehospital Medical Advisory Committee (PMAC). They are comprised of EMS constituents, working collaboratively to develop and monitor the specialty programs and to review policies and data collection in detail. All committees are open to EMS stakeholders, including EMTs, paramedics, physicians, and MICNs, because REMSA believes that the more stakeholders contribute to program development, the stronger that program is. It also ensures "buy-in" from the EMS community.

REMSA also works closely with our Riverside County Emergency Management Department, which coordinates all disaster responses, preparedness, training, and drills. REMSA also partners with the Riverside County Injury Prevention Program, which initiates many community education projects, such

as bicycle helmet giveaways and infant car seats, education and resources on such things as teen suicide, safe routes to school, drowning prevention, and bicycle safety.

Communication with the EMS Community and Public

EMS issues are relayed to the EMS community in a variety of ways. PMAC - CQI reports from Specialty Centers (Trauma, STEMI, Stroke and HEMS) are given to the EMS community as a whole during the PMAC meetings, which are held quarterly. EMCC - CQI reports on such things as ambulance response times and contract compliance are provided and reviewed at the EMCC meetings. Performance Excellence reports are also given to EMCC, to ensure that the Board of Supervisors is kept apprised of the excellence within our EMS System.

A calendar is set up on the REMSA website showing all relevant meetings, conferences, base hospital meetings, etc. This on-line calendar is viewable to the public and assists REMSA in scheduling meetings (http://remsa.us/forums/vb4/calendar.php?c=1&do=displaymonth).

REMSA also promotes transparency in providing the EMS community and public with online access to Riverside County EMS resources including credentialing, committee agendas and meeting minutes, policies, data and compliance reports (https://rivcoems.org/)

CQI FOR CLINICAL CARE AND PATIENT OUTCOMES

Clinical care in Riverside County EMS is driven by concurrent CQI of data, evaluation of treatment protocols and current best practices. This effort is led by the CQILT, Stroke, STEMI, and Trauma Committees. These groups include REMSA personnel and system stakeholders from hospitals (PMAC), ambulance providers, educational facilities and first responders. All committees meet quarterly to discuss patient care issues, case reviews, performance improvement indicators and all are advisory committees to the Prehospital Medical Advisory Committee (PMAC). REMSA has now included a second policy update annually. Protocol updates are effective April and October each year. Any suggested policy changes are vetted through the subcommittees and sent out to the system for a public comment period of 21 days. REMSA clinical staff and Medical Director review all suggestions and comments from the stakeholders. Draft policies for Spring training are presented at the PMAC meeting in Fall, and draft Fall policy changes are presented at the mid-year PMAC.

EMS CQI TEAM

The EMS CQI Team is the central repository of local EMS system information as it relates to EMS CQI Program activities. The CQI Team includes, but is not limited to, the following representatives:

- The REMSA Medical Director
- The REMSA Director/Assistant Director
- The REMSA CQI Coordinator
- The REMSA Education Coordinator

The CQI Team meets every 2 weeks and reviews EMS CQI activity occurring within Riverside County EMS System. Responsibilities of the EMS CQI Team are:

1. Prospective

1) Comply with all pertinent rules, regulations, laws and codes of Federal, State and County applicable to emergency medical services.
2) Coordinate prehospital quality improvement committees.
3) Plan, implement and evaluate the emergency medical services system including public and private agreements and operational procedures.
4) Implement advanced life support systems and limited advanced life support systems.
5) Approve and monitor prehospital training programs.
6) Certify/authorize/accredit prehospital personnel.
7) Establish policies and procedures to assure medical control, which may include dispatch, basic life support, advanced life support, patient destination, patient care guidelines, and quality improvement requirements.
8) Facilitate implementation by system participants of required Quality Improvement plans.
9) Design reports for monitoring identified problems and/or trends analysis.
10) Approve standardized corrective action plan for identified deficiencies in prehospital and base hospital personnel.

2. Concurrent:

1) Site visits to monitor and evaluate system components.
2) On call availability for unusual occurrences, including but not limited to:
3) Multi-casualty Incidents (MCI)
4) Ambulance Diversion
5) Ambulance delays at hospitals
6) EOC/DOC activations
7) Medical facility evacuations

3. Retrospective:

1) Evaluate the process developed by system participants for retrospective analysis of prehospital care
2) Evaluate identified trends in the quality of prehospital care delivered in the system
3) Monitor and evaluate the Incident Review Process.
4) Reporting/Feedback
5) Evaluate submitted reports from system participants and make changes in system design as necessary
6) Provide feedback to system participants when applicable or when requested on QI issues.
7) Design prehospital research and efficacy studies regarding the prehospital use of any drug, device, or treatment procedure where applicable.

EMS CQI LEADERSHIP TEAM (CQILT)

In 2007, REMSA chartered a multidisciplinary CQI Technical Advisory Group, which later became CQI Leadership Team (CQILT) with the following positions:

- The REMSA Director/Assistant Director
- The REMSA CQI Coordinator
- The REMSA Education Coordinator

Non-REMSA representations consists of the education specialist/CQI coordinator for all EMS providers and PLN's for Riverside's Base Hospitals. This is an open group and attendance is encouraged for anyone participating in CQI. It is encouraged for these members to attend at least two meetings a year, for continuity of addressing system issues.

Responsibilities of the CQILT are:

1. Prospective

1) Prepare and follow-up as appropriate for CQILT meetings.
2) Disseminate the information discussed at CQILT meetings to the represented group.
3) Maintain responsibility for monitoring, collecting data on, reporting on, and evaluating state and locally required and optional EMS System indicators from the EMS providers and hospitals within the jurisdiction of the Riverside County EMS Agency.
4) Identify and develop Riverside County EMS specific indicators for system evaluation.
5) Re-evaluate, expand upon, and improve local and state required EMS system indicators annually or as needed.
6) Prepare plans for improving the Riverside County EMS Agency's CQI program.

7) Establish a mechanism to incorporate input from EMS provider advisory groups for the development of performance improvement plan templates.
8) Recommend the chartering of Quality Task Forces and review of their reports.
9) Seek and maintain relationships with all EMS participants.

The EMS CQILT meets quarterly. With a preplanned agenda, current needs of the EMS system are evaluated using case presentations, and changes are suggested based on identified trends. Data from identified indicators are reviewed, and either continued or retired. Case presentations are de-identified for provider information to promote an open, unbiased discussion of the issues presented. All participants are required to sign a confidentiality agreement upon arrival to ensure any relevant patient information shared is protected.

