Los Angeles County
Emergency Medical Services Agency
Quality Improvement Plan
2021-2022

I. Introduction

Los Angeles County EMS Agency Mission Statement

To advance the health of our communities by ensuring quality emergency and disaster medical services

The Los Angeles County (LAC) Emergency Medical Services (EMS) Agency is responsible for monitoring and implementing regulatory oversight over for one of the largest multijurisdictional EMS systems in the nation. The LAC system utilizes more than 18,000 certified EMS personnel employed by public and private organizations, fire departments, ambulance companies, hospitals, and law enforcement agencies to provide emergency and non-emergency prehospital care to over 10 million residents and visitors.

LAC requires a comprehensive quality improvement (QI) program to provide ongoing system evaluation to maintain quality in day-to-day operations while implementing process improvement strategies to advance patient care delivery that are consistent with best practices and evidence-based medicine. The QI plan provides the written framework for the QI program.

Our system utilizes a multidisciplinary collaborative approach to drive improvement. It is educational, not punitive by design to encourage the exchange of information to enhance patient safety and minimize adverse events. Quality patient care delivery is sustained through ongoing evaluation, timely system feedback and education, in addition to, providing opportunities to acknowledge performance excellence within the system.

The EMS Agency and QI program supports the California EMS Authority (EMSA) in the development, implementation, and reporting of statewide core measures.

The LAC EMS QI plan is written in accordance with the California Code of Regulations, Title 22, Division 9, Chapter 12: *Emergency Medical Services System Quality Improvement* and is consistent with the State of California *Emergency Medical Services System Quality Improvement Program Model Guidelines* and *EMSA 166, Appendix E, EMS Core Quality Measures.*

II. Structure and Organizational Description

A. Organizational Chart –dhs.lacounty.gov/emergency-medical-services-agency/home/who-we-are/organizational-chart/

B. QI Structure – The LAC EMS Agency QI Program utilizes an integrated process that incorporates all EMS system stakeholders to develop, implement, and support QI activities. The committees described below are the structure that supports the QI Program.

1. **EMS Agency QI Team** – The EMS QI Team is the guiding body for EMS QI Program activities. The EMS Agency QI Team meetings are convened as needed to support the QI system needs. Members include, but are not limited to, the following representatives:

   EMS Agency Medical Director
   EMS Agency Director
   EMS Agency Assistant Medical Director
   EMS Agency Nursing Director
   EMS Agency Assistant Director
   EMS Agency Director, Education and Innovation
   EMS System QI Manager
   Chief Prehospital Operations
   Chief Hospital Programs
   Chief Data Management
   Additional EMS Agency staff, when needed

   Responsibilities of the EMS Agency QI Team include the following:
   - Cooperate with EMSA in carrying out the responsibilities of the EMS QI Program in accordance with the Quality Improvement Program Model Guidelines and EMS Core Quality Measures.
   - Collaborate with EMSA in the development and implementation of statewide EMS performance indicators.
   - Maintain and support local QI/Advisory committees to incorporate input from EMS system participants for the development, implementation, evaluation, and monitoring on local and statewide measures.
   - Facilitate and support the development of training and educational programs as they relate to action plans and other QI activities.
   - Convene and facilitate research collaborative committees to assist with evaluating performance and developing strategies to improve regionalized specialty care programs.
   - Make recommendations for the development and revision of the LAC EMS Agency policies and Treatment Protocols that are consistent with best practices and evidence-based medicine.
   - Serve as a resource to support QI among all programs and EMS community stakeholder groups.
   - Publish an annual data report and provide ongoing reports to the EMS community.
   - Review and update the LAC EMS QI Program as needed.

