

**CONTINUOUS QUALITY IMPROVEMENT PLAN****I. AUTHORITY:**

*California Health and Safety Code, Division 2.5, Section 1797.204; California Code of Regulations, Title 22, Section 100148 & Section 100402.*

**II. APPLICATION:**

This policy defines the Orange County Emergency Medical Services Continuous Quality Improvement process.

**III. GENERAL GUIDELINES:**

A. Orange County Emergency Medical Services (OCEMS) shall maintain a system-wide continuous quality improvement (CQI) program to monitor, review, evaluate, and improve the delivery of prehospital and trauma care services. The program shall involve all system participants and shall include, but not be limited to, the following activities:

- Prospective: Designed to prevent potential problems.
- Concurrent: Designed to identify problems or potential problems during patient care.
- Retrospective: Designed to identify potential or known problems and prevent their recurrence.
- Reporting / Feedback: CQI activities will be reported to OCEMS in a manner to be jointly determined. As a result of CQI activities, changes in system design may be made.

B. OCEMS shall maintain a Quality Assurance Board. The members of the OCEMS Quality Assurance Board are appointed by the Orange County Board of Supervisors and shall have such duties as described in the bylaws adopted by the Board of Supervisors. Membership includes the OCEMS Program Director, Medical Director, Assistant Medical Director, Emergency Medical Services (EMS) CQI Coordinator, and representatives from EMS providers. The OCEMS Quality Assurance Board shall meet as described in the bylaws.

- The OCEMS Data Systems are tools of the OCEMS Quality Assurance Board.
- The OCEMS Quality Assurance Board shall operate subcommittees consisting of any ad hoc CQI liaison groups, requested reviews, and others as deemed necessary.
- All proceedings of the OCEMS Quality Assurance Board, its subcommittees, and the contents of the OCEMS Data Systems are confidential and protected under Section 1157.7 of the California Evidence Code: "The prohibition relating to discovery or testimony provided in Section 1157 shall be applicable to proceedings and records of any committee established by a local governmental agency to monitor, evaluate, and report on the necessity, quality, and level of specialty health services including, but not limited to, trauma care services, provided by a general acute care hospital which has been designated or organized by that governmental agency as qualified to render specialty health care services."

C. Each EMS service provider shall submit a CQI plan to OCEMS for approval.

1. The time frame for submission will be determined by OCEMS..

2. OCEMS will evaluate the implementation of each ALS service provider's CQI plan and request appropriate revisions as needed.

*Italicized text identifies quotations from an authority outside OCEMS*

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**CONTINUOUS QUALITY IMPROVEMENT PLAN****IV. OCEMS:****A. Prospective**

1. Comply with current federal, state and county rules, regulations, laws, and codes applicable to EMS.
2. Monitor current evidence-based practice and trends, incorporating changes as appropriate
3. Plan, implement, and evaluate the EMS System.
4. Approve EMS service providers' programs.
5. Establish policies and procedures to assure medical control, which may include, but not be limited to, dispatch, basic life support, advanced life support, patient destination, patient care guidelines, and CQI requirements.
6. Facilitate implementation of required CQI programs by system participants.
7. Design system-wide reports for monitoring identified problems and/or trends analysis.
8. Approve standardized corrective action plan for isolated and trend deficiencies for prehospital and base hospital personnel.

**B. Concurrent**

1. Participate in ongoing audits and studies with base hospitals and provider agencies including committee discussions, site visits, field observations and ongoing monitoring.

**C. Retrospective**

1. Evaluate system providers for retrospective analysis of prehospital care.
2. Evaluate identified trends in the quality of prehospital care delivered in the system.
3. Evaluation of system to include any CQI findings from base hospitals and ALS provider agencies.

**D. Reporting / Feedback**

1. Evaluate data submitted from system participants and make changes in system design as necessary.
2. Evaluate data submitted to EMSA Core Measures project and make changes in system design as necessary.
3. Provide feedback to system participants when applicable or when requested on CQI issues.
4. Design prehospital research and efficacy studies pertaining to the prehospital use of any drug, device or treatment procedure where applicable.