For each CQILT meeting, the following agenda is utilized:

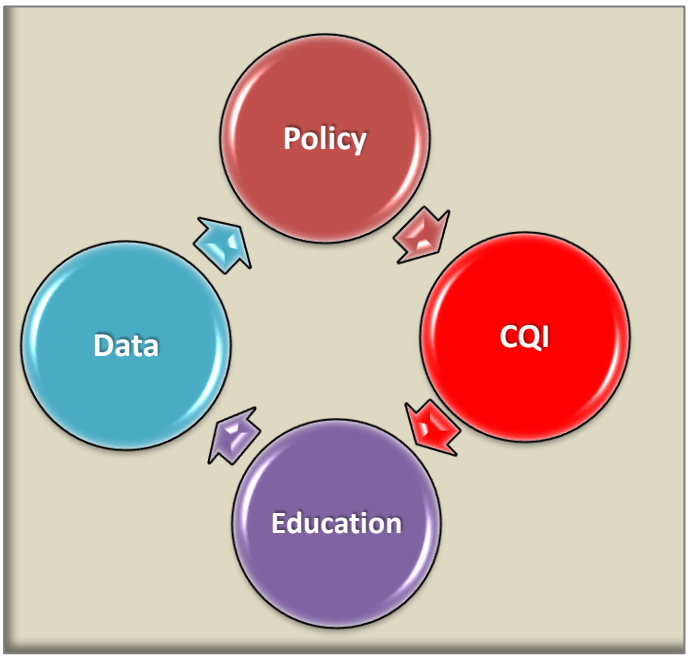
1) Introductions (5 Minutes)
2) Discuss Previous Meeting Minutes (5 min)
3) Action Items (5 Minutes)
4) Case Review/ Discussion (45 minutes)
5) System Issues (20 minutes)
6) Protocol / Policy Update (30 min)
7) Round Table (5 min)

CQI DATA UNIT

In 2018, REMSA formed a Data and Reporting Services Unit to help develop an evidence-based systematic approach to measuring CQI. This unit is staffed with a doctorate level Supervising Research Specialist with a background in biomedical science and record of peer-reviewed scientific research; a research specialist with a background in biostatistics; a research specialist with expertise in information technology and EMS administration; an EMS Specialist who is a licensed paramedic and lead administrator of the ePCR system; a part-time epidemiologist from the Riverside County Department of Public Health and rotating interns with various backgrounds including EMS, public health and epidemiology. The focus of the Data and Reporting unit is in quality and complex data analysis and reporting to help ensure reliable and unbiased data driven decision making for quality improvement, policy development, and helping determine best practices. This unit is responsible for leading ePCR system administration, building syndromic surveillance triggers to aid the Duty Officer program, developing data collection methods to systematically measure clinical objectives, and data analyses and reporting. They collect data from the ePCR system to perform ad-hoc, weekly, monthly or quarterly analysis reports of clinical care provided in the field and when available, through hospital discharge. The

goal of this unit in CQI data collection is to objectively evaluate the **structure, processes,** and **outcomes** in the delivery of care within the local EMS system.

CQI DATA COLLECTION & ANALYSES



An effective CQI plan helps drive change in policy and education, while adequate data collection and analysis can measure and monitor compliance with existing policies and education. An EMS system with a consistent patient record collection method can use ***routine*** data analysis to help monitor policy and education impact while ***targeted*** data analysis to systematically measure effectiveness of policies and education.

Measuring Quality: The ongoing challenge to measuring clinical quality and CQI in EMS using efficient data driven approaches is that the full patient encounter often has gaps. Riverside County like many other LEMSAs has a multi-agency response system where two agencies respond to a 9-1-1 medical call (fire and ambulance). This often generates two separate EMS records, with no technical link to each other or to the starting or end point records (the call and hospital outcome).

The historical method of single case reviews allows for a thorough investigation where ancillary information is gathered; but the conclusions may not, and likely cannot, represent an entire EMS system. Targeted manual case reviews will often fail in providing adequate and valid data to reliably make system level decisions simply from an inability to manually investigate enough records for proper representation of a high throughput system. So, many will look toward evidence-based approaches in developing policies and protocols, but as history has shown, methods accepted today might soon be challenged by medical science as inferior despite the original scientific scrutiny. Therefore, a quality-driven EMS system must be able to continuously evaluate its own performance to help ensure delivery of quality care to its community.

Reliable and valid measures of quality require sufficient, objective, replicate-able, data to track and monitor system trends and guide informed decision making. Integration of a unified ePCR system, various multidisciplinary stakeholder committees which provide feedback and solutions to some of these gaps, and patient registries for specialty care centers has resolved some of these obstacles for

REMSA. REMSA currently collects and shares with its stakeholders over 100 measures for various EMS programs. A current list of these measures is provided at the end of this report (Appendix B).

Standard Data Collection Method

Once agreement in protocol interpretation and implementation is established, a standard methodology for measurement can be developed. Standard methodology for data collection helps provide consistency in reporting, reliability in outcome reported, replicability, and the ability to expand analysis from a single report without regenerating a new dataset each time a new clinical question evolves. In other words, it helps develop the ability to compare "apples to apples" regardless of who is running the measure. While some custom elements are needed depending on the clinical questions asked, REMSA's data collection involves a core set of elements extracted each time a new clinical report is developed. Often data sets can be reused in subsequent reports increasing efficiency and reducing the likelihood of errors across repeat data extraction processes.

Standard Data Element Collection	
NEMSIS Data Element	**Description**
dAgency.03	Agency Name
eResponse.03	Response Incident Number
eResponse.04	EMS Response Number
eResponse.05	Type of Service Requested
eResponse.13	Response EMS Vehicle Unit Number
eScene.11	Scene GPS Location
eScene.17	Scene Incident City Name
eScene.19	Incident ZIP Code
eTimes.01	PSAP Call Date/Time
eTimes.02	Dispatch Notified Date/Time
eTimes.03	Unit Notified by Dispatch Date/Time
eTimes.05	Incident Unit En Route Date Time
eTimes.06	Incident Unit Arrived On Scene Date Time
eTimes.07	Incident Unit Arrived At Patient Date Time
eTimes.09	Incident Unit Left Scene Date Time
eTimes.11	Incident Patient Arrived At Destination Date Time
eTimes.12	Incident Destination Patient Transfer Of Care Date Time
eDisposition.01	Destination Name
eDisposition.09	Destination GPS Location
ePatient.15	Age
eSituation.04	Complaint
eSituation.11	Provider's Primary Impression
eSituation.12	Provider's Secondary Impression
eProcedures.03	Procedure
eNarrative.01	Patient Care Report Narrative

California EMS Authority Core Measures

REMSA uses the unified ePCR system as a single point data collection to complete California EMS Authority's (CalEMSA) annual Core Measures report. REMSA builds this report per the CORE measure manual and will maintain and be responsible for sending the required data to CalEMSA. Core Measures are periodically updated and provided on CalEMSA's website: (https://emsa.ca.gov/wp-content/uploads/sites/71/2019/08/2018_CM_Manual_Clean.pdf).

