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The North Coast EMS Quality Improvement Program April 2015 2018 Update

Executive Summary

Quality improvement in EMS is a process as much as an objective. North Coast EMS believes that all our region's EMS participants wish to provide our communities with the best prehospital and hospital care possible. Together our agency and our fellow system participants have an ongoing responsibility to define - and redefine - the elements that constitute that best care possible, and to adopt a systematic approach to achieving this shared objective. This systematic approach includes an ongoing effort to - in collaboration with other system participants - develop agreed upon measurements of "quality EMS."

The purpose of the North Coast EMS Quality Improvement Program (QIP) is to identify individual components of the North Coast EMS System that can be measured and/or evaluated, regularly reviewed and modified in order to ensure optimal system performance. The North Coast EMS QIP satisfies the requirements of Title 22, Chapter 12, Section 4 of the California Code of Regulations.

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The Quality Improvement Regulations

Most if not all caregivers strive to ensure the care they provide is of the highest quality. Competing demands for limited human and material resources make it difficult, however, to dedicate the time needed to develop and maintain an effective quality improvement program. By adopting regulations that require all EMS system participants to develop a QI plan, the State provided a framework for the four principle institutions within the California EMS system - the California EMS Authority, the Local EMS Agencies, Base Hospitals, and EMS provider agencies – to engage in meaningful and sustained quality improvement.

The Quality Improvement regulations further define the EMS quality improvement framework by identifying eight components of the EMS System:

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

North Coast EMS's Commitment to Quality Improvement

It is North Coast EMS's function, as the Local EMS Agency for Del Norte, Humboldt and Lake Counties, to ensure that our region's base hospitals and EMS provider agencies fulfill their requirement to adopt hospital or agency specific Quality Improvement plans. It is the responsibility of our region's base hospitals and EMS provider agencies to engage in planning which encompasses the eight Quality Improvement components enumerated in the Quality Improvement regulations and listed here above.

The North Coast EMS Policy Manual, Base Hospital Agreements, and EMS Provider Agreements establish the regulatory and contractual basis for Quality Assurance in each of the eight components listed within the California Quality Improvement regulations. Additions or modifications to existing policies are initiated when opportunities for improvements are identified through the Quality Improvement Process. The following policies represent those most pertinent to achieving system improvement through the North Coast EMS QI process*:

- Personnel
 - Continuous Quality Improvement – North Coast EMS Policy # 2101
 - Certification/Accreditation/Authorization Process Policy # 4001
 - Certification Review Process Policy # 2109
 - Prehospital Care Medical Director and Nurse Coordinator Responsibilities Policy # 2109
 - Quality Assurance Committee Policy # 2110
 - EMT Incident Investigation, Determination of Action, Notification, and Administrative Hearing Process Policy # 4010
 - First Responder Certification Process Policy # 4202
 - EMT-I Certification Process Policy # 4302
 - AED Skills Proficiency Demonstration Policy # 4406
 - EMT-P Accreditation to Practice Within the North Coast EMS Region Policy # 4603
 - MICN Authorization Maintenance Requirements Policy # 4704
 - Field Training Officer Authorization Requirements Policy # 4802
- Equipment and Supplies
 - First Responder/BLS Supply and Equipment Standard Policy # 2202
 - EMT-P Standard Drug/Intravenous Solution List Policy # 2205
 - Controlled Substances Policy # 209
- Documentation
 - Chart Audit Guidelines Policy # 2106
 - Prehospital Care Report Policy # 2402
 - Access, Release, and Confidentiality of EMS Data Policy # 2403
 - Standing Orders, Radio Delay, and Radio Failure Reporting Policy # 2404
 - Contact Hospital Policy # 2501

- Radio Communication Policy # 2502
- Radio Communication Log Policy # 2403

- Clinical Care and Patient Outcome
 - Medical Control Policy # 2102
 - Case Review Policy # 2104
 - Cancellation and Transfer of Patient Care Policy # 2302
 - Care of Minors in the Field Policy # 2303
 - AEMT/BLS Determination of Death Policy # 2304
 - ALS – Determination of Death Policy # 2305
 - Patient Refusal of Service Policy # 2312

- Skills Maintenance/Competency
 - Continuous Quality Improvement – Providers/Hospitals Policy # 2101.1
 - Field Care Audit Guidelines Policy # 2106
 - Field Care Audit Guidelines (Category II Continuing Education) Policy # 2108
 - Training Program Approval Policy # 3001
 - Instructor Qualifications Policy # 3002
 - Testing Procedure Policy # 3003
 - AEMT/ALS Field Internship Procedure Policy # 3004
 - Student Eligibility to Enter an AED Training Program Policy # 3401
 - Student Eligibility to Enter an MICN Training Program Policy # 3602
 - MICN – Training Structure and Instructor Qualifications Policy # 3603
 - MICN – Training Program Required Hours and Content Policy # 3605
 - Continuing Education Provider Approval Policy # 3702
 - FTO Training Structure and Instructor Qualifications Policy # 3802
 - FTO Training Program and Course Content Policy # 3804
 - New Personnel Orientation and Field Preceptorship for MICN Policy # 4004
 - New Personnel Orientation and Field Preceptorship for EMT-P Policy # 4005

- Transportation/Facilities
 - Base Hospital Designation Policy # 2103
 - Application for Emergency Medical Dispatch Center Provider Accreditation Policy # 2201
 - Emergency Medical Dispatch Center Provider Accreditation Policy # 2201.1
 - Paramedic Transfer Provider Policy # 2203.2
 - EMS Aircraft Services Policy # 2206
 - EMS Aircraft Classifications and Definitions Policy # 2206.1
 - EMS Aircraft Services – Service Request/Dispatch Center Guidelines Policy # 2206.2
 - EMS Aircraft Services – Patient Care and Destination Policy # 2206.3
 - EMS Aircraft Services – Transportation Criteria Policy # 2206.4