2. **Base Hospital / 9-1-1 Provider Agency QI Committee**
   Meetings are held quarterly; members include, but are not limited to:

   EMS Agency Medical Director
   EMS Agency Director or Nursing Director
   EMS Agency Assistant Medical Director
   EMS Agency Director, Education and Innovation
   EMS Agency EMS System QI Manager
   Chief Prehospital Operations
   Designated EMS Agency staff
   Prehospital Care Coordinators from each Base Hospital
   Paramedic Coordinator and /or Fire Department Nurse Educator from each 9-1-1 Provider Agency
   Ad hoc members/representatives:
      Pediatric Liaison Nurse from EDAP
      Air Operations Provider Agency
      Emergency Medical Dispatch
      Private (non-911) Provider Agency QI Committee

3. **Private Non 9-1-1 Provider Agency QI Committee**
   Meetings are held every four months; members include, but are not limited to:

   EMS Agency Medical Director or Assistant Medical Director
   EMS Agency Director or Nursing Director
   EMS Agency Director, Education and Innovation
   EMS Agency EMS System QI Manager
   Chief Prehospital Operations
   Designated EMS Agency staff
   Non 9-1-1 BLS/ALS provider agencies
   Ad hoc members/representatives:
      Approved paramedic training programs
      Approved EMT training programs
      Specialty Care Transport provider
      9-1-1 Provider Agency
      Emergency Medical Dispatch

4. **Trauma Hospital Advisory Committee (THAC) - QI Sub-Committee**
   THAC meetings are held every other month to address trauma care in LAC. For QI meeting purposes, THAC QI is divided into three sub-committees each covering a region of the county. The QI sub-committees meet quarterly and report back to THAC. Members include, but are not limited to:

   EMS Agency Medical Director
   EMS Agency Director and/or Assistant Director
   EMS Agency Assistant Medical Director
   EMS Agency Director, Education and Innovation
   EMS Agency Trauma Program Manager and designated staff
   Trauma Medical Director (surgeon) from each designated Trauma Center
   Trauma Center Program Manager (RN) from each designated Trauma Center
   TAG members, as needed

5. **Medical Advisory Council (MAC)**
   MAC Meetings are held quarterly to assist the EMS Agency Medical Director in carrying out regulatory responsibilities, provide recommendations on written treatment guidelines, policies and procedures that are consistent with best practices and evidence-base medicine. Members include, but are not limited to:

   EMS Agency Medical Director
   EMS Agency Director and/or Nursing Director
   EMS Agency Assistant Medical Director
   EMS Agency Director, Education and Innovation
   Paramedic Training Institute Medical Director
   EMS Agency Physician Specialist(s)
   EMS Agency EMS System QI Manager
   Chief Prehospital Operations
   Designated EMS Agency staff
   Medical Directors from each Base Hospital
   Medical Directors from each Provider Agency
   Representatives:
   Trauma Hospital physician
   Association Prehospital Care Coordinators
   9-1-1- Receiving Hospital physician

6. **ST Elevation Myocardial Infarction (STEMI) Receiving Center (SRC) Advisory Committee**
   SRC/ROSC program QI meetings are divided into four regions. Meetings are held biannually, at a minimum, to maintain and improve program quality appropriate to the SRC system. Members include, but are not limited to:

   EMS Agency Medical Director
   EMS Agency Director/Assistant Director
   EMS Agency Assistant Medical Director
   Paramedic Training Institute Medical Director
   EMS Agency SRC Program Manager
   Chief Hospital Programs
   Designated EMS Agency staff
   Medical Director from each SRC
   9-1-1 Provider Agency Paramedic

7. **Stroke Center Advisory/QI Committee**
   Stroke program meetings are held biannually, at minimum, to maintain and improve quality of stroke care delivery. The EMS Agency implemented Comprehensive Stroke Center (CSC) designation in early 2018. CSC hospital designation includes Thrombectomy Capable Stroke Centers (TSC) and CSCs. Members include, but are not limited to:

   EMS Agency Medical Director
   EMS Agency Director/Nursing Director
   EMS Agency Assistant Medical Director
   EMS Agency Physician Specialist