CALIFORNIA EMS SYSTEM CORE QUALITY MEASURES *(In revision for 2019)*

Measure ID	Title	Measure Name	Description/Question	Reporting Value
TRA-1	SCENE TIME FOR TRAUMA PATIENTS TRANSPORTED TO A TRAUMA CENTER	Time for trauma patients transported to a Trauma Center	What is the 90th percentile scene time, beginning at the time of patient contact until the patient arrived at a trauma center, for trauma patients, originating from a 911 response?	0:00:00
TRA-2	TRANSPORT OF SUSPECTED TRAUMA PATIENTS TO A TRAUMA CENTER	Measurement of suspected trauma patients transported to a trauma center	What percent of suspected trauma patients meeting CDC Step 1 or 2 or 3 criteria were transported to a trauma center?	0%
ACS-1	ASPIRIN ADMINISTRATION FOR CHEST PAIN/DISCOMFORT	Aspirin Administration for Chest Pain/Discomfort	What percent of patients with chest pain/discomfort were administered aspirin from EMS personnel originating from a 911 response?	0%
ACS-3	SCENE TIME FOR STEMI PATIENTS	Transport Time for STEMI Patients	For STEMI patients, what is the 90th Percentile time from EMS personnel arrival at patient side until the patient arrives at a STEMI center originating from a 911 Response?	0:00:00
ACS-4	ADVANCED HOSPITAL NOTIFICATION FOR STEMI PATIENTS	Advance Hospital Notification for STEMI Patients	What percent of STEMI patients transported by ground ambulance included an advance hospital notification or pre-arrival alert?	0%
ACS-6	TIME TO EKG	Time to EKG	For suspected STEMI patients who received aspirin by EMS personnel, what amount of time, reported at the 90th percentile, transpired from EMS personnel arrival on scene until an EKG measurement with a positive STEMI was recorded?	0:00:00
HYP-1	TREATMENT ADMINISTERED FOR HYPOGLYCEMIA	Treatment administered for hypoglycemia	What percent of patients received treatment to correct their hypoglycemia originating from a 911 response?	0%
STR-1	PREHOSPITAL SCREENING FOR SUSPECTED STROKE PATIENTS	Prehospital Screening for Suspected Stroke Patients	What percent of suspected stroke patients received a prehospital stroke screening originating from a 911 response?	0%
STR-2	GLUCOSE TESTING FOR SUSPECTED STROKE PATIENTS	Glucose Testing for Suspected Stroke patients	Patients with suspected stroke have assessment of blood glucose level originating from a 911 response	0%
STR-4	ADVANCE HOSPITAL NOTIFICATION FOR STROKE PATIENTS	Advance Hospital Notification for Stroke Patients	What percent of stroke patients transported by ground ambulance included an advance hospital notification or pre-arrival alert?	0%
PED-3	RESPIRATORY ASSESSMENT FOR PEDIATRIC PATIENTS	Respiratory Assessment for Pediatric Patients	What percent of pediatric patients with a provider primary or secondary impression of patients received a documented respiratory assessment originating from a 911 response?	0%
RST-4	911 REQUESTS FOR SERVICES THAT INCLUDE A LIGHT AND/OR SIREN RESPONSE	911 requests for services that include a lights and/or siren response	What percent of 911 requests for services that include a lights and/or siren response?	0%
RST-5	LIGHT AND/OR SIREN TRANSPORT RATE	Lights and/or Siren Transport Rate	What percent of 911 requests for services that include a lights and/or siren transport?	0%

QUALITY IMPROVEMENT PROCESS AND ACTIVITIES

Quality improvement activities utilize several approaches and models of problem solving and analysis. The method selected is dependent upon the opportunity identified and whether the issue is a corrective action or a new process. Due to its effective yet simple design, Plan-Do-Study-Act (PDSA) is a commonly employed quality improvement method to mitigate global system issues that are less complex in nature, while Lean Six Sigma models are utilized for higher complexity projects and new initiatives. Regardless of which method is used, the CQI process is cyclic and projects continue until resolution of the issue is achieved. All activities are directed by the program coordinator in collaboration with the respective advisory committee and the EMS Agency Medical Director. System QI activities may include but are not limited to:

- Data Collection and Analysis- The collection of meaningful data allows the quality team to identify frequency, upward or downward trends, gauge system efficiency, and other specific issues that are actionable.
- Case Reviews- Individual cases are a valuable source of information of the quality of patient care delivery and often uncover larger system deficiencies or ideal practices.
- Skill Maintenance and Education- It is recognized that the identification and treatment is a dynamic subject and can result in perishable assessment and judgement skills of the paramedic provider. Continuing education has been established on a recurring basis for all paramedic providers throughout the system and is embedded into the required bi-annual policy update periods. Educational content is derived from identified needs of the CQI process.
- Protocol and Procedure Review- Regular review of treatment and administrative protocols is imperative to maintain the standard of care in the treatment of EMS patients. Policy reviews are conducted at least annually and as needed using the latest national guidelines and best practices available.
- Interagency Quality Improvement Activities- Collaboration with stakeholders extends to surrounding counties with a portion of patients passing between county lines. Coordinators from each county work closely on mutual CQI projects to ensure that there is a consistent standard of care across county lines.

Root Cause Analysis (RCA) is one of the primary methods used by CQILT. All system data and information are passed through CQILT, who performs an RCA. Once completed, the issue is passed to a specific group and vice versa (Stroke System Committee, STEMI System Committee, MCI Group, HEMS, TAC, etc.) to more fully investigate the issue. Once the group has reached consensus on the issue, their recommendations are passed back to the CQILT.

Outcomes of the RCA process are:

- CQILT may request the data be included on REMSA's - System-based Clinical and Operational Performance Evaluation (SCOPE) website

- CQILT might recommend Confidential Performance Improvement Plans for issues involving a specific organization or individual. These PIPs are only used for remediation, never for disciplinary issues.

ACTION TO IMPROVE

REMSA makes a distinction between system issues ("common cause") and individual issues ("special cause"). Common cause is defined as a systemic issue where multiple providers without a planned effort are encountering a similar challenge in documentation or in delivering care. This suggests a systemic issue is at play, be it an actual system weakness or a training, resource, or policy gap. Special cause issues are those attributed to a single source, individual or agency, which encounters an issue that other providers are generally not struggling with. Data is used to identify the differences between the two. REMSA looks at the system first to identify a system event. REMSA saves the data collected on each investigation/review as a special cause could be an early herald of a common cause issue. REMSA will always look at a first event as an early herald of failure for the system.

The Riverside County EMS Agency utilizes several models for quality improvement, depending upon the issue being evaluated, and the group of people involved. Models used include, but are not limited to:

I. The Plan-Do-Study-Act (PDSA)

The PDSA model for quality improvement. The PDSA cycle is shorthand for testing a change. It is the scientific method, used for action-oriented learning. Use of PDSA cycles is a way of testing an idea by putting a change into effect on a temporary basis and learning from its potential impact. In utilizing this model, the Plan step 1 should take up the most time.