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**CONTINUOUS QUALITY IMPROVEMENT PLAN****V. DISPATCH:****A. Prospective**

1. Participate on EMS advisory committees, as requested by OCEMS.
2. Education.
3. Provide orientation of new employees to the EMS System.
4. Provide continuing education (CE) activities to further the knowledge-base of dispatchers, to include, but not limited to:
  - Tape reviews.
  - Educational programs based on problem identification and trend analysis.
  - Discussion of selected calls.
5. Provide for certification and training of the Emergency Medical Dispatcher (EMD).
6. Establish procedure for informing all EMDs of system changes.
7. Evaluation: Develop criteria for evaluation of individual EMDs to include, but not limited to:
  - Tape reviews or other documentation as available.
  - Evaluation of new employees.
  - Routine call audit/review.
  - Problem-oriented cases as identified by CQI process.
  - Action plans for individual EMD deficiencies.

**B. Concurrent Activities**

1. Establish a procedure for evaluation of EMDs utilizing performance standards through direct observation.

**C. Retrospective Analysis**

1. Develop a process for retrospective analysis of dispatched calls, utilizing audio tape and dispatcher report form, to include, but not limited to:
  - High-risk.
  - High-volume.
  - Problem-oriented calls as identified by CQI process.
  - Those calls requested to be reviewed by OCEMS.
  - Specific audit topics established through the Quality Assurance Board.
  - Other audits as suggested by EMS System participants.
2. Develop performance standards for evaluating the quality of care delivered by the EMD through retrospective analysis.
3. Comply with reporting and other CQI requirements, as specified by OCEMS.
4. Participate in prehospital research and efficacy studies, as requested by OCEMS.

**D. Reporting / Feedback**

1. Develop a process for identifying trends in the quality of dispatch care.
2. Report as requested by OCEMS.
3. Design and participate in educational offerings based on problem identification and trend analysis.
4. Make changes in internal policies and procedures based on trend analysis.

**VI. Ambulance Service Providers:****A. Prospective**

1. Participate on EMS advisory committees, as requested by OCEMS.

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2. Evaluation: Develop criteria for evaluation of field personnel to include, but not limited to:

- Ambulance service provider patient record report form (or PCR).
- Field observation.
- Routine call audit/review.
- Problem-oriented cases as identified by the CQI process.
- Action plans for individual first responder deficiencies.

### B. Concurrent Activities

1. Field observation: Establish a procedure for evaluation of EMTs utilizing performance standards through direct observation.

### C. Retrospective Analysis

1. Develop a process for retrospective analysis of field care, utilizing available documentation, to include, but not limited to:

- High-risk.
- High-volume.
- Problem-oriented calls as identified by the CQI process.
- Those calls requested to be reviewed by OCEMS.
- Specific audit topics established through the Quality Assurance Board.

2. Develop performance standards for evaluating the quality of care delivered by field personnel through retrospective analysis.

3. Comply with reporting and other CQI requirements, as specified by OCEMS.

4. Participate in prehospital research and efficacy studies requested by OCEMS.

### D. Reporting / Feedback

1. Develop a process for identifying trends in the quality of field care.

2. Report as specified by OCEMS.

3. Design and participate in educational offerings based on problem identification and trend analysis.

4. Make changes in internal policies and procedures based on trend analysis.

## VII. ALS PROVIDER AGENCIES:

### A. CQI Plan Approval Process

1. The service provider shall demonstrate, at a minimum, the following mechanisms of their CQI plan:

#### a. Record keeping

- Describe the handling of Patient Care Reports (PCRs).
- Filing.
- Confidentiality.
- Duration of PCR storage.

#### b. Data Collection

- Describe method to collect data for CQI audits.
- Describe method ensuring valid data for CQI audits.

#### c. Documentation

- Mechanisms to review EMS personnel PCR documentation.
  - Consistency, congruency, completeness, correctness, clarity.
- Adherence to OCEMS Policies/Procedures and Treatment Guidelines.