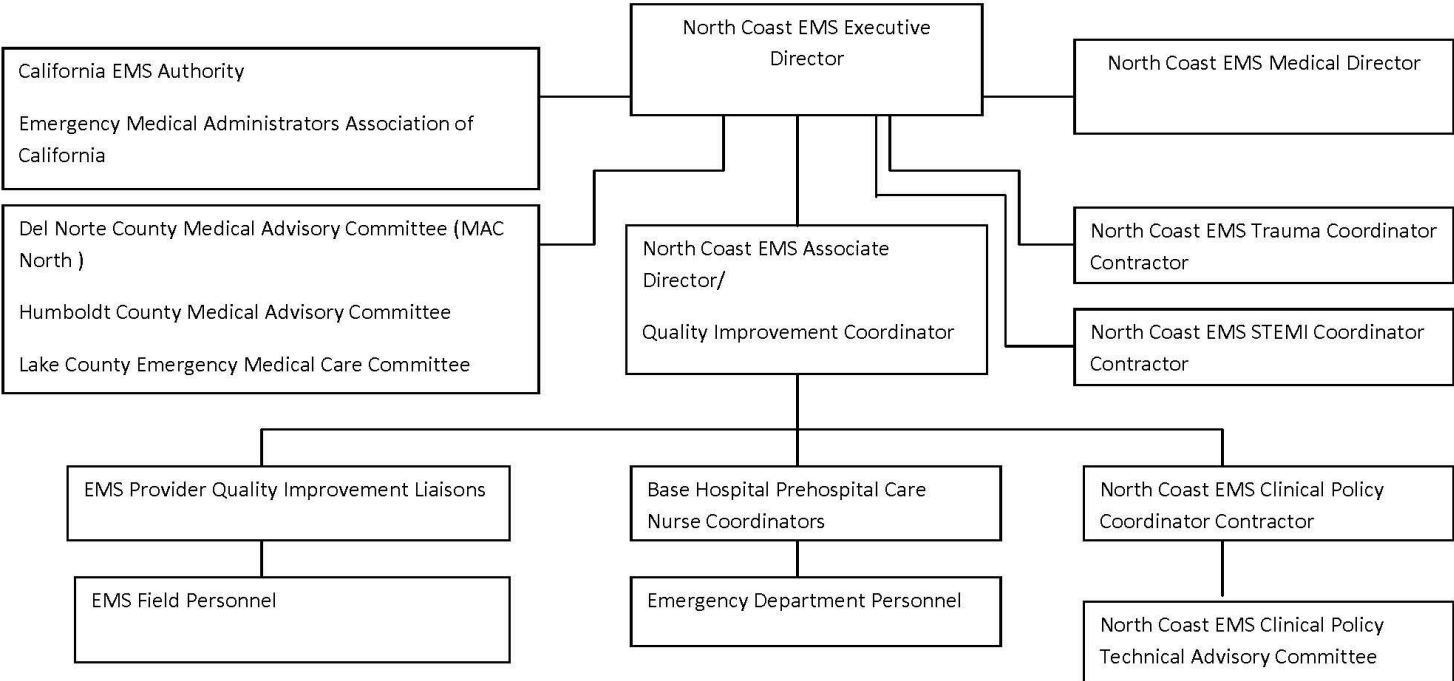
- Rural Clinics in the EMS System Policy # 2207
- Interfacility Transfer Procedure Policy # 2208
- STEMI Receiving Center Designation Criteria Policy # 2215
- Reduction of Closure of Hospitals Policy # 2301
- Destination Determination Policy # 2309
- MCI Communications Plan Policy # 2506
- MedNet Communications Guidelines Policy # 2508
- Trauma Triage Destination Guidelines Policy # 7000
- Establishment of Trauma Service Areas Policy # 7001
- Trauma Center Marketing and Advertising Policy # 7002
- Repatriation of Stable Trauma Service Health Plan Policy # 7003
- Trauma Registry Data Collection and Management Policy # 7004
- Trauma Quality Assurance/System Improvement Policy # 7005

- Public Education and Prevention
 - Use of AED by Non-Licensed or Non-Certified Laypersons (Public Access Defibrillation) Policy # 2210
 - Injury Prevention Programs Policy # 7006

- Risk Management
 - Ambulance Personal Protective Equipment Policy # 2112

*Additions or significant modifications to existing policy are subject to a required public comment period per North Coast EMS Public Comment Solicitation Policy 2006.

North Coast EMS Quality Improvement Technical Advisory Coordination Structure



Matching quality improvement to local resources

The EMS Quality Improvement regulations recognize the significant differences in size, resources, and needs that distinguish EMS jurisdictions, hospitals and EMS providers. For the many different jurisdictions and EMS entities within the state, quality should be defined according to a baseline assessment and very different starting points. The quality improvement of any EMS system participant should be measured against that participant's prior quality achievement.

Similarly, there are significant differences between base hospitals and EMS providers in the North Coast EMS region. North Coast EMS encourages regional base hospitals and EMS provider agencies to set objectives, and to build hospital and agency QI teams, in accordance with the goals set by their leadership and commensurate with the quality improvement training and experience of their hospital or agency.

Constantly improving quality

It is not a simple matter to separate quality assurance from quality improvement. Typically quality improvement and quality assurance responsibilities are assumed by the same individuals or teams within an institution, organization, or agency. Regardless, the distinction between these two quality objectives is less important than is the need for those individuals with "quality" responsibilities to challenge the notion that quality expectations will ever remain static. It is essential that QI leaders question today's goals and benchmarks, and seek to continuously refine them in light of new evidence or evolving standards.

In devising a regional quality improvement program, North Coast EMS worked with system participants through our region's primary EMS community fora, the Humboldt/Del Norte Medical Advisory Committee and the Lake Emergency Medical Care Committee, to establish a system of quarterly reporting on the eight Quality Improvement components and subsequently adopted a concurrent quarterly "focused review."

North Coast EMS Base Hospital and EMS Provider Quarterly Reporting

Core to the North Coast EMS's Quality Improvement Program are the quarterly reports the agency receives from regional base hospitals and EMS provider agencies. Hospitals and providers use the reports to describe quality improvement goals, objectives, initiatives, and evaluations in the eight quality improvement component areas.

The reporting process establishes quality improvement accountability and coordination within the hospital and provider agencies. Quarterly reporting ensures that base hospitals and provider agencies sustain attention to quality improvement over time. Hospital and provider quality reports help North Coast EMS to identify new opportunities for improvement as well as quality improvement best practices. Frequently hospitals and providers use their quarterly reports to bring system concerns to North Coast EMS, or to make suggestions about how North Coast EMS can improve our agency's own performance. North Coast EMS strives to review each report in its entirety, and issues of general concern identified in base hospital and EMS provider Quarterly Reports are immediately shared with the North Coast EMS Executive and Medical Directors. North Coast EMS welcomes suggestions from system participants about how our agency can improve its own performance in support of our regional hospital and prehospital care providers.

The North Coast EMS Quality Improvement Quarterly Reporting program provides allows North Coast EMS to monitor the current level of quality improvement training and understanding among the North Coast EMS regional base hospitals and EMS provider agencies. North Coast EMS encourages base hospitals and EMS provider agencies to adopt an organized team approach to quality improvement that includes the identification of concerns and quality improvement opportunities, systematic search for root causes to perceived problems, avoidance of "assessing blame" for identified problems, and ongoing re-evaluation of the actions taken or initiatives adopted to make improvements and results of these actions and initiatives.

Each QI Quarterly Report submitted to North Coast EMS provides our agency with an opportunity to determine how consistently and how well the QI methodologies we promote among our base hospitals and providers are being employed. When North Coast EMS identifies base hospitals or providers who would benefit from additional quality improvement guidance, we consult directly with them and/or ask that QI liaisons from other base hospital or provider agencies who have demonstrated greater mastery of QI methodologies do so.

Quarterly Focused Reviews

During the quarter proceeding each Quarterly Quality Improvement submission date North Coast EMS selects a single topic for focused review. Focused reviews generally target clinical or operational issues, such as the treatment of pain or the adoption of internal hospital or provider agency training and guidelines for the treatment and transport of patients potentially exposed to an emerging disease. This focus allows North Coast EMS to conduct rapid and timely assessments in response to questions or concerns raised by a single local paramedic or in national headlines. Relevance to immediate issues of concern generates enthusiasm for conducting the reviews.

Because the reviews are conducted quarterly, regional hospital and provider liaisons are provided with routine opportunities to devise review criteria and methodologies. As staff time permits, North Coast EMS distributes a summary of submitted reviews, highlighting the most informative or well-designed reviews and allowing all system participants an opportunity to compare their review approaches to their colleagues and for best practices to emerge.

Frequently review topics are drawn from discussions at regional prehospital meetings like the Medical Advisory Committee or Emergency Medical Care Committee meetings. On other occasions review results inform the agendas of regional prehospital meetings. On occasion, North Coast EMS uses the review as an opportunity to ensure that base hospitals and provider agencies have familiarized themselves with an issue of concern to our agency, to other LEMSAs, and/or to the State EMS Authority. On other occasions, North Coast EMS uses the review to solicit input into policy additions or modifications.

Typical North Coast EMS focused reviews are loosely structured and framed as open-ended questions that require the reviewer's full engagement. Opportunities to think critically about issues, and about how most effectively to evaluate the chosen topics provides hospital and provider QI liaisons with insight into the challenges of designing quality indicators with a county-, region-, state-, or nation-wide scope.

In selecting a topic for region-wide focused review, North Coast EMS gives preference to those topics that encourage reviewers to work with their hospital or provider colleagues. Frequently, for instance, North Coast EMS chooses focused reviews that require input from hospital or agency disaster planners. In framing the focused review "question" North Coast EMS promotes a "team" approach to devising and conducting the hospital or provider agency specific review.