Step 1: Plan

Plan the test or observation

- State the objective
- Make predictions about what will happen and why
- Develop a plan to test the change (Who? What? When? Where?)

Step 2: Do

Try out the test on a small scale

- Carry out the test

- Document problems and unexpected observations.
- Begin analysis of the data.

Step 3: Study

Set aside time to analyze the data and study the results

- Complete the analysis of the data
- Compare the data to your predictions
- Summarize and reflect on what was learned

Step 4: Act

Refine the change, based on what was learned from the test

- Determine what modifications should be made
- Prepare a plan for the next test

II. The Analysis, Design, Develop, Implement, Evaluate (ADDIE) model

Phase I: Analysis

1) Collect job and task data
2) Compile a gross task list
3) Develop a student target population description
4) Select critical tasks
5) Analyze each critical task

Phase II: Design

6) Perform learning analyses on each selected task
7) Select training sites for each task
8) Develop behavioral objectives
9) Construct criterion-referenced tests
10) Sequence the instruction

Phase III: Development

11) Review/revise existing literature
12) Select appropriate methods and media
13) Develop all new course materials
14) Validate all new course materials
15) Develop an Instructional Management Plan

Phase IV: Implementation

16) Implement tine Instructional Management Plan
17) Conduct the Instruction

Phase V: Evaluation and Control

18) Conduct external evaluations
19) Assess data and revise the system

III. Observe, Orient, Decide, Act Loop

Stage 1: Observe

In the initial point in the loop, you should be on the look-out for new information and need to be aware of unfolding circumstances. The more information you can take in here, the more accurate your perception will be. Like an F-86 pilot with a wide field of vision, you want to capture as much incoming data as possible. The kinds of questions you need to be asking are:

- What's happening in the environment that directly affects me?
- What's happening that indirectly affects me?
- What's happening that may have residual effects later on?
- Were my predictions accurate?
- Are there any areas where predication and reality differ significantly?

Stage 2: Orient

One of the main problems with decision-making comes at the Orient stage: we all view events in a way that's filtered through our own experiences and perceptions. Boyd identified five main influences:

- Cultural traditions
- Genetic heritage
- The ability to analyze and synthesize
- Previous experience
- New information coming in

Orientation is essentially how you interpret a situation. This then leads directly to your decision. The argument here is that by becoming more aware of your perceptions, and by speeding up your ability to orient to reality, you can move through the decision loop quickly and effectively. The quicker you understand what's going on, the better. And if you can make sense of the situation and the environment around you faster than your competition, you'll have an advantage. And, it's important to remember

that you're constantly re-orienting. As new information comes in at the Observe stage, you need to process it quickly and revise your orientation accordingly.

Stage 3: Decide

Decisions are really your best guesses, based on the observations you've made and the orientation you're using. As such, they should be considered to be fluid works-in-progress. As you keep on cycling through the OODA Loop, and new suggestions keep arriving, these can trigger changes to your decisions and subsequent actions – essentially, you're learning as you continue to cycle through the steps. The results of your learning are brought in during the Orient phase, which in turn influences the rest of the decision-making process.

Stage 4: Act

The Act stage is where you implement your decision. You then cycle back to the Observe stage, as you judge the effects of your action. This is where actions influence the rest of the cycle, and it's important to keep learning from what you, and your opponents

During its quarterly or other meetings, CQILT will identify indicators that signal a need for improvement and make recommendations for chartering a Quality Task Force, if needed. The CQI Team will select members and charter the Task Force with a specific objective for improvement. The Quality Task Force may utilize any of the aforementioned QI models, or they may select a different methodology, which must be approved by the CQI Team. The CQI Team will modify or accept and implement recommendations of the Quality Task Force for Performance Improvement Plans and prepare the report for distribution to the TAG. The CQI Team will also disband the Quality Task Force at the appropriate time.

Several models for quality improvement, depending upon the issue being evaluated, and the group of people involved. Models used include, but are not limited to:

EDUCATION AND TRAINING

Training and CQI go hand in hand. As the CQI model identifies trends and quantifies issues in the EMS System, the education specialist incorporates training programs directed at correcting opportunities identified in the CQI process. One example of this is in the development of Performance Standards.

The Training and Education Coordinator in REMSA sits as the chair on CQILT. This ensures that the training component of each issue discussed in QI Committees is fully understood by the Training and Education Coordinator.

Currently, required education is provided by providers and base hospitals, and consists of:

- Basic Cardiac Life Support (BCLS)
- Advanced Cardiac Life Support (ACLS)
- Prehospital Trauma Life Support (PHTLS) or International Trauma Life Support (ITLS)
- Pediatric Advanced Life Support (PALS)
- Advanced Skills Verification Form (Appendix E)
- Basic Skills Verification Form (Appendix F)

Once a Performance Improvement Plan has been implemented, REMSA will standardize the changes within the appropriate policies and protocols. The REMSA Training Coordinator works with the Data/Policy Specialist to revise or write a policy as indicated. The new policy or revised policy is presented at the Riverside County Prehospital Medical Advisory Committee meeting for discussion and goes through the process delineated under "Clinical Care and Patient Outcome".

The Education Specialist ensures that providers submit documentation that all training requirements have been met by all EMS system participants, usually twice per year and on an as-needed basis. This is accomplished via training memos, training program development, or by train-the-trainer programs. Providers are ultimately responsible for ensuring that staff is trained to the specifications set by REMSA. The rosters and records of training are available to REMSA upon request.

Future Development

REMSA plans for two levels of training:

1) **Primary – also known as "new employee orientation".** This needs to be standardized so that all employees new to the Riverside County EMS System receive the same orientation, which will not vary from provider to provider. Paramedic accreditation will be standardized.
2) **Adaptive Competence and Expertise Program** – This will be a course run by REMSA focusing on leadership and concurrent evaluation of EMS system participants. All Field Training Officers, MICNs and preceptors will be required to take this class, which will be certified by REMSA, with a certification card and certificate presented at the completion of the course.

PERFORMANCE STANDARDS

In 2009, Riverside County EMS Agency identified the issue of standardizing how data on skills was collected by each organization. REMSA accomplished this by first identifying all skills that are performed in the field and making a risk/frequency matrix showing each skill (see Appendix D). Because "low frequency" does not have a nationally standardized definition, we obtained agreement from all EMS Stakeholders that the definition would be "average less than 20 uses annually per EMT/paramedic". "High Risk" skills were defined as, "improper technique can cause harm to the patient." Next, REMSA focused on the development of the Performance Standards for all skills in the "Low Frequency, High Risk" category. This process took 2 years to complete, and in 2010, the Performance Standards were added to the Riverside County Protocol Manual.