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- Mechanism to assure PCRs are available to the Emergency Receiving Center prior to returning to service.
  - This may be through OCMEDS documentation, via another NEMESIS- and HIPAA-compliant electronic documentation system or a hard-copy PCR.

**B. ALS Provider CQI Process****1. Prospective**

- a. Participate on EMS advisory committees, as requested by OCEMS.
- b. Offer educational programs based on problem identification and trend analysis.
- c. Participate in the training of prehospital care providers in the ALS provider CQI process.
- d. Establish procedure for informing all field personnel of system changes.
- e. Evaluation: Develop criteria for evaluation of individual Emergency Medical Technicians (EMTs & paramedics) to include, but not limited to:
  - Peer Review Committees.
  - Field observation.
  - Routine chart audit/review.
  - Problem-oriented cases as identified by ALS provider CQI process review.
  - Action plans for individual EMT deficiencies.

**2. Concurrent Activities**

- a. Provide patient information to the base hospital to facilitate obtaining patient follow-up information from receiving hospitals.
- b. Establish a mechanism for concurrent field observation of direct care providers by supervisory personnel on scene.

**3. Retrospective Analysis**

- a. Each paramedic provider agency shall have a representative on the Fire Chief CQI Committee.
- b. The Fire Chief EMS CQI Committee shall develop a mechanism/procedure for:
  - Auditing paramedic Scope of Practice utilizations.
  - Develop a mechanism to audit the appropriateness of Scope of Practice utilization (e.g., IV access and ECG monitoring indicated based on Patient Care Report (PCR) documentation).
    - This may include development of audit filters (e.g. intubation rates, specialty center triage, etc.) and audit thresholds (e.g. 85% success rate, etc)
  - Auditing the completeness of PCR documentation.
  - Auditing clinical assessments and treatments rendered, coupled with OCEMS treatment guidelines and standing order compliance.
  - Dealing with each identified type of problem.
    - Individual: e.g., education, counseling, etc.
    - Agency: e.g., training and education, discussion, etc.
    - System: e.g., make recommendations to OCEMS for clarification or rewriting a policy, training, etc.

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- Providers shall have mechanisms in place to identify major incidents and rapidly disseminate them to appropriate sub-committee and OCEMS; such events include issues detrimental to patient care, increased liability to the provider and/or any imminent threat to public health and safety (some providers use the term sentinel event).
- Tracking identified problems and the process utilized to address the problems. A log is highly recommended; also status indicators such as open, pending, closed with education, closed with skills testing, closed with direct field observation, etc.

**4. CQI Coordinator/Paramedic Coordinator**

- a. Each ALS provider agency shall have a CQI Coordinator, who shall be one of the following:
  - Paramedic: The paramedic must maintain current state of California Paramedic licensure and/or have significant knowledge in prehospital emergency medical services.
  - Registered Nurse (RN) or Nurse Practitioner (NP)
    - Maintain current state of California RN license.
    - An RN or NP shall have significant knowledge and experience in out-of-hospital emergency medical services.
    - Past or current experience as a mobile intensive care nurse (MICN) is highly recommended.
  - Physician
    - Maintain current state of California license.
    - An MD shall have significant knowledge and experience in out-of-hospital emergency medical services.
      - Certification by the American Board of Emergency Medicine, or equivalent, is highly recommended.
- b. CQI Coordinator / Paramedic Coordinator shall be responsible to:
  - Develop a process for retrospective analysis of field care, utilizing OCMEDS reports, PCRs and audio tape (if applicable), to include, but not limited to, specific audit topics, as requested by OCEMS, Fire Chiefs EMS CQI, Base Hospital, or agency.
  - Develop performance standards for evaluating the quality of care delivered by field personnel through retrospective analysis.
  - Comply with reporting and other quality assurance requirements, as specified by OCEMS.
  - Participate in prehospital research and efficacy studies requested by OCEMS and/or the Quality Assurance Board.

