ICEMA

Quality Improvement Plan

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INTRODUCTION

In 1991, the California Emergency Medical Services Authority (EMSA) promulgated legislation which mandated that local Emergency Medical Services (EMS) agencies establish a system-wide quality assurance program. This legislation requires Advanced Life Support (ALS) service providers and base stations to develop and implement a quality assurance program approved by Inland County Emergency Medical Agency (ICEMA).

On January 1, 2006, EMSA implemented regulations related to quality improvement for EMS throughout the State. ICEMA's Continuous Quality Improvement Program (CQIP) satisfies the requirements of Title 22, Chapter 12, Section 4 of the California Code of Regulations.

Continuous Quality Improvement (CQI) is an ongoing process in which all levels of health care are encouraged to team together, without fear of management repercussion, to develop and enhance the EMS system. Based on EMS community collaboration and a shared commitment to excellence, CQI reveals potential areas for improvement of the EMS system, training opportunities, highlights outstanding clinical performance, audits compliance of treatment protocols and allows the review of specific illnesses or injuries and their associated treatments. This program contributes to the continued success of our emergency medical services system through a systematic process of review, analysis and improvement.

CQI implements the principles of quality improvement by defining standards, monitoring the standards and evaluating their effectiveness. It places increased emphasis on the processes of care and service rather than on the performance of individuals. It also emphasizes the role of leadership in continuous quality improvement rather than only on solving identified problems and maintaining improvement over time.

The by-product of the program is the alliance of municipal agencies and private providers that offer EMS within the ICEMA region. This provides all participants the opportunity to provide optimal service and to provide input and support to an EMS system in which they have ownership.

The ICEMA CQIP has been written in accordance with the Emergency Medical Services System Quality Improvement Program Model Guidelines #166 (Rev. 03/04).

PURPOSE

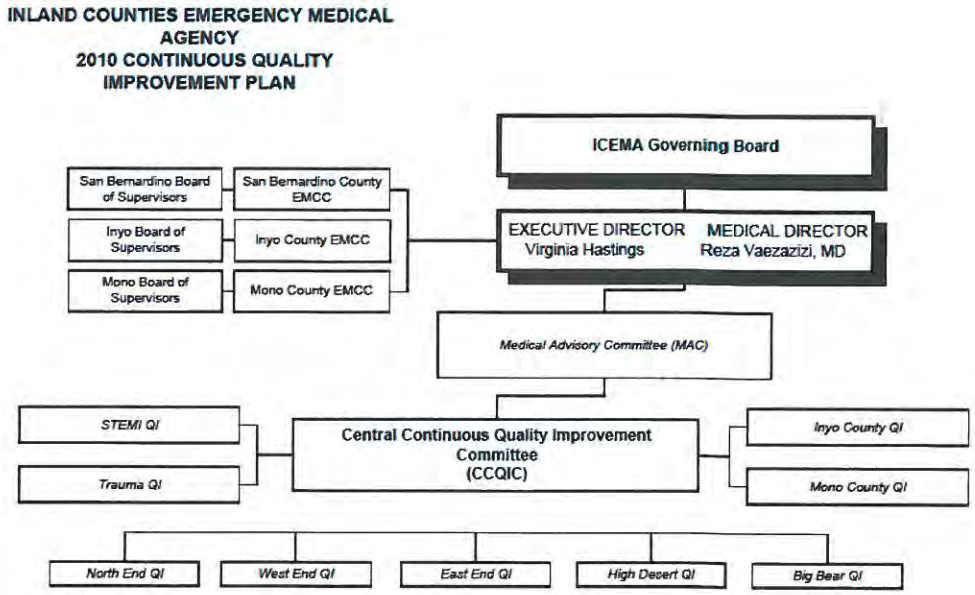
The purpose of the ICEMA CQIP is to establish a system-wide process and provide an effective tool for evaluating and improving the quality of prehospital care within the ICEMA region. This tool will focus on improvement efforts to identify root causes of problems and interventions to eliminate or reduce those problems. While striving to improve the system, the CQIP will also recognize excellence in performance and service to the stakeholders.

SECTION I - STRUCTURE & ORGANIZATIONAL DESCRIPTION

I. ORGANIZATION

ICEMA is a three county Emergency Medical Services Agency serving the counties of San Bernardino, Inyo, and Mono counties. The three counties largely provide advanced life support and basic life support services.

A. Organizational Chart



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B. Mission Statements

ICEMA

ICEMA is tasked with ensuring an effective system of quality patient care and coordinated emergency medical response by planning, implementing and evaluating an effective EMS system including prehospital providers and specialty care hospitals.

CQI

The CQI mission is to promote the highest level of quality in prehospital care within the ICEMA region by providing CQI, education, monitoring tools and anticipatory planning.

C. Goals of the Continuous Quality Improvement Program

1. Empower EMS providers to provide consistently the highest quality of emergency medical care in the ICEMA region.

2. Provide leadership and guidance in promoting quality in the local EMS system with the cooperation of EMS providers in an educational and non-punitive environment.

3. Develop leadership to create an acceptance and belief in quality improvement and educate provider management regarding the importance of the commitment to quality improvement.

4. Provide leadership in developing programs that implement the CQI process by providing examples of high quality training and educational resources.

5. Develop and provide an atmosphere of encouragement and support that promotes excellence and personal accountability to provider personnel in all levels of management and field staff.

6. Create constancy in the CQI process to maximize efficiency and effectiveness in each EMS provider organization.

7. Promote rapid and appropriate quality treatment of all patients regardless of economic or social status in the quickest and most efficient manner possible.

8. Evaluate the benefits of new programs and procedures to provide "State of the Art" health care within the ICEMA region.