Next, REMSA worked with the educators in Riverside County to separate all Performance Standards into specific modules, which would be adhered to by all organizations. This allows all EMTs, paramedics, and MICNs to attend any skills module offered by any organization, secure in the knowledge that they would obtain the same skills and the same training no matter where they took the skills labs. Beginning April 1, 2014 and outlined in REMSA policy 1302, (https://www.remsa.us/policy/1302) all paramedics and MICNs will be required to attend a skills lab covering all of the Performance Standards, and to present a Skills Verification Form (Appendix E & F), signed by a designated Skills Verifier, in order to reaccredit/reauthorize in Riverside County. It was important for MICNs to attend these skills labs as well as paramedics for two reasons, although many of the skills are not in the nursing scope of practice. First, it gives all MICNs a uniform experience working with many prehospital personnel, something that is not possible by requiring ride-alongs. Secondly, it was felt that the MICNs need to understand how difficult some of the skills are to perform when they order the skills on actual calls.

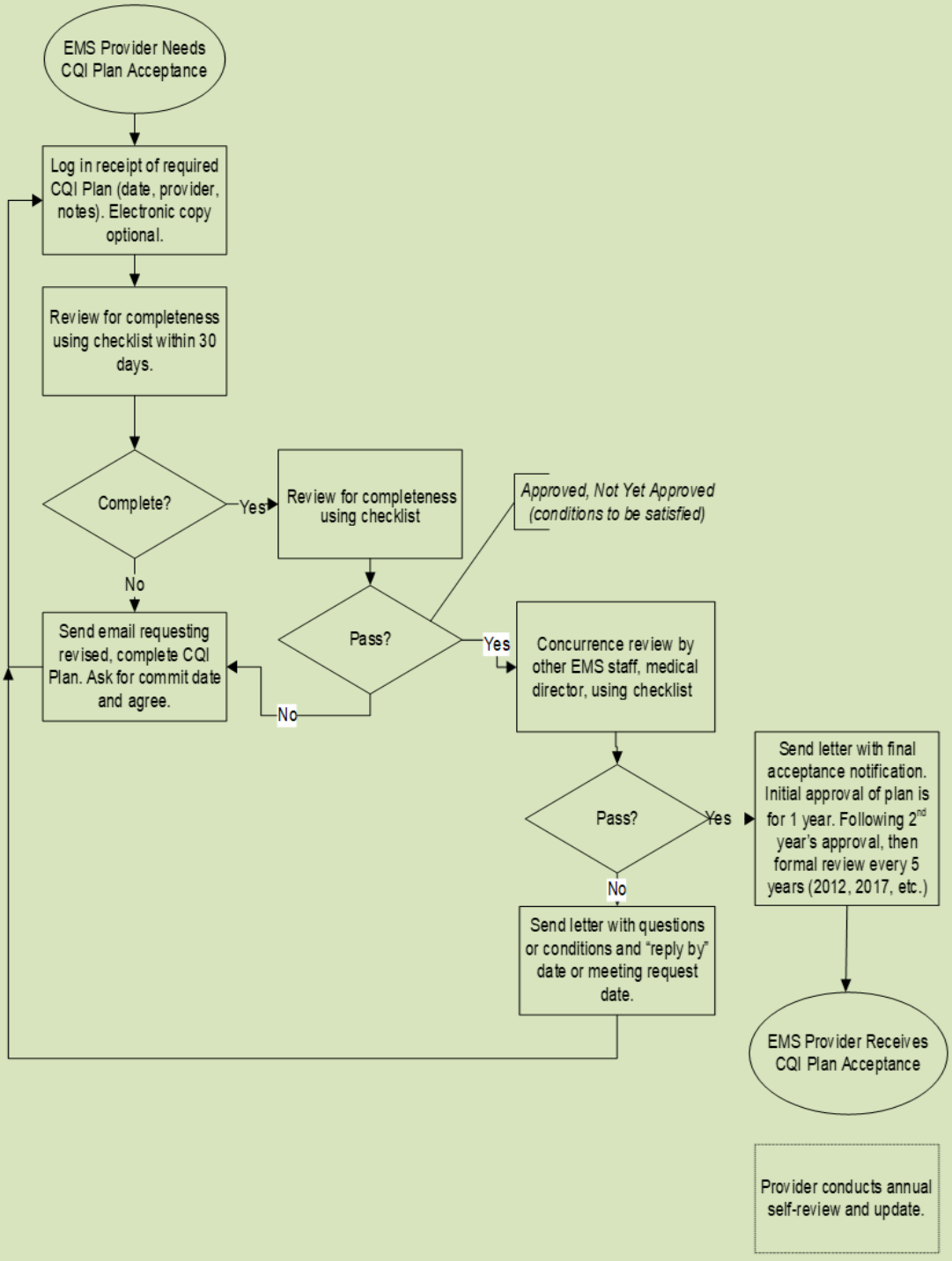
ANNUAL UPDATE

The Annual Update is a written account of the progress of an organization's activities as stated in the EMS CQI Plan. An EMS Specialist in the Riverside County EMS Agency is responsible for annually updating the EMS Plan, in alignment with current EMS strategic goals. The CQI Coordinator will do an initial review of the CQI plan, identifying what did and did not work. The CQI Coordinator will work in conjunction with the EMS Specialist responsible for updating the EMS Plan to ensure that both the CQI Plan and the EMS Plan are focusing on the same objectives. Once both the CQI Plan and the EMS Plan have been reviewed in this fashion, the CQI Coordinator will present his/her findings to the CQI Team. This information will be presented with the following information:

- Indicators Monitored
- Key Findings/Priority Issues Identified
- Improvement Action Plan/Plans for Further Action
- Were Goals Met?
- Is Follow-up Needed?

As part of the annual update, the CQI Coordinator, the internal CQI team, and the CQILT group will offer recommendations for changes needed in the CQI plan for the coming year, including priority improvement goals/objectives, indicators monitored, improvement plans, how well goals/objectives were met, and whether follow-up is needed. Provider agencies will submit a plan update which will be added to their current plan annually. REMSA will submit a current CQI plan to the State EMS Authority every five (5) years.