Just Culture

Progressive quality improvement methodologies have long recognized that failures to achieve sought after quality goals or to meet "industry" standards are generally not due to the failures of individuals, but instead can be more accurately and constructively identified in the procedural or structural shortcomings within their work environments. In seeking solutions to problems or opportunities for improvement, North Coast EMS works with other EMS system participants to analyze the root causes of problems, and looks for the means to optimize the energy, talent, and dedication of all our system partners.

Identifying and Prioritizing Opportunities for Improvement

EMS system participants engage in a wide and varied assortment of activities. Based on their own personnel and material resources, each institution or agency can best achieve improvement by carefully targeting quality improvement goals and objectives.

North Coast EMS encourages regional base hospital and EMS provider agency Quality Improvement Liaisons to adopt a quality improvement program structured according to the eight system components. North Coast EMS is responsible for planning and overseeing regional systems that encompass multiple EMS components. EMS systems such as Trauma, Disaster or EMS for Children each include most if not all EMS quality improvement components, and because responsibilities for these systems fall to different North Coast EMS representatives - who in turn engage with different State, regional, other LEMSA, local hospital, and local EMS provider agency representatives - it is practical to adopt a North Coast EMS systemic quality improvement framework structured foremost according to individual EMS systems.

Though it is helpful to adopt a conceptual framework to structure quality improvement efforts, it is essential that chosen framework not dictate those quality improvement objectives that receive the most agency attention or focus. North Coast EMS strives to ensure that those quality needs most pertinent to optimal patient care and the support of prehospital and hospital personnel be prioritized. Regardless of origin of the identified quality improvement opportunity, pursuit of that opportunity should then benefit from a structured quality improvement approach.

The Eight Quality Improvement Components (Structure, Committees and Mechanisms)

Personnel

North Coast EMS is committed to facilitating the certification and employment of the highest possible level of prehospital personnel within our region. This objective is accomplished, in part, by providing clear requirements for regional certification of EMT-Is and accreditation of state licensed Paramedics in accordance with State regulations and authorization of Mobile Intensive Care Nurses (MICNs) following local policy (relevant forms and policies are easily accessible to visitor to North Coast EMS's web site www.northcoastems.com). North Coast EMS is also in the process of implementing a new Public Safety training program pursuant to new regulations, and is planning to modify its existing Frist Responder training program to meet national Emergency Medical Responder (EMR) standards. North Coast EMS also approves prehospital Continuing Education (CE) Providers. North Coast EMS supports prehospital provider education, both directly through training programs, and indirectly through approval of training programs and the personnel requirements included in provider agency and hospital agreements.

North Coast EMS participates as staff time allows in state committees and task forces, and reviews and comments on all proposed changes to the state regulations concerning EMS certification, licensure and accreditation. North Coast EMS also publicizes, and solicits comment from other North Coast EMS system participants concerning possible state or local EMS personnel changes to ensure that new State requirements are implemented and local training needs are addressed. Availability of training in the more rural and remote communities is an ongoing problem. North Coast EMS regularly alerts system participants to changes in state requirements that may affect their personnel or potential hires.

The North Coast EMS region shares challenges faced by other rural areas in assuring access training, maintaining certification, accreditation and licensure, particularly testing requirements. As with all noteworthy issues, interested parties are advised via memos, regular meetings (Medical Advisory Committee {MAC} for Humboldt and Del Norte Counties, Emergency Medical Care Committee {EMCC} for Humboldt and Lake, the North Coast EMS web site, and periodic Informational Mailings.

Certification

As possible, North Coast EMS prioritizes new certifications/accreditations in an effort to support provider staffing requirements. Time allowed for certification/accreditation “turn around” is defined by state regulation as well as North Coast EMS agency policy, but in all cases North Coast EMS accomplishes these certifications/accreditations well within the maximum allowable time. Provided certification/accreditation documentation is properly filed, North Coast EMS attempts to fulfill special provider requests for accelerated personnel accreditation.

Local accreditation of Paramedics includes requirements that the paramedic in question receive focused orientation to local practices and protocols. New paramedics are proctored by locally approved Field Training Officers (FTO) who must meet minimum requirements and be nominated by their assigned base hospital Prehospital Care Medical Director (PCMD) and Prehospital Care Nurse Coordinator (PCNC). Local FTO training program instructors work closely with North Coast EMS to periodically enhance the FTO training program. Prior to recommending local accreditation of paramedics new to the area, the North Coast EMS Coordinator reviews at least 5 of the new paramedics’ prehospital care reports, and 10 in the case of newly State licensed paramedics. The North Coast EMS Associate Director, acting as the agency QI Coordinator, takes concerns to the North Coast EMS Regional Medical Director who

may require additional evaluation or orientation of the newly accrediting paramedics.

Training

North Coast EMS is involved in virtually all aspects of training for EMT-Is, Paramedics and MICNs, as well as monitoring and approval of First Responder, EMT-I, Emergency Medical Dispatch (EMD), EMT-Paramedic and MICN training programs. As agency staff time and resources permit, North Coast EMS strives to ensure that training programs meet the State and National standards.

North Coast EMS has developed policies regarding required training program approval of First Responder, EMT-I, EMT-P and MICN training programs, consistent with state laws, regulations and/or local policy. Agency staff attempt to meet with each of the newly approved training program personnel to discuss California state laws and regulations, North Coast EMS policies and procedures, and expectations for training. North Coast EMS personnel monitor each training program as possible, followed by review of written evaluation results. North Coast EMS also approves CE providers following the EMSA CE Regulations. There are 40 approved CE providers. North Coast EMS is currently implementing revised Public Safety training regulations and plans to adopt the national EMR program in the future.

Students attending courses overseen by North Coast EMS are required to complete surveys evaluating the instruction received in all approved training programs. Results of regional surveys are used to guide policy and procedural changes to improve operations and the EMS system. The results of the training program surveys are compiled and forwarded to the training institutions to improve regional training, identify training and CE needs, and other EMS system needs. North Coast EMS also solicited input from EMTs and paramedics on pediatric training needs as part of a federal grant through US-Davis Medical Center.

Due to stagnant staff size and new state mandates and local priorities, North Coast EMS has been unable to directly monitor approved training programs for several years other than for cause. Increased funding and FTE's are needed to do so.

Equipment and Supplies

Ambulance stocking

Requirements for the stocking, maintenance and security of prehospital equipment and supplies are promulgated in North Coast EMS Policies 2204 (LALS Supply and Equipment List), 2205 (EMT-P Standard Drug/Intravenous Solution List), and 2209 (Controlled Substances). North Coast EMS may conduct spot check visits at the discretion of the North Coast EMS Executive Director and Regional Medical Director. These visits are generally made in response to Case Review requests when concerns about stocking or narcotic security are brought to the Agency.

Persistent and possibly increasing medication shortages over the last few years have resulted in situations when regional prehospital care providers and provider agencies must consider how to address situations when they do not have access to the medications they need to comply with NCEMS treatment guidelines and to treat their patients properly.

North Coast EMS used the regional April 2018 QI Focused Review to query our regional ALS provider agencies about their practices in regard to medication inventory monitoring, with special attention to anticipating possible shortages. After evaluating the provider submission, the North Coast EMS Medical Director issued a memo establishing standardized medication inventory and shortage reporting requirements for all ALS provider agencies. This monitoring should assist in better evaluating these shortages, and in informing future initiatives to mitigate their impact.

Requests to consider the elimination, or inclusion of, drugs or supplies to the required list are reviewed by the Agency. Relevant clinical studies and publications are consulted through a Medline search, the North Coast EMS Regional Medical Director may take questions to Emergency Medical Directors Association of California (EMDAC) for discussion, the North Coast EMS Associate Director/Quality Improvement Coordinator may confer with colleagues on the EMSAAC Quality Improvement Coordinator Committee, or the North Coast EMS may ask EMSA to provide guidance. All supply and equipment issues are considered in light of California State requirements, national standards, ambulance operational limitations, and the weight of medical evidence.