9. Provide a conduit for communication between EMS providers and other agencies to positively resolve issues in addition to providing education and encouraging growth within the EMS system.

II. STRUCTURE

A. ICEMA CQI Team

1. ICEMA is responsible for the oversight and implementation of the regional CQIP, data collection and evaluation of the EMS system in the region.

2. ICEMA CQI Team will function with direction and under the auspices of the Medical Director and Executive Director. This team shall include an educational coordinator, QI Coordinator, data analyst, ICEMA Medical Director and Executive Director.

B. ICEMA's Duties

Shall include but not be limited to:

1. Serve as the central repository of data gathered from CQI activities.

2. Provide an annual review of the CQIP for compatibility to the system and update, if needed.

3. Facilitate a performance improvement action plan with the cooperation of the appropriate EMS providers when the CQIP recognizes a need for improvement. EMS system clinical issues will require ICEMA Medical Director involvement.

4. Provide information to EMS provider advisory groups to assist in the development of performance improvement plans.

5. Work in conjunction with the EMSA to:

   - Participate in the EMSA Technical Advisory Group.
   - Assist with the responsibilities of the state-wide CQIP.
   - Assist in development, approval and implementation of State required and optional EMS system indicators.

6. Provide monitoring, data collection, reporting and evaluation of EMS system indicators from EMS providers and hospitals in the ICEMA region.

7. Identify and develop specific indicators for system evaluation based on the unique needs of the ICEMA region.

8. Annually review, expand on and improve State and local EMS system indicators as needed.

9. Provide opportunities for review of QI indicators and performance improvement plans by designated EMS providers.

10. Provide technical assistance, training and in-service education to all organizations participating in the ICEMA CQIP.

11. Provide an annual summary of activity and CQIP implementation. The summary will be provided annually to the EMSA and should include but not limited to a summary of QI indicators.

C. Description of Committees

1. Medical Advisory Committee

The Medical Advisory Committee (MAC) will function under the direction of the ICEMA Medical Director. The ICEMA Medical Director shall serve as chair and may appoint an alternate chair in his absence. The members shall have education and experience in EMS systems and regional prehospital care. This committee meets quarterly. The members shall be multidisciplinary and include the following:

- Base Station Physician
  - Trauma Base Physicians (2 representatives)
  - Non Trauma Base Physicians (2 representatives)
- Non Base Station Physician
- Public Transport Medical Director
- Private Transport Medical Director
- Fire Department Medical Director
- Ambulance Association Representative
- EMS Nurses Representative
- EMS Officers Representative
- Inyo County Representative
- Mono County Representative

2. Central Continuous Quality Improvement Committee

The Central Continuous Quality Improvement Committee (CCQIC) will function under the direction of the ICEMA Medical Director and Executive Director. The members shall have education and experience in evaluation of EMS data systems and EMS QI program management. The members will participate in monitoring and evaluating the CQIP. This committee meets quarterly. The members shall be multidisciplinary and include the following:

- ICEMA Medical Director
- ICEMA Executive Director
- ICEMA Representative(s)
  - CQI Program Coordinator

- Educational Coordinator
- Data Program Coordinator

- Regional Continuous QI Committee Members (7, one from each committee)
- EMS Service Provider Medical Director (2)
  (one public and one private provider representative)
- Base Station Medical Director (2)
  (one Trauma Center and one non-Trauma Center)
- EMS Provider QI Program Coordinator (2)
  (one public and one private provider representative)
- Paramedic Training Program Representative (2)
  - Crafton Community College
  - Victor Valley Community College
- Base Station Nurse Coordinator (2)
  (one Trauma Center Paramedic Liaison Nurse (PLN) and one non-Trauma Center PLN)
- Nurse from a non-base STEMI Center
- Representatives from 9-1-1 receiving facilities emergency department representatives (2)
  (Non Base Station)
- EMT and EMT-P Representative
  Certified/licensed personnel accredited within ICEMA (2)
  (one public and one private provider representative)

3. Regional Continuous Quality Improvement Committees

Due to the size of the ICEMA region, QI Committees are regionalized under the umbrella of the CCQIC. The Regional CQI Committees (RCQIC) function under the direction of the ICEMA Medical Director and Executive Director. The members shall have education and experience in the evaluation of EMS data system and CQIP management. The members will participate in monitoring the process as it unfolds within the system. These committees meet monthly. The members shall be multidisciplinary and include the following established committees:

- West End CQI Committee
- East End CQI Committee
- North End CQI Committee
- Big Bear CQI Committee
- Hi Desert CQI Committee (Joshua Tree/29 Palms)
- Inyo County CQI Committee
- Mono County CQI Committee

4. STEMI CQI Committee

The STEMI CQI Committee (STCQIC) functions under the direction of the ICEMA Medical Director and Executive Director. The members will have education and experience in the evaluation of Cardiovascular QI program management. The members will participate in ongoing monitoring and evaluation of the ICEMA STEMI program as it unfolds in the system. This committee meets quarterly. The members shall be multidisciplinary and include the following:

- ICEMA Medical Director
- ICEMA Executive Director
- ICEMA Representative(s)
  - STEMI CQIP Coordinator
  - Educational Coordinator
  - Data Program Coordinator
- STEMI Center Medical Director(s)
  (One from each facility either ED Director or Cath Lab Director, or their designee)
- Base Station Medical Director (2)
  (one STEMI center and one non-STEMI center)
- EMS Provider CQI Program Coordinator (2)
  (one public and one private provider representative)
- Base Station Nurse Coordinator (2)
  (one STEMI center PLN and one non-STEMI center PLN)
- Representatives from local receiving facilities emergency department physicians (2)
  (Non STEMI center)
- Representative Advanced Life Support (ALS) Providers
  Certified/licensed personnel accredited within ICEMA (2)
  (one public and one private provider representative)
- Cath Lab Nursing Directors or designee

5. Trauma System Advisory Committee

The Trauma System Advisory Committee (TSAC) monitors trauma related care and system related issues, including air utilization. TSAC also serves as the prehospital and hospital medical care and system advisory committee. This committee meets quarterly.