EMS Agency Stroke Program Coordinator
Chief Hospital Programs
Designated EMS Agency Staff
Medical Directors from each designated stroke center
Stroke Coordinators from each designated stroke center

8. **Pediatric Advisory Committee (PedAC)**
The PedAC meets quarterly to provide expert oversight and address QI needs specific to pediatric patients. Members include, but are not limited to:

EMS Agency Medical Director
EMS Agency Director/Nursing Director
EMS Agency Assistant Medical Director
EMS Agency Pediatric Physician Specialist
EMS Agency EDAP Program Manager
Chief Hospital Programs
Designated EMS Agency staff
Pediatric Liaison Nurse from each region
Emergency Department Approved for Pediatrics (EDAP) Medical Director from each EDAP region
Pediatric Medical Center (PMC) Medical Director from each PMC region
PMC Coordinator from each PMC
Medical Director and a Program Manager from a Pediatric Trauma Center

9. **Data Collaborative/Research Collaborative**
The data collaborative workgroup members include physician specialists, program medical directors and managers, designated program representatives, and other subject matter experts as needed. The primary purpose is to utilize the EMS Agency data to evaluate, provide recommendations, and develop quality initiatives to improve the delivery of care within our local regional programs and support EMS research through publication. The current Data Collaborative/Research Collaborative include STEMI, Stroke, Trauma, and Pediatric. dhs.lacounty.gov/emergency-medical-services-agency/home/resources-ems/ems-system-publications/

10. **EMS Commission Advisory Committees**
The advisory committee meetings are held every other month. Each advisory committee's membership represents the constituent groups as outlined in the EMS Commission bylaws. The EMS Commission Advisory Committee membership includes the following:

Base Hospital Advisory Committee (BHAC)
Provider Agency Advisory Committee (PAAC)

11. **Innovation, Technology and Advancement Committee (ITAC)**
ITAC is designed to evaluate innovative technologies and provide recommendations to the EMS Agency Medical Director and Director regarding implementation and oversight on new or novel products, pharmacological interventions, and equipment. ITAC recommendations are shared with EMS system stakeholders and published on the EMS Agency website.

Link to Ref. No. 205, ITAC Policy
file.lacounty.gov/SDSInter/dhs/1055023_205-ITACommittee.pdf
Link to Ref. No. 205, ITAC Recommendations
file.lacounty.gov/SDSInter/dhs/1063374_205.1-ITACRecommendations.pdf

Meetings will be held quarterly or as directed by the Chair; members include, but are not limited to:

EMS Agency Director of Education and Innovation
Medical Advisory Council, (3) Physician Representatives
PAAC Representative/Alternate
BHAC Representative/Alternate
PedAC Representative/Alternate
Primary Training Program, Paramedic and EMT
EMS Agency staff
Subject matter experts, as needed

III. Data Management

A. Data Collection

The EMS Agency obtains information through a variety of methods that include the following: electronic data exchange, hard copy review, internal and external customer surveys, and program reviews (audits). Data collection is primarily conducted via the Trauma and Emergency Medicine Information System (TEMIS), Lancet Technology Innovative Data Solutions by ESO. The TEMIS database assists the EMS Agency in evaluating, monitoring, and coordinating all EMS system components, as well as meet state data collection requirements.

All public 9-1-1 and Exclusive Operating Area provider agencies utilize an electronic patient care record (ePCR) platform. Paramedic base hospitals and trauma centers utilizing paper PCR capture the required data elements using an approved electronic platform andstandard paper forms (EMS Report Form, Base Hospital Form and Trauma Patient Summary Form). All paramedic base hospitals and trauma centers conduct data entry on site. The data is uploaded automatically to a dedicated File Transfer Protocol (FTP) site every 24 hours. Many of the private (non-911) private provider agencies have transitioned from paper to an ePCR with the remainder utilizing paper PCR.