Communications Coverage

North Coast EMS provides oversight and consultative support for medical communications within the North Coast EMS region between prehospital

and base hospital personnel. North Coast EMS Policies 2404 (Standing Orders, Radio Delay, and Radio Failure Reporting), 2501 (Contact Hospital), 2502 (Radio Communication). See - “Clinical Care and Patient Outcome – Medical Oversight” below.

North Coast EMS also coordinates region wide maintenance and enhancement of the Med Net Communications system, including the recent process to narrow band the system. All agency participation agreements with hospitals and LALS/ALS providers specify communications requirements, including equipment requirements for LALS/ ALS service providers. The regional hospitals are required to maintain their own Emergency Department Med-Net radios; prehospital providers maintain their own mobile and portable Med-Net radios; and each county provides maintenance for the Med-Net repeaters located within the county. North Coast EMS maintains a Med Net Trust Fund to assist with equipment replacement or maintenance.

The use of frequencies is coordinated through eight primary and one secondary public safety answering points, as well as several dispatching agencies.

Documentation

Data Validation

As part of the required EMSA General Fund contract, North Coast EMS has consistently submitted quarterly and annual reports that updated and addressed the contract Objectives and identified significant EMS Plan changes. We also submit the annually required Regional EMS Plan and Trauma Plan updates to the EMSA, and numerous other project specific reports (e.g., EMSC, HPP Disaster, HIE, etc).

Prior to submitting most documents to the EMSA, North Coast EMS circulates draft copies to providers, hospitals, county representatives and other interested parties with the special knowledge needed to identify omissions, inaccuracies or questions.

Most documentation circulated by agency is also made available on the North Coast EMS web site. Interested parties are asked to notify North Coast EMS in writing whenever they identify omissions, inaccuracies or questions. North Coast EMS solicits suggestions for additions or changes to the agency’s web site. In 2014, North Coast EMS contracted to have

the agency website converted to WordPress in order to facilitate site updates. Most site updates are now accomplished by the North Coast EMS Administrative Assistant.

North Coast EMS was the first LEMSA to successfully transmit CEMSIS data to the State EMS Authority EMS data repository.

In 2011, EMSA determined that the existing statewide CEMSIS data system was inadequate to the long term statewide EMS quality objectives. Though initially concerned about the disruption that another data system transition would cause, our EMS providers, our base hospitals, and our office, North Coast EMS recognized the long term value in overcoming existing impediments to meaningful standardized statewide EMS data collection. Together we worked with EMSA, the Inland Counties Emergency Medical Agency (ICEMA), and our regional stakeholders to transition to the new ImageTrend EMS data collection system in just over a year's time. NCEMS's appreciation for EMSA, ICEMA, and MISS Program Coordinator Mark Robert's support in this accomplishment cannot be overstated.

Unfortunately, with the passage of time, NCEMS has become increasingly aware of how reliant our providers and hospitals had become on the intuitive data management tools we had provided for them, and frequently respond to requests for some means of recovering this ability. Though ImageTrend also includes management tools, the ImageTrend tools are built on an architecture designed to facilitate the construction of complex reports, to allow robust quantitative and graphical analysis of system-wide data. This system is well designed for large EMS systems employing dedicated data managers. Our small rural EMS system, and our relatively small EMS provider agencies and base hospitals, do not have the data management expertise required to use the ImageTrend tools easily and reliably. Invariably, our providers and base hospitals derive value from their EMS data by answering questions that draw on a small number of query parameters and with no need for graphical data displays. Indeed, through years of experience and incremental refinements, our former PCR database management tools had evolved to meet these needs. Having lost their ability to quickly search for the data they need, our provider agencies and base hospitals must now once again resort to searching for query answers by sorting through paper copies of PCRs, rather than accessing the data they need electronically as they had in the past. They frequently express their frustration during our monthly and bi-monthly quality improvement discussions. North Coast EMS is eager to ensure that the data management abilities our provider agencies

and base hospital QI representatives developed over many years is not lost.

Indeed, ready access ad hoc reporting functions promotes greater understanding of, and appreciation for, the value of more complex data analysis and evaluation, like EMSA's Core Indicators initiative. EMSA and California's Local EMS Agencies have recognized the need to increase overall EMS expertise in quality improvement (QI), but currently many EMS quality managers at the LEMSA level must involve a specialized data manager to extract even simple information from their prehospital data. Eliminating this unnecessary barrier to quality manager data access would encourage more frequent use of available data, and greater quality manager fluency in the ways data can be put to use to meet quality objectives.

Together with our former database vendor and ImageTrend, we have determined that it would be feasible to have ImageTrend furnish our agency with our own data in an unprocessed form, and that our former database vendor could build a management program that would allow the data to be queried in a way similar to the one with which our providers and hospitals had become proficient after years of use. The State EMS Authority has endorsed this effort through fiscal 2014-2015 funding of the North Coast EMS Regional Quality Improvement and Health Information Exchange Discovery Project. Include among the three project objectives is the construction of a prehospital care report management database with functionality similar to that previously enjoyed by North Coast EMS provider agencies, base hospitals and our own agency.

Security

Requests for documentation by outside individuals or entities are answered according to North Coast EMS's Policy 2304 "Access, Release and Confidentiality of EMS Data."

North Coast EMS maintains all Case Review documentation in a locked filing cabinet. Access to privacy protected documentation is provided on a need to see basis to individuals who have previously signed the agency's confidentiality agreement. Subpoenaed documentation is released only after consultation with Humboldt County Counsel.

Prehospital data is password protected and access is limited to office personnel and restricted and limited access is provided to hospital and prehospital personnel for legitimate quality assurance and quality

improvement purposes, according to relevant North Coast EMS quality assurance and quality improvement Policies (see Policies 2100 – 2111).

Trauma Registry data is also protected. Only authorized personnel may access the registry program.

Clinical Care and Patient Outcome

Treatment Guidelines

North Coast EMS most directly influences patient care through the development and revision of the North Coast EMS treatment guidelines. Changes to treatment guidelines may be inspired by the needs of our providers, suggestions from our base hospitals, ongoing review of the EMS literature including changes recommended by institutions and associations such as the AHA and NAEMSP and discussion at conferences and meetings, among others. Among the most important sources of input and sounding boards for changes are the EMSA, EMS Commission, EMSAAC, EMDAC and the EMSC Coordinators meetings and conferences. Other meetings regularly attended by North Coast EMS staff, and whose discussions may provoke or contribute to policy changes include, EMCC, MAC, TAC, Fire Chiefs Association, Child Death Review, Injury Prevention, Child Passenger Seat, and the Humboldt/Del Norte Disaster Committee.

National and State efforts to synchronize the scopes of practice of various field EMS providers are generally driven by research conducted, and needs identified, in densely populated urban centers. While North Coast EMS endorses the adoption of evidence based EMS clinical interventions, we recognize that our local providers confront staffing limitations and long transportation times that defy simple comparisons with urban circumstances. Frequent changes in national and state EMS standards, as well as the evolution of scopes of practice for all levels of field care providers have challenged our small staff. To address a growing backlog of policy revisions, North Coast EMS contracted with a web designer who converted the North Coast EMS website to “Word Press,” an intuitive program that facilitates web site changes, including frequent policy updates. This change means that the North Coast EMS Administrative Assistant can more readily shepherd policies through the revision process, including uploading new and revised policies to the North Coast EMS website.