**5. Reporting / Feedback**

- a. Develop a process for identifying trends in the quality of field care.
- b. Report as specified by OCEMS.
- c. Design and participate in educational offerings based on problem identification and trend analysis.
- d. Utilizing the ALS provider CQI process, make approved changes in internal policies and procedures based on trend analysis.
- e. Provide OCEMS with data as requested.

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### VIII. BASE HOSPITALS:

#### A. Prospective

1. Work closely with Fire EMS Coordinators for units assigned to base to ensure collaborative efforts toward CQI
2. Participate on EMS advisory committees, as requested by OCEMS.
3. Perform Field Care Audits, including PCR review and field observations as indicated
4. Education:
  - a. Provide CE activities to further the knowledge base of the field and base personnel.
  - b. Offer educational programs based on problem identification and trend analysis.
  - c. Participate in certification courses and the training of prehospital care providers.
5. Establish procedures for informing all base hospital personnel of system changes.
6. Establish preceptorship criteria for offering supervised clinical experience to EMTs.
7. Evaluation: Develop criteria for evaluation of individual base hospital personnel to include, but not limited to:
  - a. Base hospital Mobile Intensive Care Nurse (MICN) Logs/Tape Review for adherence to established OCEMS Policies/Procedures and Treatment Guidelines.
  - b. Evaluation of new MICNs and base hospital physicians (BHPs).
  - c. Routine documentation audit/review.
  - d. Problem-oriented cases.
  - e. Action plans for individual MICN or BHP deficiencies.

#### B. Concurrent Activities

1. Provide on-line medical control for paramedics within the OCEMS-approved scope of practice.
2. Develop a procedure for identifying issues and trends in the quality of field care delivered. Report individual or agency trends to appropriate agency designee.
3. Develop internal policies regarding BHP involvement in medical control according to OCEMS Policies/Procedures and Treatment Guidelines.
4. Develop a process for obtaining patient follow-up on base-directed calls needing additional information or outcomes.
5. Develop performance standards for evaluating the quality of on-line medical control delivered by the MICNs and BHPs through direct observation by the Base Hospital Coordinator (BHC).

#### C. Retrospective Analysis

1. Develop a process for retrospective analysis of field care and base direction utilizing the MICN record, audio tape, PCR, OCMEADS data and patient follow-up, to include, but not limited to:
  - a. High-risk, high-volume, problem-oriented calls, and calls which OCEMS requests to be reviewed.
  - b. Specific audit topics established through the Quality Assurance Board or other subcommittees of OCEMS.
  - c. Evaluate medical care delivered by prehospital care providers (compliance to OCEMS Policies/Procedures and Treatment Guidelines).
  - d. Participate in Investigative Review Panels (IRPs), as necessary.
2. Comply with reporting and other CQI requirements as specified by OCEMS.

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**CONTINUOUS QUALITY IMPROVEMENT PLAN****D. Reporting / Feedback**

- a. Develop a process for identifying trends in the quality of medical control delivered by base hospital MICNs and BHPs and provide feedback to participants.
- b. Report as specified by OCEMS.
- c. Design and participate in educational offerings based on problem identification and trend analysis.
- d. Make changes in internal policies and procedures based on trend analysis.
- e. Participate in the process of identifying trends in the quality of field care delivered by EMTs and providing feedback to participants.

**IX. EMERGENCY RECEIVING CENTER:****A. Prospective**

1. Participate on EMS advisory committees, as requested by OCEMS.
2. Establish procedures for informing appropriate emergency department personnel of EMS System changes.
3. Evaluation: Develop criteria for evaluation of individual cases, to include, but not limited to, problem-oriented cases.
4. Develop a process for providing patient outcome data to OCEMS, base hospital, and provider agencies for patients transported to emergency receiving centers.

**B. Retrospective analysis**

1. Evaluate medical care delivered by prehospital care providers based on information available to them with respect to protocols.
2. Participate in IRPs, if requested by OCEMS.
3. Comply with reporting and other CQI requirements, as specified by OCEMS.
4. Refer problem-oriented calls to the provider's Base Hospital Coordinator.