Other mechanisms by which the EMS Agency obtains data include direct data input to the LA STEMI and LA Stroke databases by the designated SRC and stroke hospitals. Stroke data is also downloaded from the *Get With The Guidelines (GWTG)* Patient Management Tool. Helicopter EMS (HEMS) data is submitted to the EMS Agency on a quarterly basis from the three HEMS providers in LA County. The EMS Agency continues to work on the process of incorporating the STEMI, Stroke and HEMS data into TEMIS. Systemwide data collection on hospital diversion, bed availability, and surge capacity are collected via ReddiNet.

The Public Safety Agency Data Registry allows public safety agencies approved for naloxone administration to enter data directly into the data registry. Each public safety agency may utilize the data registry to generate reports on their own agency to assist in the quality improvement process required for program approval. The EMS Agency oversees the data and is able to provide aggregate system reports.

B. **Data Validation**

Data submitted to the EMS Agency databases undergoes an extensive data quality review and clean up through the following mechanisms:

1. EMS provider agencies utilizing electronic data collection are required to validate their data using the EMS Agency's published EMS Data Validator before submission to the FTP site. The EMS Agency conducts a secondary validation before final upload to TEMIS. Data that fails validation is rejected and sent back to the EMS Provider for correction.

2. Annual data audits are conducted by the EMS Agency for each EMS Provider Agency. A corrective action plan is required for data elements that fall below a 90% compliance rate for accuracy and completeness.

3. Data clean up reports are generated by the EMS Agency on a quarterly basis for Paramedic Base Hospitals and Trauma Centers. In general, a corrective action plan is required for data elements that fall below a 90% compliance rate for accuracy and completeness.

4. Documentation reports are routinely developed and disseminated in the quality improvement committees for evaluation and education on the application of the data dictionary and data standards to improve reliability.

C. **Data Submission**

1. The EMS Agency ensures timely data collection and submission from base and trauma hospitals through written agreements.

2. Data collection requirements for other specialty care centers are prescribed in the specific specialty care center Standards and local policies.

3. EMS provider agency data collection requirements are governed by local policies. Submission of required data to the EMS Agency is highly dependent upon organizational resources (method of data collection/ ePCR vendor) and size (personnel/volume of EMS responses). The EMS Agency has established policies and procedures specific to submission of ePCR data. However, provider agencies can experience vendor-related problems that can cause significant delays in data submission. The EMS Agency and EMS community continue to work together on improving

data collection and submission as the system transitions to the CEMSIS data requirements.

4. The LA County Trauma Center Programs participate in the American College of Surgeons Trauma Quality Improvement Program (TQIP) and are members of the LA County TQIP Collaborative. Collaborative system-level TQIP reports allow us to compare our system performance to national results and impart opportunities for systemwide QI projects.
5. EMS providers may be required to submit self-reported data utilizing Excel spreadsheets for the following reasons:
    a. Non-911 (interfacility) transports are not entered into TEMIS.
    b. Base hospitals and public 911 provider agencies may be required to submit self-reported data on prospective QI projects when the required data cannot be accessed through the EMS Agency databases.
    c. Provider agencies approved for pilot projects utilizing an expanded local optional scope of practice requiring data submission not captured in the EMS Agency databases.
    d. The EMS Agency began systemwide participation in the Cardiac Arrest Registry to Enhance Survival (CARES) in January 2021. The EMS Agency enters the required data for the system with the exception of 3 provider agencies who directly enter their data into CARES.

D. **Data Utilization**

1. The EMS Agency utilizes the TEMIS, LA STEMI, LA Stroke, and GWTG databases for both statewide core measures and local system reports. The local reports are utilized for daily operations such as performance and contract monitoring, system audits, policy revision, and QI activities. The databases are also used to provide the information needed to analyze the potential impact of hospital diversions and closures.
2. Self-reported data utilizing Excel spreadsheets for private non-9-1-1 provider agency and when needed, 9-1-1 provider agency QI activities aimed at evaluating performance and ensuring safety when implementing new medications, treatment and/or devices into the system.
3. The Public Safety Data Registry was implemented in May 2020 to allow for public safety agencies with approved naloxone programs to enter their data. Each agency can only view and download reports on their data. The EMS Agency anticipates expanding the registry in the future to collect additional data regarding other field care provided by public safety personnel (i.e., tourniquet application and AED).