TSAC functions under the direction of the ICEMA Medical Director and Executive Director. TSAC members will have education and experience in the management and evaluation of the Trauma QIP. The members will participate in ongoing monitoring and evaluation of the Trauma QIP. The members shall be multidisciplinary and include the following:

- ICEMA Medical Director
- ICEMA Executive Director

- ICEMA Representative(s)
  - Trauma Coordinator
  - Educational Coordinator
  - Data Program Coordinator
- Trauma Center Medical Director(s)
  (one from each trauma center)
- Pediatric Trauma Attending(s)
  (one from each trauma center)
- Base Station Medical Director (2)
  (one from a trauma center and one from a non-trauma center)
- Non-Trauma Center Emergency Department Physicians
  (with an interest in trauma care)
- Trauma Center Coordinator (2)
  - ARMC
  - LLUMC (Adult)
  - LLUMC (Pediatric)
- Trauma Center PLNs
  (one from each trauma center)
- EMS CQI Program Coordinators
- Prehospital Personnel
  - Fire Chief's Association Representative
  - Ambulance Representative
  - Air Rescue Representative
  - Coroner or Representative

6. Trauma and Air Audit Committee

ICEMA participates in a joint San Bernardino County and Riverside County Quality Improvement committee called Trauma and Air Audit Committee (TAAC). TAAC is a closed, regional QI committee addressing multi-county system and medical issues. This committee meets quarterly. The TAAC committee is comprised of representatives from both San Bernardino and Riverside Counties:

- Riverside EMS Agency Representatives
- ICEMA Representatives
- Medical Directors (ED/Trauma and non-trauma hospital)
- Nurse Managers (ED/Trauma and non-trauma hospital)
- Trauma Hospital Paramedic Liaison Nurses (PLNs)

D. Term of Committee Memberships

Term of Membership shall be two (2) years expiring December 31 and subsequent new terms shall begin January 1. The terms shall be staggered so that no more than two-thirds of the membership shall expire in any one-year period. A member whose term has expired shall continue to serve until a new appointment is confirmed. Members may be reappointed.

E. Attendance

1. Members will notify ICEMA in advance of any scheduled meeting they will be unable to attend.

2. At the discretion of ICEMA, other individuals may participate in the meetings when their expertise is essential to make appropriate determinations.

3. The absence of a committee member from two (2) consecutive meetings of the committee shall be cause for the Chairman to contact the committee member to discuss participation in the meetings. Whenever a committee member fails to attend two (2) consecutive meetings or three (3) total meetings in a calendar year, without good cause, the Chairman shall discuss with the committee and recommend the members removal from the committee.

4. Resignation from the committees must be submitted, in writing, to ICEMA, and is effective upon receipt, unless otherwise specified.

F. Chairperson

The ICEMA Medical Director shall serve as chair of the CCQIC. Other committees will allow nominations and voting for a Chairperson and a Co-Chairperson. The term of elected members will be for two (2) years.

G. Voting

Due to the advisory nature of these committees, many issues will require input rather than a vote process. Vote process issues will be identified as such by the Chairperson. When voting is required, a simple majority of the members present will constitute a quorum. The chair will break any tie vote.

H. Alternate Members

Alternate members may serve as a representative of an appointed member in the event that an appointed member is unable to attend scheduled meetings due to conflict in scheduling and/or illness. The appointed member must designate in writing the alternate member to serve in his/her absence. The written notice must be submitted to and approved by ICEMA at least five (5) working days prior to a scheduled meeting. Alternate members shall not be utilized on a regular basis.

I. Minutes

Minutes will be kept by a designee from ICEMA and distributed to the members prior to each meeting. Due to the potential need for confidentiality, certain documents may be collected by the ICEMA staff at the close of each meeting and no copies may be made or processed by members of the committee without written consent from ICEMA.

J. Responsibilities

1. If a representative is unable to attend a meeting, he or she is responsible to appoint an alternate for attendance and representation as mentioned above under "Alternate Members".

2. Disseminate non-confidential information, as appropriate, and discuss at meetings to the represented groups.

3. Determine indicators for system evaluation based on EMS QI indicators and identify and develop other indicators as deemed necessary.

4. Re-evaluate and improve locally developed EMS system indicators annually or as needed.

5. Establish a mechanism to incorporate input from EMS provider advisory groups for the development of performance improvement CQIP templates.

6. Recommend the chartering of RCIQCs and review of their reports.

7. Seek and maintain relationships with all EMS participants including, but not limited to:

   - State EMSA
   - Other Local EMS Agencies (LEMSAs)
   - EMS Service Providers
   - Local Departments of Public Health
   - Specialty Care Centers
   - Law Enforcement
   - Public Safety Answering Points (PSAPs)
   - Dispatch Centers
   - Constituent Groups

K. Confidentiality

All proceedings, documents and discussion of the committees are confidential and are covered under Sections 1040, 1157.5, and 1157.7 of the Evidence Code of the State of California. The prohibition relating to the discovery of testimony provided to the committees shall be applicable to all proceedings and records of this group, which is established by a local government agency as a professional standards review organization. This organization is designed in a manner which makes available professional competence to monitor, evaluate, and report on the necessity, quality, and level of specialty health services, including but not limited to prehospital care services. Guests may be invited to discuss specific issues in order to assist in making final determinations. Guests may only be present for the portion (s) of the meeting about which they have been requested to review or testify.