Additionally, North Coast EMS used Google “Sheets” to construct a policy revision spreadsheet to delineate the more than 20 steps required to take a policy from the point where a revision has been initiated, through

the internal and public review process, signing by the North Coast EMS Executive and Medical Directors, inclusion in the North Coast EMS Informational Mailing, and to posting on the North Coast EMS website. The Google “Sheets” document can be access by those granted permissions by our Administrative Assistant to permit office staff or contractors to verify where a policy revision sits in the revision “queue.”

North Coast EMS contracts with Kayce Hurd, among our region’s most experienced paramedics and EMS educators, to review and revise ALS, BLS, and - in anticipation of North Coast EMS possible support a future Advanced EMT program – A-EMT treatment guidelines. The latter, however, is currently on hold due to other priorities and may be discontinued in favor of further EMT-I scope expansion to include such additions as: oral glucose, Epinephrine and perhaps Narcan.

Kayce Hurd now facilitates the North Coast EMS Policy Review Committee. The Committee meets quarterly and includes representation, via audio and/or video conferencing with representatives from each of our region’s 3 constituent counties.

Committee Structure

The following committees are tasked with evaluating and offering input into a variety of issues, including clinical, operational and administrative questions. Although the entire committee may discuss general clinical matters, specific cases are only dealt with after the formation of a sub-committees in which all members have been identified as having pertinent input or expertise and have signed confidentiality agreements. These include MAC and TAC meetings at this time. We also plan to re-activate the Humboldt County Cardiac Coordinating Committee and recently established the MAC-North Committee for Del Norte County.

Emergency Medical Care Committee (EMCC) – Lake County

The Lake County EMCC is an advisory body to the Lake County Board of Supervisors and North Coast EMS. The committee is charged with the review of operations of ambulance services, and emergency medical care provided in Lake County. The committee is composed of Lake County Board of Supervisors appointees and includes representatives of public and private services, the health department, local hospitals, North Coast EMS and other agencies involved in EMS.

Medical Advisory Committees (MAC) & EMCC– Del Norte and Humboldt

The Humboldt MAC is a subcommittee of the Humboldt County EMCC, which is advisory to the Humboldt County Board of Supervisors and North Coast EMS. The EMCC is charged with the responsibility to review ambulance operations, first aid/CPR training and emergency medical care provided in the Del Norte/Humboldt county area. The EMCC is composed of Humboldt County Board of Supervisors appointees and includes representatives of prehospital and hospital personnel involved in EMS. The Medical Advisory Committee is the primary advisory body to North Coast EMS in Humboldt and Del Norte Counties for the development and modification of all North Coast EMS policies and operations. Members on this committee consist of the prehospital medical director and nurse coordinator from each of five hospitals in Humboldt/Del Norte Counties and one EMT representative.

Del Norte County also has a MAC-North Committee that meets periodically to discuss and resolve EMS related issues.

Trauma Advisory Committee (TAC) – Humboldt, Lake and Del Norte Counties – meet periodically to review instructive cases, provide state and regional trauma updates and discuss trauma program changes.

North Coast EMS Policy Review Committee - Kayce Hurd now facilitates the North Coast EMS Policy Review Committee. The Committee meets quarterly and includes representation, via audio and/or video conferencing with representatives from each of our region's 3 constituent counties.

Medical Oversight

As elsewhere in the nation, North Coast EMS is currently working to balance our region's potentially competing concerns of direct and retrospective prehospital medical control against efforts to reduce hospital operating costs. The majority of our region's seven hospitals have engaged in efforts to reduce or eliminate the use of MICN's and adopt other measures aimed at cost reductions. These efforts raised questions about the degree of medical oversight that our hospitals could effectively provide in the absence of MICNs. North Coast EMS invested considerable effort in conducting a dialogue with system participants and revising and creating policies to allow for "Modified Base Hospitals." Fortunately, the advent of the California EMS QI regulations coincided roughly with the reduction in some hospital EMS services. In particular, the North Coast EMS base hospital and EMS provider Quarterly QI Reporting program and the base hospital and EMS provider focused

reporting program have provided North Coast EMS with additional tools to monitor our system and new prehospital care initiatives.

Additionally, North Coast EMS provides retrospective medical oversight through the case review process (North Coast EMS policy 2104), through review of new and accrediting paramedics 10 and 5 “calls”, i.e. the PCRs written by paramedic interns and paramedics prior to accreditation, through review of calls using the prehospital data base for specific chief complaints or according to other criteria, and through policies and agreements obliging base hospitals and providers to provide prospective, online and/or retrospective review and input. The electronic prehospital care reporting system previously employed throughout the North Coast EMS region featured an intuitive “management” module that allowed base hospital PCNCs and provider agency supervisors to quickly retrieve PCRs matching the criteria they selected. With the transition to ImageTrend, this ability has largely been lost to hospitals and providers, and is now cumbersome for North Coast EMS staff. As noted previously, North Coast EMS is hopeful that, with State EMS Authority support, our agency will be able to recover this ability both for our staff and for our base hospitals and providers in the future.

As part of the EMS for Children federal HRSA grant North Coast EMS recently completed outcome data collection at five or seven hospitals. This blinded data is currently being compiled for evaluation. The Agency also submits Trauma registry data to the EMSA via Trauma One.

Skills Maintenance/Competency

Scope of Practice

North Coast frequently receives requests to consider the addition or elimination of skills or medications from our regional EMS scope of practice. Each of these requests receives careful consideration, although many are immediately identified as required or prohibited by Title 22.

The North Coast EMS Regional Medical Director may make determinations about additions or eliminations independently, but generally these requests receive further review among office staff and the EMCC or MAC, including an evaluation of the EMS literature and of relevant prehospital data available through our prehospital data collection system (EPCIS). Further evaluation may require input from the wider EMS community, and in the past North Coast EMS has considered the relevant medical literature, local prehospital care data, and the results of surveys of field and hospital personnel to determine whether

modifications in scope could be justified by an objective evaluation of patient presentations, response and transport times, and existing prehospital intervention options.

North Coast EMS has determined that “trial studies” require more staff time than is feasible for the foreseeable future and will not attempt these unless the need is decisive, or the trial is done in conjunction with one or more other LEMSAs with whom North Coast EMS may divide administrative duties.

In certain cases, the North Coast EMS Regional Medical Director may elect to request a further review of possible additions or eliminations by EMDAC and/or EMSA.

North Coast EMS recently added aspirin to the EMT-I scope of practice and Fentanyl to the EMT-P scope of practice.

Skills Utilization Benchmarking

Although North Coast EMS encourages the consideration of skills utilization benchmarking where practical, the practice has only been studied by a limited number of, primarily, urban EMS agencies. In the largely rural North Coast EMS region, applying urban standards may or may not be feasible and/or desirable.

More generally, because the validation of benchmarking standards has not been accomplished, and currently depends largely on suspect or discredited self-reporting techniques, applying this practice in the North Coast EMS region would likely meet with justifiable provider resistance.

North Coast EMS will remain attentive to ongoing benchmarking efforts documented in the EMS literature, and consider benchmarking standards according to their potential application to the North Coast EMS region. Likewise, as funds become available, North Coast EMS will seek ways of encouraging and obliging more simulated skills practice.

North Coast EMS will continue to encourage its hospitals and providers to “mine” their data to seek to identify broad system issues, while assuring prehospital data collectors (EMTs and Paramedics) that their diligent data collection efforts will not be used against them. North Coast EMS will remain committed to determining the need for “remedial pathways” from sources other than our prehospital data collection system. North Coast EMS has prioritized ensuring our base hospital and EMS provider QI liaisons have ready access to individual PCRs and to aggregate prehospital

care data. North Coast EMS greatly appreciates EMSA's support of this goal through funding of the North Coast EMS Regional Quality Improvement and Health Information Exchange Discovery Project.

Skills – Advanced Provider

See "Skills Utilization Benchmarking" above.