E. Limitations

1. Separate Databases: The existence of multiple databases is not ideal for timely reporting. Multiple data entry and data abstraction are conducted on the same patient. Data analysis is resource-intensive when data elements are found in the various databases.

2. Multiple System Participants: Data validation and transmission is complex due to multiple electronic PCR software applications. Changes to the reporting standards often require additional time and expense.

3. Data Quality: Current methods of data capture require extensive data audits. Cleanup is needed to ensure valid and reliable data.

IV. Quality Measures

A. Utilization of Provider Impression/Treatment Protocols

The EMS Public 9-1-1 Provider Agency and Base Hospital QI Committee assisted the EMS Agency in systemwide evaluation if the high-risk Treatment Protocols (TP) and Provider Impressions (PI) from 2020 through 2022 utilizing Reference No. 1375 as the standard for determining fallouts. The TPs and PIs will continue to be evaluated as part of the QI process using a combination of the EMS Agency databases and self-reported data to ensure appropriate utilization. Link to Reference No. 1375, MCG: Treatment Protocol QI Fallout Data Dictionary: file.lacounty.gov/SDSInter/dhs/1040527_1373-TPQIFalloutDataDictionary.pdf

B. Ambulance Patient Offload Time (APOT)

The EMS Agency continues to work with the system participants to collect data using the standardize methods for collecting and reporting APOT data adopted by the EMS Authority. The APOT workgroup met quarterly to assist the EMS Agency in policy development to reduce 9-1-1 patient offload time. Members include representatives from the following organizations: Hospital Association of Southern California, Los Angeles County Ambulance Association, Emergency Nurses Association, Los Angeles County Professional Fire Fighter's union, public (9-1-1) and private (non-911) provider agencies, and base hospitals. Additionally, the non-911 provider agencies collect and submit APOT data to the EMS Agency on interfacility (non-911) transports to the emergency department and in-patient hospital in an effort to track and improve time to transfer of care.

C. EMSA Core Quality Measures

The EMS Agency historically has participated in statewide data submission to CEMSIS and continues to actively participate in statewide data collection through the submission of core measure data outlined in EMSA #166 – Appendix E. To ensure reliable and valid data, the EMS Agency updates the data dictionary and provide training/feedback to EMS personnel on documentation of the core measure

data elements with the exception of ambulance response times by zones. The LAC EMS system is not designed to collect data by zones. Alternatively, systemwide ambulance response times are collected and reported. Data is available upon request.

D. **Pediatric Readiness Project – LA Peds Ready**

The National Pediatric Readiness Project (NPRP) is a multi-phase quality improvement initiative to ensure all emergency departments have the essential resources in place to provide effective emergency care to sick and injured children. The NPRP is partnership with the federal EMS for Children program, American Academy of Pediatrics, American College of Emergency Physicians, and Emergency Nurses Association. lapedsready.org was developed to assist the Los Angeles County emergency departments with access to the NPRP assessment tools, resources, and on-line educational activities designed to improve the delivery of pediatric emergency care in our system. Participation in the NPRP assessment has been added to the Los Angeles County EDAP standards.