All members shall sign a confidentiality agreement not to divulge or discuss information that would have been obtained solely through committee membership. Prior to the invited guests participating in the meeting, the Chairperson is responsible for explaining and obtaining a signed confidentiality agreement for invited guests.

III. PARAMEDIC BASE STATION REQUIREMENTS

A. QUALITY IMPROVEMENT INFORMATION AND DATA REQUIREMENTS

The Base Station CQIP should involve all EMS system participants including, but not limited to dispatch agencies, ALS and BLS service providers, receiving hospitals and Critical Care Specialty Hospitals.

1. Structure

The Base Station CQIP shall be reviewed by ICEMA for compatibility with the State CQIP guidelines. The organizational chart should reflect the integration of the CQIP in the organization.

Listed below are minimum requirements of Base Station CQIP:

a. A CQI Team under the direction of the Base Station Medical Director. Lead staff should have expertise in management of the Base Station's CQIP. The following staffing positions are identified (note: organizations with limited resources may combine positions):

- Base Station Medical Director (or designee)
- EMS QI Program Coordinator
- Data Specialist

NOTE: Availability of resources can vary greatly between urban and rural facilities. It is understood that there are variances in staffing and staff responsibilities.

b. An internal CQIP Technical Advisory Group with members, which include but are not limited to:

- Base Station Medical Director
- Prehospital Liaison or Equivalent
- Base Station Mobile Intensive Care Nurse (MICN)

2. Responsibilities

The Base Station CQI Team should be a primary source of EMS activity reporting for state-wide and regional EMS system indicators. The Base Station CQIP will perform the following functions:

a. Cooperate with ICEMA in carrying out the responsibilities of the ICEMA CQIP and participate in the ICEMA CQI process.

b. Cooperate with ICEMA in the implementation of State required EMS system indicators.

c. Cooperate with ICEMA in monitoring, collecting data, and evaluating State required and ICEMA EMS system indicators.

d. Cooperate with the EMSA and ICEMA in the re-evaluation and improvement of State and local EMS system indicators.

e. Participate in meetings for internal review of Base Station indicators and development of performance improvement programs related to the findings.

f. Establish a mechanism to incorporate input from ICEMA, service providers and other hospitals for the development of performance improvement programs.

g. Assure reasonable availability of CQIP training and in-service education for Base Station personnel.

h. Prepare plans for expanding or improving the Base Station CQIP.

i. Provide technical assistance to all EMS provider's CQIPs in the Base Station's jurisdiction.

3. Annual Reports

Base Stations must maintain on-going records ensuring compliance to the requirements set forth in the CQIP. This monitoring system should provide a standardized guideline for the assessment, identification, evaluation, feedback and implementation of changes to meet the needs of the EMS system.

B. REVIEW OF PATIENT CARE DATA

1. Mobile Intensive Care Nurse Report

A minimum of 30 (or the total if <30) randomly selected MICN reports , or 10%, whichever is greater, will be reviewed monthly by the PLN and/or Base Station Medical Director, or designated peer review staff, for the following:

a. Complete documentation.
b. Prehospital patient care treatment orders.
c. Compliance with ICEMA protocols.

2. Base Station Audio File Reviews

All audio files that fall into the following categories must be reviewed for determination of cause and must be logged and included in the quarterly report submitted to ICEMA:

a. A case review request is submitted.
b. Any call where a physician has ordered an EMT-P to administer a medication or perform a skill that is out of his scope of practice, or in deviation with protocol.
c. Runs involving internal disaster or trauma diversion.
d. High profile cases.

3. Concurrent/Retrospective Clinical Review Report

The CCQIC may select a clinical topic on a quarterly basis to be audited by the Base Stations and provider agencies. Examples are cardiac arrest, head trauma and respiratory distress patients. The audit may be used to evaluate efficacy of prehospital care in relation to the topic chosen, utilizing data obtained from electronic patient care records (e-PCRs). Examples may include timely administration of ACLS medications, documentation of responses to the administration of medications and/or procedures. This report will be forwarded to ICEMA and may be used to determine recommendations to the ICEMA Medical Director regarding the appropriateness of certain drugs, equipment, procedures, etc., for improvement in the delivery of quality patient care in the EMS system.

4. Base Station Statistics

Base Stations are required to keep on-going statistics for periodic review by the EMS agency staff. Requirements for documentation in this log are included in the Base Station Statistics Policy and Base Station Data Collection Tool. Monthly reports shall be submitted as required by ICEMA.

5. Case Review Reports

A confidential file of case review reports will be maintained by the PLN and/or Base Station Medical Director. Documentation should include the case review report and any other pertinent data. The case review report is confidential information and will not be reviewed by anyone other than ICEMA's designated staff, the involved parties and/or their immediate supervisors without prior written notification. See QI Form 008, 009 and 010.

The laws protecting the discoverability of information received through the quality assurance process state very clearly that information must be maintained in a confidential manner. Breaches that result in loss of the confidentiality of these records allow the information to be accessible to

discoverability and seriously jeopardize the quality assurance/quality improvement process. All case review records must be kept in a confidential file and maintained to protect all parties involved.

6. Radio Communication Failure Reports

The Base Station Medical Director or PLN will be required to report any radio equipment failures to ICEMA within 72 working hours. See QI Form 001.

7. Quarterly Reports

Quarterly reports must include all relevant information and be forwarded to ICEMA at the first of every quarter (the first of January, April, July and October). Requirements for these reports are illustrated in the Quarterly Report Form. See QI Form 007.