Riverside County EMS CQI Plan Review Process



Appendix B- Current Riverside County EMS Agency CQI Measures/Indicators

Category	Measure Name	Frequency	Output/ Format	Source	*Brief Methodology*
Stroke	Confirmed stroke cases transported via EMS to stroke centers	Quarterly	Number, Percentage	Patient Registry/Hospitals	*Patient inclusion criteria are those who were transported via EMS 9-1-1 units to stroke centers, and confirmed by the stroke center hospitals as positive stroke cases*
	Volume of walk-in stroke cases	Quarterly	Number	Patient Registry/Hospitals	*Confirmed stroke cases who arrived by non-EMS methods*
	tPA Administration to stroke patients	Quarterly	Percentage	Patient Registry/Hospitals	*Patient inclusion criteria are those who were transported via EMS 9-1-1 units to stroke centers, and confirmed by the stroke center hospitals as positive stroke cases*
	Survival of stroke patients	Quarterly	Percentage	Patient Registry/Hospitals	
	Cases by age and gender	Quarterly	Numbers, Categories	Patient Registry/Hospitals	
	Outcomes upon discharge of hospital	Quarterly	Numbers, Categories	Patient Registry/Hospitals	
	Final coded diagnosis of stroke patients	Quarterly	Percentages, Categories	Patient Registry/Hospitals	
	Final coded diagnosis of expired patients	Quarterly	Percentages, Categories	Patient Registry/Hospitals	
	EMS identification of stroke patients, confirmed by hospitals	Quarterly	Percentages, Categories	ImageTrend Elite/Hospitals	
	Documentation of Last well known time	Quarterly	Number, Percentage	ImageTrend Elite	*Response type "9-1-1 Response" AND "Stroke/CVA" identified in Primary or Secondary impression OR "Positive " Final stroke scale . Data is based on Approximate patient level*
	Documentation of Symptom onset date	Quarterly	Number, Percentage	ImageTrend Elite	
	Documentation of Family contact phone number	Quarterly	Number, Percentage	ImageTrend Elite	
	mLAPSS Documentation	Quarterly	Number, Percentage	ImageTrend Elite	
	Blood Glucose documentation	Quarterly	Number, Percentage	ImageTrend Elite	
	Documented Stroke center pre-notification	Quarterly	Number, Percentage	ImageTrend Elite	
	Average and Median Scene time	Quarterly	HH:MM:SS	ImageTrend Elite	
	Scene time <=10min	Quarterly	Number, Percentage	ImageTrend Elite	
	Transports to Stroke center	Quarterly	Number, Percentage	ImageTrend Elite	
	Transports to Stroke center when final	Quarterly	Number, Percentage	ImageTrend Elite	

	Stroke score= "Positive".				
	Dispatch complaint vs final EMS patient acuity	Quarterly	Numbers, Categories	ImageTrend Elite	
	Hotspot analysis of stroke case origination	Quarterly	Map	ImageTrend Elite	*Using kernel density in ArcMap for hotspot identification*
STEMI	Number of hospital-confirmed EMS-Transported STEMI Cases in Riverside County	Quarterly	Number	Patient Registry/Hospitals	*Patients confirmed as having suffered pre-hospital ST-elevation Myocardial Infarctions, and transported via 9-1-1 EMS ambulances.*
	Survival Rate of STEMI Patients	Quarterly	Percentage	Patient Registry/Hospitals	
	Cardiologist Activation Prior to Patient Arrival to ED	Quarterly	Number, Percentage	Patient Registry/Hospitals	
	Cath. Lab Outcomes	Quarterly	Numbers, Categories	Patient Registry/Hospitals	
	Survival by Age Group	Quarterly	Numbers, Categories	Patient Registry/Hospitals	
	Cases by Gender and Age Group	Quarterly	Numbers, Categories	Patient Registry/Hospitals	
	Door-to-Balloon Average Time	Quarterly	Minutes	Patient Registry/Hospitals	
	EMS-to-Balloon Average, Median Time	Quarterly	Minutes	Patient Registry/Hospitals	
	Scene Time Average	Quarterly	Minutes	ImageTrend Elite	
	Scene Time Median	Quarterly	Minutes	ImageTrend Elite	
	Scene Time 90th Percentile	Quarterly	HH:MM:SS	ImageTrend Elite	
	Scene time <=10min	Quarterly	Percentage	ImageTrend Elite	
	Nitro administration with any systolic BP less than 90	Quarterly	Number, Percentage	ImageTrend Elite	*Data is based on "9-1-1 response" and medication administered contains "Nitroglycerin, Nitroglycerin paste"*
	STEMI Grid documentation	Quarterly	Number, Percentage	ImageTrend Elite	*This data is based on "9-1-1 Responses". Primary OR secondary impression based on "Chest pain-Suspected Cardiac" OR "STEMI" . Data is based approximately at the patient level rather than responses, to avoid double-counting.*
	Documentation of 12 lead ECG	Quarterly	Number, Percentage	ImageTrend Elite	
	Transmission of 12 lead ECG	Quarterly	Number, Percentage	ImageTrend Elite	
	STEMI Pre-arrival Notification	Quarterly	Number, Percentage	ImageTrend Elite	
	Aspirin Administration	Quarterly	Number, Percentage	ImageTrend Elite	
	Transport to STEMI center	Quarterly	Number, Percentage	ImageTrend Elite	

	Transport to STEMI center when STEMI probable="Yes"	Quarterly	Number, Percentage	ImageTrend Elite	
	Hotspot analysis of STEMI case origination	Quarterly	Map	ImageTrend Elite	*Using kernel density in ArcMap for hotspot identification*
Trauma	Average and Median Age for Traumatic cardiac arrest patients	Quarterly	Number	ImageTrend Elite	*"9-1-1 Response", "Cardiac arrest during EMS event=Yes", Cardiac arrest Etiology="Trauma"*
	Patients in Age group	Quarterly	Number, Percentage	ImageTrend Elite	
	Distribution of patients by ambulance zone	Quarterly	Number, Percentage	ImageTrend Elite	
	Injury mechanism of traumatic cardiac arrest patients	Quarterly	Number, Percentage	ImageTrend Elite	
	Odometer reading for the transportation	Quarterly	Number	ImageTrend Elite	
	Transports to Trauma and Noon-Trauma center	Quarterly	Number, Percentage	ImageTrend Elite	
	Base hospital contact by disposition	Quarterly	Number, Percentage	ImageTrend Elite	
	Average Patient contact time (ertimes.07-etimes.03)	Quarterly	HH:MM:SS	ImageTrend Elite	
	Average Scene time (etimes.09-etimes.07)	Quarterly	HH:MM:SS	ImageTrend Elite	
	Average First CPR to Determination of death, when Disposition is "Dead at Scene" (earrest15-earrest19)	Quarterly	HH:MM:SS	ImageTrend Elite	
	Average First CPR to transport	Quarterly	HH:MM:SS	ImageTrend Elite	
	Average Patient contact to Transport time when Disposition is "Patient treated and transported" (etimes11-etimes07)	Quarterly	HH:MM:SS	ImageTrend Elite	
	Average Patient contact to determination of death when disposition is" Dead" (earerst15-etimes07)	Quarterly	HH:MM:SS	ImageTrend Elite	
	Hotspot analysis of case origination	Quarterly	Map	ImageTrend Elite	*Using kernel density in ArcMap for hotspot identification*
CQILT	Administration of Epinephrine 1:100,000	Quarterly	Number, Percentage	ImageTrend Elite	*"9-1-1 response" emedications.03= Epinephrine 1:100,000* *Initial BP is based on agency who administered Epi first and Final BP is based on Transporting agency*
	Administration of Saline when patient receive Epinephine 1:100,000	Quarterly	Number, Percentage	ImageTrend Elite	