E. **COVID-19**

Early 2020 the EMS Agency implemented Reference No.1245, Potential COVID-19 Patients and Reference No. 845, Treat and Refer for Mild Respiratory Illness during the COVID-19 outbreak to guide treatment and transport decisions during the emerging pandemic. This required a change in our system performance indicators to evaluate the delivery of care for potential COVID-19 patients. A dedicated webpage was established to facilitate timely access to current information on COVID-19 related hospital and prehospital data, PPE distribution, and educational resources. Additionally, the EMS Agency implemented weekly Zoom conference calls led by the Medical Director to provide the EMS community with updated information on clinical and operational processes that impact the delivery of prehospital care. In 2021 as the rate of hospitalizations and critical illness declined, the weekly calls moved to ad hoc based on COVID surges and community needs. Link to COVID-19 Resources and Updates: dhs.lacounty.gov/emergency-medical-services-agency/home/ce11/

F. Local Performance Indicators

Category	Reporting Frequency	Indicator Summary	Method of Collection	EMS Agency Section Responsible
Personnel	Continuous	Number of Emergency Medical Technician (EMT) certifications that result in disciplinary action, ongoing tracking for variance	Prehospital Emergency Personnel System Information (PEPSI)	Certification and Program Approvals

Category	Reporting Frequency	Indicator Summary	Method of Collection	EMS Agency Section Responsible
Documentation	Continuous	Number of base hospitals compliant with mandatory data fields documented Link to Base Hospital Documentation Manual	Base Hospital TEMIS DB	Hospital Programs/ Data Management
	Quarterly & Annually	Average time to 1st epinephrine for PI CANT / non-shockable rhythms	TEMIS EMS DB	Prehospital Care Operations/ System QI
		Average time to 1st defibrillation for PI CANT / shockable rhythms	May also utilize self-reported data	
		Average time to midazolam for pediatric PI SEAC	-	
		Percentage of documentation of epinephrine given prior to base contact or ordered by the base hospital	Base Hospital TEMIS DB	
Clinical Care and Patient Outcomes	Quarterly & Annually	Percentage of time from STEMI Referral Center door to PCI at the SRC for STEMI- identified patients < 120 min	STEMI/SRC DB	SRC/ROSC Program

Category	Reporting Frequency	Indicator Summary	Method of Collection	EMS Agency Section Responsible
Clinical Care and Patient Outcomes	Quarterly & Annually	Percentage of out-of-hospital cardiac arrest transported to the STEMI Receiving Center - % to cath-lab - % received PCI	STEMI/SRC DB	SRC/ROSC Program
		Percentage of suspected stroke patients transported to the Primary Stroke Center and Comprehensive Stroke Center	Stoke DB	Stroke Program
		Percentage of ischemic strokes patients received thrombolytic and endovascular care		
		Average time to 1st defibration for PI = CANT shockable rhythms	TEMIS EMS DB	Prehospital Care Operations /System QI
		Average time to first midazolam for PI = SEAC patients 14 years or younger		
		Percentage of LAMS and glucose documented for PI = STRK		
		Percentage of oxygen utilized for PI = TRMA blunt head injury with GCS $\leq$ 14		
		Average field time for penetrating head, chest or abdomen with SBP < 100 and GCS <15		
		Percentage of documented pain score for PI = TRMA, adult with GCS = 15		

Category	Reporting Frequency	Indicator Summary	Method of Collection	EMS Agency Section Responsible
Skills Competency	Biannual	Utilization of Provider Impressions	EMS and TEMIS DB	Prehospital Operations/ System QI
Transportation/ Facilities	Annually	Number of patients transported to the trauma center - % penetrating injury - % blunt injury	Trauma and TEMIS DBs	Data Management
Public Education andPrevention	Annually	Percentage of cardiac arrest 9-1-1 responses that receive bystander CPR Number of citizens trained during the annualSideWalk “hands-only” CPR Program (Due to the pandemic, SideWalk CPR was virtual)	CARES TEMIS EMS DB	Data Management Prehospital Care Operations/ System QI
Risk Management	Quarterly	Percentage of compliance with Ref. 834, “treat and release” on scene by public 9-1-1 provider agencies (future) Percentage of 9-1-1 calls not transported and 9-1-1 EMS re-contacted within 24-48 hours (future)	TEMIS EMS DB *Self-reported	Prehospital Care Operations/ System QI