**X. TRAUMA RECEIVING CENTER:****A. Prospective**

1. Participate on EMS advisory committees, as requested by OCEMS.
2. Education
  - a. Provide CE activities to further the knowledge base of the field and base personnel.
  - b. Offer educational programs based on problem identification and trend analysis.
3. Establish procedures for informing all Base Hospital personnel of system changes.

**B. Concurrent Activities**

1. Have a procedure for identifying and reporting problem calls to the appropriate agency, OCEMS subcommittee or Emergency Receiving Center, as in the case of transfers in.
2. Have internal policies regarding trauma physician involvement in prehospital care according to OCEMS Policies/Procedures and Treatment Guidelines.
3. Have a procedure for obtaining patient follow-up on all trauma cases.

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**CONTINUOUS QUALITY IMPROVEMENT PLAN****C. Retrospective Analysis**

1. Have a process for retrospective analysis of field care and base direction utilizing the MICN record, audio tape, PCR, Trauma Registry, and patient follow-up, to include, but not limited to:
  - a. High-risk, high-volume, problem-oriented calls, calls requested to be reviewed by OCEMS.
  - b. Specific audit topics established through the Quality Assurance Board.
  - c. Specific audit topics established through the Trauma Operations Committee.
  - d. Evaluate medical care delivered by prehospital care providers based on information available to them with respect to protocols.
  - e. Comply with reporting and other CQI requirements, as specified by OCEMS.

**D. Reporting / Feedback**

1. Develop a process for identifying trends in the quality of medical control delivered by base hospital MICNs and BHPs:
2. Report as specified by OCEMS.
3. Design and participate in educational offering based on problem identification and trend analysis.
4. Make changes in internal policies and procedures based on trend analysis.
5. Participate in the process of identifying trends in the quality of field care delivered by EMTs and providing feedback to participants.

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**Attachment****FOCUS-PDCA MODEL**

Orange County Emergency Medical Services has adopted the FOCUS-PDCA methodology for process improvement. This model is defined as:

**Find a process to improve**

Explain the problem in more detail.

**Organize a team that knows the process to work on improvement**

Select from a knowledgeable group of EMS members.

**Clarify current knowledge of the process**

Identify baseline data that supports why it is a problem and what the current process is.

**Use appropriate methods to analyze data (control charts, pareto diagrams, cause and effect diagrams...etc.)**

Identify trends indicating a problem exists and needs improving.

Understand the causes of process variations & capabilities

**Select and test changes aimed at improvement**

Select a potential area for change that is definable and can be accomplished.

Break down more complex issues or processes if necessary.

**Plan an improvement**

See FOCUS above.

**Do the improvement**

What was done to correct the problem?

Implement the plan.

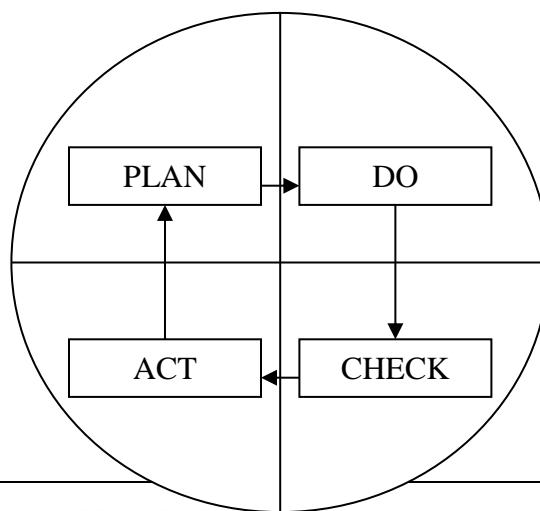
**Check the results**

What were the results of your improvement/solution? Did they work? If not, what will you do next?

If satisfied with improvement, how often and how long will you continue to monitor?

**Act to standardize the improvement and continue to improve the process**

Determine whether the improvement should be applied and implemented.



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