IV. EMERGENCY MEDICAL SERVICE PROVIDER

A. QUALITY IMPROVEMENT INFORMATION AND DATA REQUIREMENTS

The EMS Provider's CQIP should involve EMS system participants including but not limited to dispatch agencies, ICEMA, training programs, hospitals, specialty care centers and other EMS service providers. A regional approach, with collaboration between EMS service providers serving neighboring communities, is highly recommended.

CQIP's should include indicators, covering the areas listed in the California Code of Regulations, Title 22, Chapter 12 of the Emergency Medical Services System Quality Improvement Program, which address, but are not limited to, the following:

- Personnel
- Equipment and Supplies
- Documentation and Communication
- Clinical Care and Patient Outcome
- Skills Maintenance/Competency
- Transportation/Facilities
- Public Education and Prevention
- Risk Management

Indicators should be tracked and trended to determine compliance with their established thresholds as well as reviewed for potential issues. Indicators should be reviewed for appropriateness on a quarterly basis with an annual summary of the indicators performance. Air Medical Providers may reference CAMTS to identify potential indicators they may wish to implement in their system.

ALS Provider agencies must maintain on-going records ensuring compliance to the requirements set forth in the CQIP. This monitoring system should provide a standardized guideline for the assessment, identification, evaluation, feedback and implementation of changes to meet the needs of the EMS system.

1. Structure

The EMS Provider's CQIP shall be reviewed and approved by ICEMA for compatibility with the guidelines.

The organizational chart shall reflect the integration of the CQIP in the organization. The EMS Provider's CQIP should include the following:

a. An EMS CQI Team under the direction of the EMS Provider's Medical Director or EMS Administrator. Lead staff should have

expertise in management of the EMS provider's CQIP. The following staffing positions are identified:

- EMS Provider's Medical Director or designee having substantial experience in the practice of emergency medicine. A practicing ED physician or a physician practicing in emergency medical care is highly recommended.
- QI Program Coordinator
- Data Specialist

NOTE: Availability of resources can vary greatly between urban and rural agencies. It is understood that there are variances in staffing and staff responsibilities (organizations with limited resources may combine positions).

b. An internal CQI Technical Advisory Group with members including, but not limited to:

- EMS Provider's Medical Director or designee having substantial experience in the practice of emergency medicine. A practicing ED physician or a physician practicing in emergency medical care is highly recommended.
- Chief/EMS Administrator or designee.
- QI Program Coordinator.
- Service Personnel (Physicians, RNs, Paramedics, EMTs).
- Other system participants.

2. Responsibilities

The EMS Provider's CQIC should be the primary source of CQIP activity reporting for state-wide and local EMS system information. The EMS Provider's CQIC will perform the following functions:

a. Cooperate with ICEMA in carrying out the responsibilities of ICEMA's CQIP and participate in ICEMA's CCQIC.

b. Cooperate with ICEMA in the implementation of State required EMS system indicators.

c. Cooperate with ICEMA in monitoring, collecting data, and evaluating the State and regional/local EMS system indicators, both required and optional.

d. Cooperate in the re-evaluation and improvement of State and local EMS system indicators.

e. Conduct meetings for internal review of EMS provider information and development of performance improvement programs related to the findings.

f. Establish a mechanism to receive input from ICEMA, other service providers and other EMS system participants for the development of performance improvement programs.

g. Assure routinely scheduled CQIP training and in-service education for EMS provider personnel.

h. Prepare plans for expanding or improving the EMS Provider's CQIP.

i. Participate in meetings and presentations of state and local EMS system information for peer review to local designated advisory groups and other authorized constituents.

3. Annual Reports

The EMS Provider's CQI Team will annually publish summary reports of CQIP activity for distribution to ICEMA and other groups as determined.

B. ALS STAFFING REQUIREMENTS AND RESPONSIBILITIES

1. ALS Provider Agency Medical Director Guidelines

Shall be a physician licensed in the State of California with experience in emergency medical care. Must be knowledgeable of the policies, protocols, and procedures set forth by ICEMA.

2. ALS Provider Agency Medical Director Responsibilities

a. Demonstrate management's commitment and dedication to the goals outlined in the CQIP by serving as a team leader for the organization, providing educational opportunities, training, support and encouraging communication of skills to facilitate the team building network.

b. Shall be responsible for coordinating and implementing an approved provider agency CQIP that focuses on the opportunity for improvement as well as identification and prevention of potential concerns within the organization, implements resolutions to these problems and evaluates the outcome, as well as provides the positive recognition when an opportunity is provided.

c. Shall provide a written operational protocol manual for approval by ICEMA (applies only to Air Transport Teams utilizing flight nurses in the EMS region).

3. ALS Provider Agency Quality Improvement Coordinator Requirements

Each ALS provider agency shall have a CQI Coordinator. This person shall be either: 1) a physician, registered nurse or physician assistant that is licensed in California and has experience in emergency medicine and emergency medical services or 2) a paramedic who is or has been licensed in California within the last two (2) years and who has at least two (2) years experience in prehospital care.

4. ALS Provider Agency Quality Improvement Coordinator Responsibilities

a. Shall act as a liaison between the prehospital personnel and the Base Station Medical Director, PLN, ED physician, other provider agencies and ICEMA.

b. Shall initiate, implement and evaluate the agency's quality improvement program.

c. Shall be responsible for monitoring documentation of program operations within the agency, as required for evaluation by ICEMA.

d. Shall monitor EMS personnel compliance to policies, procedures and protocols and ability to function within the scope of practice.

e. Shall demonstrate management's commitment and dedication to the goals outlined in the CQIP by serving as a team leader when providing training and educational opportunities, encouragement, support and communication skills to promote an EMS system that delivers the best available patient care.

f. Shall participate in their regional CQI committees and Base Station CQI process.