***Self-reported utilizing a standardized reporting method**

V. Prehospital Research

Research provides an evidence base to support prehospital medical treatments and interventions. The EMS Agency actively supports prehospital research through the Research Data Collaboratives. Link to EMS System Publications: dhs.lacounty.gov/emergency-medical-services-agency/home/resources-ems/ems-system-publications/

VI. Evaluation of System Indicators

A. The System EMS QI Coordinator and designated staff prepare reports on system performance indicators to be utilized by the QI Team, advisory committees (Medical Advisory Council, Base Hospital Advisory, and Provider Agency Advisory) and specialty care committees (STEMI, stroke, trauma, pediatric) to ensure systemwide evaluation.

B. Under the direction of the EMS Agency Medical Director, the EMS Agency QI Team will analyze system reports generated by each EMS Agency section responsible for collecting and reporting on current performance indicators, including the EMSA Core Measures.

C. Presentations on performance indicators will be prepared in the most appropriate format to allow for ease of interpretation of data. Formats most commonly utilized include line charts, bar graphs, flowcharts, and data tables.

VII. Action to Improve

A. The EMS Agency, under the direction of the Los Angeles County Department of Health Services, utilizes the FOCUS PDSA model for performance improvement.

1. **F**ind a process to improve; improvement needs are identified by the EMS Agency QI Team in collaboration with the TAG, QI and Advisory groups.
2. **O**rganize the process utilizing the team most familiar with the process related to the system process identified.
3. **C**larify current knowledge of the process by collecting information and reviewing current trends.

4. **U**nderstand capabilities and causes for variations in processes by utilizing brainstorming techniques and fishbone diagrams or flowcharts.
5. **S**elect a strategy or process for improvement that will most likely reduce or eliminate the causes for variation in performance.
6. **P**lan, determine objectives and develop plan in agreement with system participants.
7. **D**o, carry out the action according to established plan.
8. **S**tudy findings, the EMS QI Team with system input will analyze the findings, compare with hypothesis, and prepare a summary for a trend report.
9. **A**ct on findings, the EMS QI Team in collaboration with the TAG, QI and Advisory groups will determine performance improvement needs. A Quality Task Force may be chartered if needed, to carry out specific performance improvement plans.

VIII. Training and Education

A. The effectiveness of the QI process is related to the efficacy of training and educational activities. Due the size and complexity of our system, training and education is accomplished through a variety of mechanisms:

1. **Quality Improvement Committees/Advisory Meetings**
   Information needed for improving local system and statewide performance is disseminated to committee members for training and education of providers responsible for direct patient care.

2. **EMS Update**
   Under the direction of Dr. Denise Whitfield, the EMS Agency staff, Paramedic Training Institute, and system stakeholders develop and implement the mandatory annual EMS Update that address educational and training needs related to performance improvement. The format was changed to an on-line training utilizing a learningmanagement system 2020.

3. **EMS Data Report**
   The EMS Agency publishes an annual data report that provides valuable feedback to the EMS community and citizens of Los Angeles on system demographics and performance.

4. EMERGIPRESS

   The Emergi-Press is a web-based EMS educational forum located on the EMS Agency website as well as an educational program for providers and stakeholders to integrate into their learning management systems with the ability for EMS personnel to earn continuing education credit. Educational material includes, ECG of the month video learning modules, and cases from the field and is developed quarterly. Additionally, the Emergi-Press utilizes Updates from the Medical Director to communicate pertinent information regarding system issues. Link to present and past EmergiPress: dhs.lacounty.gov/emergency-medical-services-agency/emergi-press/

B. The EMS Agency QI Team and other advisory groups review policies and procedures to ensure consistency with the EMSA and LAC EMS QI plan.

C. Once a performance improvement plan has been successfully implemented, the EMS Agency will post all policies and system updates to its website to allow timely access by all EMS participants.