	Average and Median Initial , Final BP for patients received Epinephrine 1:100,000	Quarterly	Number	ImageTrend Elite	*Primary Impression is based on Agency who first administered Epi .*
	Primary impression of patient received Epinephrine 1:100,000	Quarterly	Number	ImageTrend Elite	
	ROSC in Total cardiac arrest patients	Once	Number, Percentage	ImageTrend Elite	*9-1-1 Response", "Cardiac arrest during EMS event is not blank ", Primary or Secondary impression "Cardiac arrest"*
	Cardiac arrst during EMS event for Total cardiac patients	Once	Number, Percentage	ImageTrend Elite	
	Transports and Non-transports for Total cardiac patients	Once	Number, Percentage	ImageTrend Elite	
	Disposition by Age group for Total cardiac arrest patients	Once	Number, Percentage	ImageTrend Elite	
	ROSC in Medical cardiac arrest patients	Quarterly	Number, Percentage	ImageTrend Elite	*9-1-1 Response", "Cardiac arrest during EMS event is not blank ", Primary or Secondary impression "Cardiac arrest" Cardiac arrest Etiology is not equal to Trauma*
	Cardiac arrest during EMS event for Medical cardiac patients	Quarterly	Number, Percentage	ImageTrend Elite	
	Transports and Non-transports for Medical cardiac patients	Quarterly	Number, Percentage	ImageTrend Elite	
	Disposition by Age group for Medical cardiac arrest patients	Quarterly	Number, Percentage	ImageTrend Elite	
PMAC	Usage of King ,Orotracheal Intubation and both	once	Number, Percentage	ImageTrend Elite	*"9-1-1 Responses" Only and eprocedures.03 = "King Airway" or "Orotracheal Intubation".*
	Successful procedure at the last usage of Intubation method	once	Number, Percentage	ImageTrend Elite	
	Patient response for the usage of Intubation method	once	Number, Percentage	ImageTrend Elite	
	Documentation of cardiac arrest in Primary and Secondary impression	once	Number, Percentage	ImageTrend Elite	
	Pre-Hospital Disposition of Patients received either King or Orotracheal Intubation	once	Number, Percentage	ImageTrend Elite	
	CARES Disposition for Patients received either King or Orotracheal Intubation	once	Number, Percentage	CARES	

	CARES NeurologicalOutcome - Discharge Alive for Patients received either King or Orotracheal Intubation	once	Number,Percentage	CARES	
	Documented complication for the usage of King or Orotracheal Intubation	once	Number	ImageTrend Elite	
	Primary Impression documented othan tha cardiac arrest for the usage of King or Orotracheal Intubation	once	Number	ImageTrend Elite	
System	EMS ePCRs Generated	Monthly	Number	ImageTrend Elite	*9-1-1 provider agencies' data is pulled for count of ePCRs generated during the prior month. Non-9-1-1 calls are excluded*
	9-1-1 Ambulance Responses	Monthly	Number	ImageTrend Elite	
	9-1-1 Ambulance Transports	Monthly	Percentage		
	Average minutes between unit dispatched to patient arrived at hospital ED	Monthly	Minutes	ImageTrend Elite	*"9-1-1 Responses" only, and from transport units only*
	Top 25 EMS-Identified Primary Impressions, Transport Paramedics Only	Monthly	Numbers	ImageTrend Elite	
	Average minutes between unit PSAP call to unit arrived at patient	Monthly	Minutes	ImageTrend Elite	*"9-1-1 Responses" only, ALS Units*
	Chief complaint organ systems	Monthly	Percentages	ImageTrend Elite	
	Emergency Medical Dispatch (EMD) Determinant Code Distribution	Annually	Percentages	ImageTrend Elite	*"9-1-1 Responses" only*
HEMS	Number of Helicopter EMS Cases	Annually	Number	ImageTrend Elite	
	Primary Reasons for HEMS Utilization	Annually	Numbers, Category	ImageTrend Elite	
	HEMS Volume by Provider	Annually	Numbers, Percentages	ImageTrend Elite	*"9-1-1 Responses" only*
	HEMS Cases by Destinations	Annually	Numbers	ImageTrend Elite	
	Hotspot analysis of case origination	Quarterly	Map	ImageTrend Elite	*Using kernel density in ArcMap for hotspot identification*
Credentialing	Total Number of Active EMS Certifications in the system	Monthly	Number	License Management	*All EMTs, Paramedics, MICNs, and RNs*

				System (ImageTrend)	
	Active EMS Certifications Breakdown	Monthly	Numbers, Percentages	License Management System (ImageTrend)	
	Certifications Processed Monthly	Monthly	Numbers	License Management System (ImageTrend)	
APOD	Ambulance Patient Offload Delays (APOD)	Weekly, Monthly	Number	ImageTrend Elite	*Includes all 9-1-1 transports. If the transfer of care and patient offloading from the ambulance gurney exceeds the 30-minute standard, it will be documented and tracked as APOD. The Time interval between the arrival of an ambulance patient at an ED and the time the patient is transferred to the ED gurney, bed, chair, or other acceptable location and the emergency department assumes the responsibility for care of the patient.[1] The Clock Start (eTimes.11) is the time of patient arrival at the destination (hospital), and the Clock Stop (eTimes.12) is time the care of the patient is transferred.[2] REMSA obtains both times from the ePCR.*
	Ambulance Patient Offload Time (APOT)	Weekly, Monthly	HH:MM:SS	ImageTrend Elite	
	APOD standards compliance by hospital	Weekly, Monthly	Percentage	ImageTrend Elite	
	APOT-1 90th Percentile of Offloads	Monthly	Minutes	ImageTrend Elite	
	Emergency Treatment Services APOT	Monthly	Minutes	ImageTrend Elite	*Only patients transported to ETS*
ILI	EMS Transports to Emergency Departments for Influenza-Like-Illnesses (ILI)	Weekly	Number	ImageTrend Elite	*Based on primary or secondary impression of code J11 (Influenza due to unidentified influenza virus) OR 2. A primary / secondary impression code J80, J98.09 (Acute respiratory distress syndrome, Respiratory disorder unspecified) with a match in the narrative for ILI, influenza like illness, Flu, Flu-, Flu\., or influenza OR 3. Any incident with a match in the narrative for ILI, influenza like illness, Flu, Flu-, Flu\., or influenza.*
	Analysis of ILI case origination	Weekly	Map	FirstWatch	*Esri integration to FirstWatch of ILI origins*
Heat-Related	EMS responses for heat-related illnesses	Seasonally weekly	Number	ImageTrend Elite	*Primary or Secondary Impression as "Heatstroke" or "Sunstroke" OR Injury related to "Excessive Natural Heat".*
	Analysis of heat-related case origination	Seasonally weekly	Map	FirstWatch	*Esri integration to FirstWatch of case origins*
WIC 5150	WIC-5150 Impact report: Total responses	Annually	Number, Percentage	ImageTrend Elite	*Inclusion of ePCRs with the terms "5150", "51/50", "51-50", "Psych Hold", or "5585" (minor code for 5150) in the Patient Care Report Narrative (eNarrative.01) or Situation Primary Complaint Statement*
	WIC-5150 cases in Riverside City, transported via EMS	Annually	Numbers, Categories	ImageTrend Elite	