Transportation/Facilities

Each of the counties in the North Coast EMS region has an ordinance in effect that provides a mechanism to permit and monitor emergency medical transportation services. Each of these ordinances supersedes any other local regulatory programs in existence in the county.

Counties formally retain permitting and monitoring functions through Health Departments and Health Officers in Humboldt and Lake Counties, and by the Board of Supervisors in Del Norte County. North Coast EMS assists Counties, when possible, with ensuring ordinance compliance: the agency designates all ALS service providers, conducts ALS site visits as needed, approves provider and base hospital quality improvement programs, provides data when possible, and performs many other functions to ensure compliance with appropriate statutes, regulations, policies and procedures. North Coast EMS also approves ALS provider and base hospital QIP Programs, and provides ongoing evaluation of the EMS system, including the transportation component when possible.

North Coast EMS is in the process of developing a Humboldt County Transportation Plan that will, if approved by EMSA, grant non-competitive exclusivity to City Ambulance of Eureka, Inc. in the Eureka zone contingent on ongoing coverage of the Fortuna and Garberville subzones, and, of Arcata-Mad River Ambulance in the Arcata zone.

Hospital Diversion

North Coast EMS does not recognize hospital diversion, i.e. patients re-directed to more distant hospitals due to ED saturation. Automatic hospital bypass or redirection is permitted only in case of internal hospital disaster and must be documented by the hospital to North Coast EMS according to North Coast EMS policy 2309.

Specialty Care Centers Destination

The North Coast EMS Regional Trauma System Plan was approved by the State EMS Authority EMSA last year and the annual update was submitted to EMSA in November 2017.

North Coast EMS has four designated Trauma Centers: Sutter Lakeside Hospital as a Level IV, St Joseph as a Level III, Mad River Community Hospital as a Level IV with surgery and, in collaboration with the State of Oregon, Sutter-Coast Hospital as a Level IV Trauma Center. North Coast EMS has defined destination determination for critical trauma patients in Policy 7000A and registry data collection and management requirements in Policy 7004. Please see most recent Regional Trauma Plan update.

Emergency Department Approved for Pediatrics (EDAP) was established in the North Coast EMS region in 1989. All seven hospitals are currently EDAP designated.

North Coast EMS recently re-activated the process to designate St. Joseph Hospital in Eureka as a STEMI Receiving Center.

Public Education and Prevention

Community Involvement

North Coast EMS actively participates in numerous Humboldt County community involved groups, such as Childhood Injury Prevention, Child Passenger Safety Committee, Child Death Review Team, and the Water Safety Coalition. Due to lack of funding, involvement in the other regional counties is limited.

Prevention Programs

See above. North Coast EMS recently worked closely with Public Health the EMS community to prepare for potential Ebola patients.

Patient Education

As part of the EMSC federal grant North Coast EMS established relationships with several cultural communities located on the north

coast and is in the process of developing patient informational opportunities.

Customer Satisfaction

In the development and implementation of all agency programs, North Coast EMS continually solicits comments and questions from system participants. During MAC and EMCC meetings, and in their Quarterly QI Report submissions, North Coast EMS region base hospitals and EMS provider agencies routinely make suggestions regarding North Coast EMS administrative practices, and North Coast EMS routinely adopts administrative changes based on these recommendations.

North Coast EMS encourages input from the public and thoroughly reviews concerns brought to the agency by members of the public. Generally North Coast EMS will discuss these concerns with the provider agency or hospital in question, and will ask that identified problems be addressed, that a report be made to North Coast EMS and that the member of the public who initiated the review be contacted and provided with relevant non-confidentiality protected information.

Risk Management

Issue Resolution Process

North Coast EMS requires that all system participants to document time/date specifics for all their quality concerns. North Coast EMS encourages all issues to be resolved between parties directly affected. When this approach proves impractical or impossible for any reason, or when local issues may benefit from system wide review or changes, North Coast EMS may assume responsibility for review and resolution. In cases where issues may be beyond the resources or jurisdiction of North Coast EMS (generally those concerning paramedic licensure) North Coast EMS advises EMSA.

Resolution of all issues includes a review of all relevant State regulations, North Coast EMS policy and prior practice. Due process is afforded all concerned individuals and agencies.

System Monitoring

North Coast EMS is responsible for overall evaluation, planning, maintenance and enhancement of the EMS System, and virtually all activities are designed to continuously improve patient care, best practices. North Coast EMS has several EMS system evaluation programs and tools in use:

ImageTrend, the electronic prehospital care reporting system used to record prehospital care patient documentation.

Training and CE programs are evaluated based on state standards, agency policies and procedures, site visits and written reports;

ALS providers are evaluated based on state standards and written reports, and have approved CQI Programs in place. Site visits are conducted as needed, such as for a new provider or to investigate problems. The agency also conducts certification and accreditation reviews of personnel.

Base hospitals are evaluated based on state standards, site visits and written reports, and all facilities have written participation agreements with North Coast EMS. These site visits are no longer possible other than for cause.

The EDAP Program evaluates pediatric capabilities of EDs based on local standards and state guidelines, site visits and reports. All EDAPs have written participation agreements with North Coast EMS;

North Coast EMS has completed several surveys throughout the region to assess the needs regarding personnel, training, system design and operations. The results of the regional surveys are used to guide policy and procedural changes to improve operations and the EMS system;

North Coast EMS's Executive Director, Regional Medical Director, EMS Associate Director and Program Manager participate on various committees at the State level to improve EMS system evaluation mechanisms statewide. North Coast EMS staff routinely review and provide comments on draft documents distributed by the State EMS Authority.

North Coast EMS has implemented and will monitor provider and hospital compliance with the QIP regulations. As part of this program, North Coast EMS requires quarterly reporting from on each provider and

hospital's QIP activities. These summaries are reviewed by the agency to identify targets for county or region wide improvement that can be pursued jointly by all concerned system participants.

North Coast EMS tracks Quarterly QI Report submissions from base hospitals and EMS provider agencies to ensure compliance.

North Coast EMS Quality Improvement Plan Matrix of Indicators

Quality Improvement Goals and Objectives

Quality improvement is best conceptualized as a cyclical process involving the identification of a quality improvement objective, the development of a quality

improvement plan to achieve that objective, the implementation of the quality improvement objective plan, an assessment of the results of that plan implementation, and the further identification of quality improvement opportunities – e.g., a refinement of the quality improvement plan based on assessment results. Validating the value of all EMS community quality improvement efforts benefits is achieved through outside oversight and a public discussion of the cyclical quality improvement process. That public discussion encourages continued public, EMS community, and political leadership support for the use of limited system personnel and material resources to achieve identified quality improvement objectives.

Based on input and indicators from EMS system participants and from quality assurance and improvement mechanisms – including but not limited to priorities established by Federal objectives, the California EMS Authority, discussions with administrative and medical counterparts at EMSAAC and EMDAC meetings, input from the North Coast EMS governing board, local system participants, and electronic system data collected through ImageTrend and the North Coast EMS Trauma One trauma registry - the North Coast EMS Executive and Medical Directors establish the North Coast EMS quality improvement goals.

Once North Coast EMS establishes local system quality improvement goals, measurable objectives are developed to accomplish those goals. A North Coast EMS objective specific technical advisory team is organized to focus on each objective, and accountability for the specific goal is delegated to the lead team member, who is also responsible for routine reporting on progress towards - or the accomplishment of - that goal. Team members support the team leader in finalizing the measurement(s) to be used in determining progress towards the objective.

In developing quality improvement goals and objectives, and associated measures, North Coast EMS considers outside input essential, and determines the system stakeholders who should be informed about our agency's Quality Improvement efforts.