VIII. **Update/Summary**

The QI plan was updated to reflect the changes in our plan and performance measures. CY 2020-2021 required the EMS Agency to focus efforts on evaluating COVID-19 related Provider Impressions, utilization of Treatment Protocol Reference No. 1245,Potential COVID-19 Patient (updated in 2022), Reference No.834, Patient Refusal of Treatment or Transport, and Reference No. 845, Treat and Refer for Mild Respiratory Illness During the COVID-19 Outbreak. A multidisciplinary task force was convened in 2022 to review and revise Reference No. 834 guidelines to assist EMS personnel in determining who can be safely released on scene, in addition to, identifying high-risk patients who require transport. The QI plan is submitted to EMSA for review and published on the EMS Agency website for review by the EMS participants and system stakeholders.

Indicators Monitored	Findings/Issues Identified	Action Needed	Responsible Entity
Percentage of EMT certifications that result in disciplinary action	Number of EMT certifications that result in disciplinary action annually. See LAC EMS Plan for report.	Continue to monitor for variance	Office of Certification and Accreditation
Number of 91-1 provider agencies compliant with documentation of mandatory data fields **Number of base hospitals compliant with documentationof mandatory data fields**	In addition to the mandatory fields, the EMS Agency continues to work with the base hospitals and provider agencies on core measure data documentation through education, ongoing programs reviews and data audits. Data available upon request	Continue to monitor and provide feedback	Hospital and Prehospital Programs/Data Management

Percentage of adult and pediatric TP compliance by 9-1-1 provider agencies and base hospitals **Starting Q2 2020 COVID - 19 PIs of concern and TP 1245 Utilization / Compliance** **Aggregate TEMIS data reports - PIs of concern for potential COVID patients**	Excel spreadsheets were utilized to collect data on compliance for all of the Treatment Protocols (TP); however, the data collection and analytics were too labor-intensive to evaluate all at the same time. A QI sub-committee was convened in December 2019 to develop a new strategy for evaluating the new high-risk TPs. One quarter of 2020 data was collected. Due to the pandemic, March 2020, the metrics were changed to evaluating the PIs of concern and utilization of TP, 1245, Potential COVID-19 Patients. Excel spreadsheets were utilized for self-reported data collection. Data available upon request Weekly data reports were distributed and discussed during the COVID-19 conference calls with the EMS community	Moved to evaluating TP and PI of concern Moved to ad hoc reporting during COVID-19 surges	Prehospital Operations/ System QI Data Management
90th percentile for time from STEMI Referral Center door to PCI at the SRC for STEMI-identified patients < 120 minutes	Ongoing collaboration with system partners to reduce STEMI Referral Center door-in door-out. Data available upon request	Continue to monitor and provide feedback to system partners	SRC/ROSC Program
Percentage of suspected stroke patients transported to Primary and Comprehensive Stroke Centers	Data available upon request	Continue to monitor, plan to add evaluation of LAMS and stroke destination	Stroke Program
Utilization of Provider Impressions: WEAK, FEVR, SEPS, CANT, ANPH, RDOT, Pediatric SEAC & SEPI	Systemwide mandatory education was implemented in EMS Update 2021, in addition to, specific individual provider agency education based on 1st Q 2020 data. Data available upon request.	2021 CY data demonstrated thresholds for improvement were met.	Prehospital Operations/ System QI

Volume of patients transported by 9-1-1 from acute care hospitals by PI	Data available upon request	Continue to monitor	Data Management
Number of citizens trained during the annual SideWalk "hands-only" CPR Program	The SideWalk "Hands-Only" CPR video was developed and distributed to EMS partners. The video was available on our website. Limitation: the EMS Agency was only able to track YouTube viewings. Many EMS partners distributed the video through other social media platforms that could not be tracked.	Virtual hands-only CPR training continued in 2021-22	Prehospital Operations/ System QI