C. REVIEW OF PATIENT CARE DATA

1. ALS Run Report Forms

A minimum of thirty (or the total if <30) randomly selected ALS runs, or 10 %, whichever is greater, must be reviewed each month by the CQI Coordinator or by the designated peer review staff for at least the following:

a. Complete documentation.
b. Ordering of prehospital patient care treatment.
c. Compliance with protocols.

d. Response times and prolonged on-scene times
e. E.T. attempts and placement.
f. MCI as defined by Protocol Ref. #5050, Multi-Incident Operational Procedures (review with Paramedic PLM).
g. Proper documentation of Against Medical Advice (AMA) forms (review with PLN).

2. Concurrent and Retrospective Clinical Review Topics

The ICEMA Regional CQIC may select a clinical topic on a quarterly basis to be audited by the Base Station and ALS Provider agencies; examples; cardiac arrest patients, patients with head trauma, respiratory distress patients. The audit may be used to evaluate efficacy of prehospital care in relation to the topic chosen (utilizing data obtained from e-PCRs). Examples of this may include: timely administration of ACLS drugs, documentation of responses to the administration of medications and/or procedures. These reports will be forwarded by the Base Station to the committee and may be used to determine recommendations to the ICEMA Medical Director.

3. ALS Provider Agency Log

ALS Provider agencies will be required to keep an on-going log for periodic review by ICEMA. Requirements for documentation in this log are spelled out in the Quality Improvement Log Form. See QI Form 005.

A confidential file of case review reports will be maintained by the Provider Agency CQI Coordinator and/or ALS Provider Agency Medical Director in accordance with specifications under CASE REVIEW FORMS, Section IV. Documentation should include the case review report and any pertinent data. This is confidential information and will not be reviewed by anyone other than ICEMA's designated staff, the involved parties and/or their immediate supervisors.

V. CASE REVIEW FORMS/CASE REVIEW CONFERENCE

A. INITIATING A CASE REVIEW

To request that a call be reviewed, a Case Review Form must be initiated, and forwarded to the QI Coordinator, ALS Provider Agency Medical Director, PLN or Base Station Medical Director. The report should be forwarded to the person responsible for reviewing the incident within the agency or facility. For example, if an EMT-P initiates a report, EMT-P should forward it to the agency QI Coordinator for review. If an MICN initiates a report, MICN should forward the report to the PLN. See QI Form 008.

A Case Review Form may be initiated by any physician, MICN, EMT-P, or EMT, who feels that any of the following have occurred:

- Treatment/action resulting in positive patient outcome.
- Patient care related to an adverse patient outcome.
- Deviation from ICEMA treatment protocols.
- Conflicts with existing State law and/or ICEMA policy.
- Situations that pose a threat to the safety of patients or providers of prehospital care.
- Situations that serve as an educational tool for EMS providers.

When the request involves the QI Coordinator, PLN or Medical Director normally responsible for the initiation of the case review form, the request should be forwarded to ICEMA.

If there is any doubt as to who is the responsible reviewing party, ICEMA will provide direction.

B. CONDUCTING A CASE REVIEW

Upon receipt of a Case Review Form, the person responsible for the investigation shall:

- Review the EMS patient care record, MICN record, Base Station wave, and the patient outcome records (if applicable).
- Collect statements from the involved personnel if needed to determine action necessary.
- Establish the need for further action.
- Involve the appropriate agency representatives (i.e., ALS Provider Agency QI Coordinator should contact the PLN and Base Station Medical Director if determination of further action is necessary).
- Conduct a Case Review Conference, if necessary. See QI Form 010.

C. CONDUCTING A CASE REVIEW CONFERENCE

1. Responsible Reviewing Party

The responsible reviewing party shall notify the appropriate personnel and determine a time and date that the Base Station Medical Director, PLN and all involved personnel can attend the Case Review Conference (CRC). A CRC must be done within thirty (30) days of the decision to conduct a CRC unless it meets the exception criteria.

Exception Criteria:

a. Involved personnel could not be contacted (written explanation required in summary).
b. Documents needed for review could not be gathered in this time frame (explanation must be included in summary).

2. Review of Information

The Case Review Conference will require a review of all information necessitating the conference and any additional information that may be pertinent to the review. The Medical Director is responsible for determining the need for further action. The Medical Director may make the determination that the incident requires one of the following:

a. Positive Recognition:

A CRC may be held to evaluate outstanding performance to be utilized for positive education feedback. An evaluation and recommendations report shall be forwarded to the ICEMA Medical Director.

b. No Further Action Necessary:

Complete a Case Review Conference Report stating the conclusion of the review and forward a copy of the report to the ICEMA Medical Director. Maintain the original document in the Case Review Report File.

c. Need For Education:

The Base Station Medical Director or Agency Medical Director shall determine if the need for education is related to an individual or is of an educational value to the EMS system, or both.

d. EMS System Education:

The review has led to the opportunity to provide educational value to benefit the system (i.e., a piece of equipment has proven to be defective when used in certain environments). A Case Review Conference Report shall be completed and a copy forwarded to the ICEMA Medical Director. Maintain the original report in the Case Review Report File. Suggestions for system-wide improvements will be submitted to ICEMA CCQIC and the EMCC, and addressed through education.

3. Plan of Action

The determination has been made that an individual or individuals would benefit from the initiation of the education process.

a. Identify the Area of Improvement - i.e., skills deficiency, lack of working knowledge of ICEMA protocols, etc.

b. Recommend a Plan of Action - For example, the Base Station or ALS provider agency may be requested to provide skills training, further monitoring, protocol updates, etc. In this circumstance, the ICEMA Medical Director will request follow-up in writing from the ALS provider agency and will determine the period in which this is to be provided. Complete the Case Review Conference Report (QI Form 008) providing the appropriate information and forward a copy to the ICEMA Medical Director upon completion of the conference. Maintain the original Case Review Conference Report in the Case Review Report File.

c. Initiate the Plan of Action - Provide the education, monitoring, etc., as determined by ICEMA Medical Director.

d. Evaluation of the Outcome - The ICEMA Medical Director will evaluate the outcome of the process, the need to re-evaluate at a future date if necessary or to provide further education. This information should be included in follow-up form on a Case Review Conference Report and a copy submitted to the ICEMA Medical Director. Maintain the original report in the Case Review Report File.