The following North Coast EMS Quality Improvement Plan Matrix of Indicators defines our agency's current goals and quality improvement priorities, along with the objectives established to meet those goals, the staff or contractor (**in bold**) with primary responsibility for coordinating the objective technical advisory team, the team members, the metric adopted to measure progress towards achieving the objective, and the individuals, agencies or organizations who will receive reports on progress toward achieving the objective:

North Coast EMS Quality Improvement Plan Matrix of Indicators

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 1 <i>Enhance processes for the evaluation and improvement of the EMS system</i></p>	<p><i>Quarterly QI reports submitted by provider QI liaisons</i></p>	<p>NCEMS QI Coordinator, Provider QI Liaisons, Base Hospital PCNCs</p>	<p>100% submission by Provider QI Liaisons and Base Hospital PCNCs Improvement in compliance noted. Continued need to prompt certain provider agencies for timely reporting. Unable to document % compliance currently due to limited staff time. 2017 In collaboration with EurekaMediadesign.com have developed a program to allow for online QI Report submissions and tracking of those reports. We anticipate that the system will be operational at the beginning of 2018. This system is designed to speed the evaluation of submissions. 2018 Due to a serious illness of the</p>	<p>NCEMS Executive Director, NCEMS Medical Director</p>

			Eurekamediaesign.com staff, this project has been delayed indefinitely.	
<i>Consistent review of provider hospital quarterly quality improvement reports to identify trends and capture provider and hospital recommendations</i>	NCEMS QI Coordinator , Provider QI Liaisons, Base Hospital PCNCs	100% review of provider and hospital QI Quarterly Reports Due to limited staff time, and time required to solicit late reports, unable to review all submissions. Approximate review of 50% of submitted reports. 2017 Reviews continue to be approximately 50% due to time limitation. As described above, the system for online submission should allow those submissions to be reviewed more quickly. 2018 No change in the status of this objective. Fully reviewing all submissions remains a challenge due to limited available staff time.	Provider QI Liaisons, Hospital PCMDs/PCNCs, NCEMS Executive Director, NCEMS Medical Director	
<i>Consistent re-evaluation of provider and hospital QI plans</i>	NCEMS QI Coordinator , Provider QI Liaisons, Hospital PCNCs	Annual 100% internal review and revision of provider and base hospital QI Plans by provider QI Liaisons and Hospitals PCNCs to include provider and hospital specific indicators	Re-submission of QI Plans by Provider Liaisons and Hospital PCNCs to NCEMS QI Coordinator.	

			<p>Currently working with PHP web designer to implement an online system for provider and hospital plan revision.</p> <p>2017 Have initiated soliciting QI Plan resubmissions using the Online QI Plan Assistant developed with Eureka mediadesign.com . This system, designed in collaboration with other LEMSA QI representatives, is now available for use by other interested LEMSAs.</p> <p>2018 NCEMS has used recent QI Focused reviews to concentrate on implementing measures to address and mitigate medications shortages. Further work on provider QI Plan revisions should recommence in the first half of this fiscal year.</p>	<p>Posting of All QI Plans on the NCEMS Web Site with most recent revision date.</p>
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 2 Provide QI educational opportunities to EMS system participants</p>	<p>Provide training in QI principles, the development of QI indicators, and root cause analysis to NCEMS provider agencies</p>	<p>NCEMS Program Manager MAC North – Del Norte County MAC – Humboldt County EMCC – Lake County</p>	<p>Bi-annual QI training for Provider QI Liaisons QI Training for Base Hospital PCNCs within 1 year of position assignment</p>	<p>Provider and Base Hospital QI Status Report issued by NCEMS in first NCEMS Informational Mailing of new year, subsequent report to next Topic QI Review Committee</p>

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 3 Promote the use of routine provider and hospital specific quality indicators</p>	<p>Verify that providers and hospitals include relevant quality indicators in their Quarterly QI Reports</p>	<p>Committee of Provider QI Coordinators and Hospital PCNCs for each NCEMS county facilitated by QI Coordinator</p>	<p>Annual committee meeting to review current provider and hospital goals and associated quality indicators Have asked all provider and hospital QI liaisons to create a “quality indicator” using a standardized template developed for this purpose. 2017 Due to time and resource constraints, have not been able to provide QI training. In lieu of such training, have employed a strategy of pairing EMS provider agency QI representatives with their base hospital counterparts (PCNCs) in the development of provider specific data indicators. This program has proven effective where adopted. Will continue to</p>	<p>Report to NCEMS Executive or Associate Director by NCEMS QI Coordinator. Report issued in first NCEMS Informational Mailing of New Year</p>

			<p>encourage use of this “buddy system” to promote greater provider facility with the development of data indicators.</p> <p>2018 This project was initiated last year and will continue this year.</p>	
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
Goal 4 <i>Improve the capabilities and operating efficiency of the agency</i>	Review alternative models, including online re-certification and payment used by other LEMSAs	NCEMS Program Manager, Executive Director, Program Assistant, Administrative Assistant, NCEMS Web Consultant	Summary of cost and benefits of online certification and payment	NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site
	Adopt an online payment option	NCEMS Program Manager, Fiscal Manager, Administrative Assistant, NCEMS Web Consultant	Implementation of an online certification and payment option for prehospital care providers.	NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 5 Routinize Policy Review</p>	<p>Establish a regional policy review committee</p>	<p>NCEMS Associate Director, Clinical Policy Contractor</p>	<p>Designation of a representative group of provider QI liaisons and hospital PCNCs for clinical policy review A group of interested PCNCs and provider liaisons was assembled. The NCEMS Clinical Policy Contractor was tasked with arranging in tele and or videoconference meetings with these individuals. 2017 Due to interruptions in contractor availability, the policy review committee did not meet in fiscal 2016-17, but as of July 2017, have been conducting internal to NCEMS policy review meetings with the contractor with a focus on re-initiating a policy review committee with regionwide participation.</p>	<p>Regional Policy Review Policies sent to NCEMS Medical Director and Executive Director for final approval. Revised and new policies</p>

			2018 The North Coast EMS Policy Review Committee resumed meetings last year. The Committee meets quarterly.	
	Conduct a quarterly policy review via video conference between Lake and NCEMS (eventually with DNA once they have video conferencing ability)	NCEMS Clinical Policy Contractor, Medical Director, Associate Director, Provider QI Liaisons and Hospital PCNCs	Quarterly multi-county video conferencing meetings to review Clinical Policy Contractor DRAFT policy changes Two quarterly meetings held. Progress was interrupted when the home of the contractor was completely destroyed by fire. 2017 See above note. 2018 The North Coast EMS Policy Review Committee resumed meetings last year. The Committee meets quarterly.	DRAFT policies circulated via Informational Mailings Finalized DRAFTs sent to NCEMS Medical Director and Executive Director for final approval and signature. Signed Policies issued via Informational Mailing and posted to NCEMS web site.

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 6 Increase NCEMS educational offerings</p>	<p>Establish and ensure a North Coast EMS sponsored class, seminar, panel, speaker or conference is scheduled every quarter (can be the same offering in consecutive quarters in alternating constituent counties. CEs provided)</p>	<p>NCEMS Program Manager, Executive Director, Associate Director</p>	<p>A NCEMS sponsored educational opportunity conducted alternately in each NCEMS constituent county each quarter (May be broadcast or made available in other counties via video conferencing. CEs provided)</p> <p>2017 Conducted the annual EMSC Conference where CEs were provided. Through HPP funding of the Humboldt County EMS Disaster Liaison, participated in, and promoted countywide participation in the the Redwood Memorial Hospital active shooter full scale exercise where CEs were offered.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site</p>

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
Goal 7 Promote EMS initiatives to ensure EMS system access to the spectrum of all regional geographical and cultural communities	Seek input from representatives of geographical and cultural communities	NCEMS Executive Director, Administrative Assistant, Program Manager	Establishment and maintenance of a list of representatives of geographical and cultural communities willing to offer input in regard to EMS system access issues	NCEMS Governing Board, NCEMS region provider agencies, local EMS Committees, posted on NCEMS Web Site
	Identify and address the unmet needs of pediatric and medical fragile populations	NCEMS Program Manager, Executive Director, Medical Director, EMS stakeholders, representatives of cultural and geographic communities	Developing and distributing an annual needs survey to EMS personnel and cultural community representatives, and prioritizing list of quality improvement activities targeting the unmet needs of pediatric and medically fragile populations	NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site