	Cases by acuity levels	Annually	Numbers, Categories	ImageTrend Elite	*(eSituation04) .• Exclusion of records where on-scene time was equal to zero*
	Cases by time of day	Annually	Numbers, Categories	ImageTrend Elite	
	Cases by age and gender	Annually	Numbers, Categories	ImageTrend Elite	
	Cases per city in Riverside County	Annually	Numbers, Categories	ImageTrend Elite	
	Hotspot analysis of case origination	Annually	Map	ImageTrend Elite	*Using kernel density in ArcMap for hotspot identification*

Appendix C- Plan, Do, Check, Act Worksheet

Quality Improvement Worksheet Directions

Plan-Do-Check-Act: A Systematic Problem Solving Process will be utilized to address improvement plans. This matrix should be used in conjunction with the quality improvement worksheet.

PLAN **Step 1:** Identify the Problem	• Select the problem to be analyzed • Clearly define the problem and establish a precise problem statement • Set a measurable goal for the problem solving effort • Assemble and involve the necessary team members • Establish a process for coordinating improvement team actions
PLAN **Step 2:** Analyze the Problem for root cause of variation from the expected outcome	• Identify the processes that impact the problem (known as effectors) • List the steps in the process as it currently exists • Map the Process • Validate the map of the process • Collect and analyze data related to the problem • Identify root causes of the variation • Verify or revise the original problem statement • Collect additional data if needed to verify root causes
DO **Step 3:** Develop Solutions	• Establish criteria for selecting a solution based upon the target benchmark or standard • Generate potential solutions that will address the root causes of the problem • Select solutions and success validation metrics • Plan the solution in the form of an action plan • Implement the action plan
CHECK **Step 4:** Evaluate the results	• Gather data on the solution • Analyze the data on the solution
Achieved the Desired Goal?	• If **YES**, go to **Step 5.** • If **NO**, go back to **Step 1**
ACT **Step 5:** Standardize the Solution	• Identify systemic changes and training needs for sustained success • Adopt the solution as an operating practice • Plan ongoing monitoring of the solution = validation metrics • Continue to look for incremental improvements to refine the process

Appendix D- CQI Risk/Frequency Skill Matrix

Riverside County Continuous Quality Improvement Program
Risk/Frequency Skill Matrix

Definitions:

High Risk Skills – Improper technique can cause harm to the patient. Low Frequency – average less than 20 uses annually per EMT/paramedic

Category I Skills

Low Frequency/High Risk

- Adult Endotracheal Intubation
- Use of BLS Airway Adjuncts
- Positive Pressure Ventilation BVM
- Laryngoscopy with Foreign Body Removal
- Needle Thoracostomy
- Transcutaneous Pacing
- Synchronized Cardioversion
- Post Intubation ETT Confirmation and Monitoring
- Calculating and Preparing Drug Dosages
- Defibrillation
- Gum Elastic Bougie
- Rescue Airway
- Tourniquets
- Restraints
- Pediatric Patient Assessment
- Nerve Agency Antidote Kits (Mark I, Duo Dote)

Category II Skills High

Frequency/High Risk

- Scene Management
- Emergency Vehicle Operation
- Lifting, loading and moving of patients
- Control of External Hemorrhage
- ECG Interpretation
- Administration of IV Medications

Category IV Skills Low

Frequency/Low Risk

- Administration of Intranasal Medications
- CPR
- Capnography on spontaneous breathing patients
- Intraosseous Therapy
- Childbirth

Category III Skills High

Frequency/Low Risk

- Patient Assessment
- Intravenous Therapy
- Patient Care Documentation
- Simple Splinting and Bandaging
- Venous blood Sampling
- Administration of IM Medications
- Administration of Aerosolized Medications
- Use of Pulse Oximeter
- Use of Glucometer
- Obtain Vital Signs
- Patient Positioning
- CPAP

Appendix E- ALS Skills Competency Verification Form

ALS Skills Competency Verification Form

1a. Name as shown on Paramedic License/MICN authorization #	1b. Certificate Number
1c. Signature of person demonstrating competency	1d. Certifying Authority

Skill	Verification of Competency	
1. BLS Airway Adjuncts	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
2. Laryngoscopy and Magill Forceps	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
3. Positive Pressure Ventilation	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
4. Adult Orotracheal Intubation	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
5. Pediatric Orotracheal Intubation	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
6. Rescue Airway Insertion	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
7. Post ETI Confirmation and Monitoring	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
8. Needle Thoracostomy	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
9. Transcutaneous Cardiac Pacing	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
10. Synchronized Cardioversion	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
11. Continuous Positive Airway Pres. (CPAP)	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:
12. Defibrillation	Affiliation	Date
Signature of person verifying competency	Print Name	Certification/License/Authorization Number:

Appendix F- EMT Skills Competency Verification Form

State of California
EMT Skills Competency Verification Form
EMSA – SCV (01/17)

See attached for instructions for completion

This section is to be filled out by the EMT whose skills are being verified:
I certify that I have performed the below listed skills before an approved verifier and have been found competent to perform these skills in the field.

Name as shown on California EMT Certificate	EMT Certificate Number	Signature

This section is to be filled out by an approved Verifier (see instructions for information on approved Verifiers).
By filling out this section the Verifier certifies that they have, through direct observation, verified that the above EMT is competent in the skills below.

Skill Verified	Verifiers Information	
1. Trauma Assessment (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
2. Medical Assessment (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
3. Bag-Valve-Mask Ventilation (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
4. Oxygen Administration (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
5. Cardiac Arrest Management w/ AED (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
6. Hemorrhage Control & Shock Management (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
7. Spinal Motion Restriction- Supine & Seated (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
8. Penetrating Chest Injury (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
9. Epinephrine & Naloxone Administration (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:
10. Childbirth & Neonatal Resuscitation (Signature of Verification)	Name of Verifier:	Date of Verification:
	Approval to Verify from:	Cert./License Info. of Verifier:

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