4. Disciplinary Action Needed

The need for disciplinary action should only be initiated if ICEMA's Medical Director determines the situation reflects grounds for disciplinary action under Chapters 4 and 6 of the California Code of Regulations (CCR), Title 22. All pertinent information should then be forwarded immediately to the ICEMA Medical Director for consideration of further action.

SECTION II - DATA COLLECTION AND REPORTING

Data collection and reporting are two of the most important elements in CQI. The data collected must be valid, reliable, and standardized with all other system participants. ICEMA encourages the sharing of data through summary reports among all EMS system participants.

This chart provides suggested indicators for each Indicator category per organizational structure. Use of these indicators is not mandatory.

Assumptions: 1. California EMS Information System (CEMSIS) will provide state-wide data.

INDICATOR	EMS AUTHORITY	ICEMA	PROVIDER	HOSPITAL
Personnel	WELLNESS WORKLOAD POLICIES AND PROCEDURES LICENSURE ED1 Education and Training Indicator A - H	WELLNESS WORKLOAD POLICIES AND PROCEDURES CERTIFICATION /ACCREDITATION ED1 Education and Training Indicator A - D, G, H	WELLNESS WORKLOAD POLICIES AND PROCEDURES ED1 Education and Training Indicator A, B (if provider has EMT-I training school)	WELLNESS WORKLOAD POLICIES AND PROCEDURES BH1 Base Hospitals-Activity Indicator B - D
Equipment and Supplies	ePCR INVENTORY CONTROL	COMMUNICATIONS COVERAGE	PREVENTIVE MAINTENANCE PLANS PHARMACEUTICALS	INVENTORY CONTROL
Documentation		DATA VALIDATION ePCR POLICIES AND PROCEDURES QUALITY REVIEW PROCESSES	DATA VALIDATION NARCOTIC RECORDS ePCR POLICIES AND PROCEDURES QUALITY REVIEW PROCESSES	TIMELINESS ACCURACY OUTCOME REPORTING QUALITY REVIEW PROCESSES
Clinical Care and Patient Outcome	SCOPE OF PRACTICE COMMITTEE STRUCTURE RESEARCH CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A - B CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A - B	TREATMENT PROTOCOLS COMMITTEE STRUCTURE MEDICAL OVERSIGHT RESEARCH QI and CASE REVIEW CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A - N CA2 Pulseless V-Fib/V-Tach -Witnessed Indicator A - N CA3 Chest Pain-Suspected Cardiac Origin Indicator A - J MA1 ALS Staffing Levels Indicator A - D RE1 Shortness of Breath/Bronchospasm Indicator A - G RE2 Shortness of Breath/Fluid Overload Indicator A - K	TREATMENT PROTOCOLS COMMITTEE STRUCTURE MEDICAL OVERSIGHT RESEARCH QI and CASE REVIEW CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A - N CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A - N CA3 Chest Pain-Suspected Cardiac Origin Indicator A - J RE1 Shortness of Breath/Bronchospasm Indicator A - G RE2 Shortness of Breath/Fluid Overload Indicator A - K	TREATMENT PROTOCOLS RESEARCH QI and CASE REVIEW CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A, B, N CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A, B, N CA3 Chest Pain-Suspected Cardiac Origin Indicator J RE1 Shortness of Breath Bronchospasm Indicator G RE2 Shortness of Breath Fluid Overload Indicator K

INDICATOR	EMS AUTHORITY	ICEMA	PROVIDER	HOSPITAL
Skills Maintenance/Competency	SCOPE OF PRACTICE	SCOPE OF PRACTICE SKILLS UTILIZATION BENCHMARKING SK1 Skills-Advanced Provider Indicator A - J	SCOPE OF PRACTICE SKILLS UTILIZATION INFREQUENT SKILLS REVIEW SUCCESS RATES (BENCHMARKING) SK1 Skills-Advanced Provider Indicator A - J	SCOPE OF PRACTICE SKILLS UTILIZATION INFREQUENT SKILLS REVIEW SUCCESS RATES
Public Education and Prevention	COMMUNITY INVOLVEMENT PREVENTION PROGRAMS PATIENT EDUCATION CUSTOMER SATISFACTION CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A, B CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A, B PP1 Public Education and Prevention Indicator A, B	COMMUNITY INVOLVEMENT REWARD AND RECOGNITION PREVENTION PROGRAMS PATIENT EDUCATION CUSTOMER SATISFACTION CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A, B CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A, B PP1 Public Education and Prevention Indicator A, B	COMMUNITY INVOLVEMENT REWARD AND RECOGNITION PREVENTION PROGRAMS PATIENT EDUCATION CUSTOMER SATISFACTION CA1A Pulseless V-Fib/VTach Unwitnessed Indicator A, B CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A, B PP1 Public Education and Prevention Indicator A, B	PREVENTION PROGRAMS PATIENT EDUCATION CUSTOMER SATISFACTION CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A, B CA2 Pulseless V-Fib/V-Tach Witnessed Indicator A, B PP1 Public Education and Prevention Indicator A, B
Risk Management	ISSUE RESOLUTION PROCESS SYSTEM MONITORING	ISSUE RESOLUTION PROCESS SYSTEM MONITORING CA1 Pulseless V-Fib/VTach Unwitnessed Indicator A, B MA1 ALS Staffing Levels Indicator A - D	ISSUE RESOLUTION PROCESS OSHA COMPLIANCE POST-INCIDENT PEER REVIEW PERSONNEL SAFETY SYSTEM MONITORING MA1 ALS Staffing Levels Indicator A - D RS1 Response Indicator A - C SK1 Skills – Advanced Provider Indicator A - J	OSHA COMPLIANCE POST-INCIDENT PEER REVIEW PERSONAL SAFETY SYSTEM MONITORING

SECTION III - EVALUATION OF INDICATORS

The ICEMA QI Coordinator will analyze the quality indicators on a monthly basis and then create relevant reports for presentation to the MAC and/or EMCC.

SECTION IV - ACTION TO IMPROVE

I. FOCUS-PDSA

Once a need for improvement in performance has been identified by ICEMA, MAC or the EMCC, ICEMA will be utilizing the FOCUS-PDSA model for performance improvement. FOCUS-PDSA involves the following steps:

Find a process to improve - the CCQIC will identify improvement needs.

Organize a team that knows the process - the CQI Team will form Task Force(s) as needed and review process documents.

Clarify current knowledge of the process - review indicator trends relevant to the process, collect other information

Understand - causes of process variation utilizing tools, such as fishbone diagrams, Pareto analyses, etc.

Select - process improvement to reduce or eliminate cause(s).

Plan - State objective of the test, make predictions, develop plan to carry out the test (who, what where, when).

Do - Carry out the test, document problems and unexpected observations, begin analysis of the data.

Study - Complete the analysis of the data, compare the test data to predictions, and summarize what was learned.

Act - What changes are to be institutionalized?
What will be the objective of the next cycle?
What, if any, re-education or training is needed to effect the changes?

Once a Performance Improvement Plan has been implemented, the results of the improvement plan will be measured. Changes to the system will be standardized and/or integrated. A plan for monitoring future activities will be established.

II. MEETINGS

During its quarterly or other meetings, ICEMA or MAC may identify indicators that signal a need for improvement and make recommendations for chartering a Quality Task Force, if needed. ICEMA or the CCQIC may select members and charter a Task Force with a specific objective for improvement. Each Task Force will use the FOCUS-PDSA model to conduct improvement planning and prepare recommendations or a report for review by ICEMA. ICEMA will prepare a report including the findings and recommendations of the Task Force and make recommendations to the Task Force and prepare the report for distribution to the MAC. ICEMA will also disband the Quality Task Force at the appropriate time.

Presentation of quality indicator analyses will most frequently be in a run chart, a Pareto chart, or a histogram format. This will enable ICEMA and/or MAC to easily identify trends and to rapidly interpret the data.

ICEMA, CCQIC and MAC will meet at least quarterly to evaluate and discuss the data provided by the ICEMA QI Coordinator according to the following agenda:

- Review of prior meeting action items.
- Presentation of indicators and results/trends.

  For each indicator that the CCQIC reviews, the following process will be followed:

  - Identify the objectives of the evaluation.
  - Present indicators and related EMS information.
  - Compare performance with goals or benchmarks.
  - Discuss performance with peers/colleague.s
  - Determine whether improvement or further evaluation is required.
  - Establish plan based upon decision.
  - Assign responsibility for post-decision action plan.
- Examine correlations between/among trends.
- Acknowledgement of positive trends; discussion of unsatisfactory trends.
- Receive reports from Quality Task Forces, if any.
- Discuss changes needed to indicators.
- Recommend the chartering of Quality Task Forces, if any.
- Provide input to ICEMA to regarding improvement priorities.
- Summarize action items identified at this meeting.

- Recommend training/educational needs.
- Evaluation of the meeting.

SECTION V - TRAINING AND EDUCATION

Once the decision to take action or to solve a problem has occurred, training and education are critical components that need to be addressed. Education needs will be identified in reports given at quarterly MAC and CCQIC meetings. The EMS Agency will make recommendations for educational offerings county-wide based on these reports and reports from CQI Task Forces.

Once a Performance Improvement Plan recommended by a Task Force, the ICEMA QI Team, or MAC has been implemented, ICEMA will standardize the changes within the appropriate policies and procedures. The EMS Specialist responsible for educational oversight maintains the Policy and Procedure Manual, which is updated twice per year. Changes recommended by a Quality Task Force or other system participants are implemented via policy changes or new policies being written as indicated. The new policy or change in policy is presented at the various EMCCs for discussion. Changes may be made based on those discussions. The policy is then posted on the ICEMA website at www.ICEMA.net for a 45-day public comment period. Final changes to the policy are made based on public comments received. The new or improved policy is then implemented. If additional training is required of system participants, time is allotted for that training prior to the implementation of the policy. Policies also may be changed to comply with State or Federal mandates. These changes are written into the policies and are discussed at various committee meetings and the EMCCs and posted on the ICEMA website, but do not go out for a public comment period.

The EMS Specialist who is responsible for educational oversight also 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 adequately trained. The rosters and records of training are available to ICEMA upon request.

SECTION VI - ANNUAL UPDATE

The Annual Update is a written account of the progress of an organization's activities as stated in the EMS CQIP. An EMS Specialist 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 CQIP, 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 CQIP and the EMS Plan are focusing on the same objectives. Once both the CQIP and the EMS Plan have been reviewed in this fashion, the CQI Coordinator will present his/her findings to the CCQIC and to the CQI Team.

The following chart will be the template for the presentation of the update.

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 ICEMA CQI Team and the CCQIC will offer recommendations for changes needed in the CQIP 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.

A current CQIP will be submitted to the State EMS Authority every five (5) years.