	Monitor national and state community paramedic initiatives for local compatibilities	<p>NCEMS Associate Director, Executive Director, Medical Director</p> <p>MAC North – Del Norte County MAC – Humboldt County EMCC – Lake County</p> <p>Regional provider QI liaisons and hospital PCNCs (via email query)</p> <p>Query to EMSAAC QI Coordinators</p>	<p>Annual query for input/recommendations from North Coast EMS stakeholders</p> <p>NCEMS Associate Director met quarterly with statewide QI Coordinator group. Discussions included such initiatives. No formal query completed at this time due to limited staff time.</p> <p>2017 Have continued to monitor pilot projects. Have supported the development of a Lake County multidisciplinary initiative to reduce use of the 911 system through patient data sharing.</p> <p>2018 The Associate Director continues to monitor and support the Lake County “Wellness Roadmap” initiative.</p>	<p>Query results shared with NCEMS Governing Board, NCEMS region provider agencies and posted on NCEMS Web Site</p>
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
Goal 8 Improve NCEMS, provider, and hospital prehospital and hospital database access	Create a management module for North Coast EMS	North Coast EMS Associate Director, Jay Myhre, MAC North – Del Norte County MAC – Humboldt County EMCC – Lake County	An intuitive PCR report/query module similar to the EPCIS management module that can be accessed by North Coast EMS staff This initiative was pursued under a grant, but thus far the cost of adopting data interface	NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site

			<p>with the PCR program used locally has proven prohibitive. Requests for such a system continue to be made by NCEMS region EMS providers and hospitals.</p> <p>2017 Have received representatives of other PCR programs to initiate a community wide discussion about adopting one or more alternative PCR systems that may better serve local needs and practices.</p> <p>2018 The cost of alternative PCR systems has proven prohibitive and NCEMS is exploring more cost effective ways of performing data analysis using our current system and innovations suggested by Redwood MedNet</p>	
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	<p>Create a management module for Providers and Hospitals</p>	<p>North Coast EMS Associate Director, Jay Myhre, MAC North – Del Norte County MAC – Humboldt County EMCC – Lake County</p>	<p>An intuitive PCR report/query module similar to the EPCIS management module that can be accessed by NCEMS PCNCs and Provider QI Liaisons</p> <p>Cost of such a system continues to be prohibitive.</p> <p>2017 After initial discussions with representatives of other PCR systems, have identified other, potentially affordable alternatives to our current PCR system. Further discussions anticipated for the beginning of 2018.</p> <p>2018 The cost of alternative PCR systems has proven prohibitive and NCEMS is exploring more cost effective ways of performing data analysis using our current system and innovations suggested by</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site</p>
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			Redwood MedNet	
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 9 Identify and address potential patient care record security and confidentiality threats</p>	<p>Confer with EMSAAC on security and confidentiality issues</p>	<p>NCEMS Associate Director, Executive Director</p>	<p>A synopsis of LEMSA PCR security and confidentiality best practices or EMSAAC recommendation Awaiting further EMSAAC action to address with issue. 2017 No change. 2018 No change.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site</p>
	<p>Confer with EMSA on security and confidentiality issues</p>	<p>NCEMS Associate Director, Executive Director</p>	<p>A synopsis of LEMSA PCR security and confidentiality best practices or EMSAAC recommendation 2017 No change. 2018 No change.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site</p>
	<p>Adopt a NCEMS policy regarding record security and confidentiality</p>	<p>NCEMS Executive Director, Associate Director</p>	<p>A North Coast EMS Policy regarding patient care security and confidentiality Awaiting further action by other state system participants. 2017 No change. 2018 No change.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, posted on NCEMS Web Site</p>

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 10 Ensure ready access to regional EMS information for EMS system participants</p>	Issue an Informational Mailing at least once per quarter	<p>NCEMS Administrative Assistant Executive, Director</p>	An Informational Mailing issued quarterly	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>
	Include an explanatory synopsis of all included policy changes in each Informational Mailing	<p>NCEMS Administrative Assistant, Executive Director, Associate Director, Program Manager, Clinical Policy Revision Contractor,</p>	<p>A current policy change synopsis included with each Informational Mailing 2017 Anticipated beginning in 2018 with future policy changes after review by the policy review committee.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>
	Update the North Coast EMS website within one month of issuing an Informational Mailing	<p>NCEMS Administrative Assistant, Associate Director, Web Site Contractor</p>	<p>NCEMS website updated within one month of issuing an Informational Mailing 2017 Anticipated beginning in 2018 with future policy changes after review by the policy review committee.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>
	Publish the policy change explanatory synopsis on the North	<p>NCEMS Administrative Assistant, Clinical Policy</p>	Current policy change synopses published on the NCEMS	<p>NCEMS Governing Board, NCEMS region provider agencies,</p>

	Coast EMS website within one month of issuing policy changes	Revision Contractor,	website within one month of issuing an Informational Mailing 2017 Anticipated beginning in 2018 with future policy changes after review by the policy review committee.	regional base hospitals, posted on NCEMS Web Site
	Update the web site Table of Contents and Policy Index within one month of issuing an Informational Mailing	NCEMS Administrative Assistant, Associate Director, Web Site Contractor	Updated website Table of Contents and Policy Index within one month of issuing an Informational Mailing 2017 Anticipated beginning in 2018 with future policy changes after review by the policy review committee.	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site
	Ensure that all regional EMS related meetings are posted on the North Coast EMS Calendar	NCEMS Administrative Assistant, Associate Director, Web Site Contractor	All regional EMS related meetings posted on the online NCEMS EMS Calendar 2017 not yet attempted due to the prioritization of the policy review committee.	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site

	Routinely verify that the policy manual and web site are synchronized	NCEMS Administrative Assistant, Associate Director, Program Manager, Web Site Contractor	Annual review to verify that policy manual and website are synchronized. 2017 Need to return to this objective in 2018.	NCEMS Executive Director, Associate Director
	Routinely post North Coast EMS regional Core Data Indicator results on North Coast EMS website	NCEMS Associate Director, Program Administrative Assistant, Web Site Contractor	Annual update of NCEMS regional Core Data Indicators posted to NCEMS website Not initiated due to staff change at NCEMS (new Administrative Assistant) 2017 Not accomplished due to need to questions regarding the reliability of these results after a region wide focused review indicated that results may not reflect actual field practice. Compilation of core indicators complicated by transitions between NEMSIS versions. 2018 As yet NCEMS has not been able to send this	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site

			year's core measures results to EMSA due to concerns regarding data validity.	
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 11 Adopt forthcoming EMS for Children state regulations when available to ensure hospital and provider compliance with national and state EMS for Children standards</p>	<p>Continue Emergency Dept Approved for Pediatric (EDAP) designations and transition to new state standards when available.</p>	<p>NCEMS Emergency Department Approved for Pediatrics Nurse Coordinator, Executive Director, Medical Director, Associate Director, Program Manager,</p>	<p>Verification that NCEMS required equipment includes EMSC standards, verify that ED physician and nursing staff receive pediatric CEUs, and designated EDAPs have a pediatric QI program. 2018 No change. EDAP site visits for continuing compliance conducted at St. Joseph Hospital and Redwood Memorial Hospital, completed June 2018</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional EDAPS, posted on NCEMS Web Site</p>
	<p>Hospital PCNCs regularly provide pediatric specific Field Care Audits in coordination with assigned PdLNs.</p>	<p>NCEMS Emergency Department Approved for Pediatrics Nurse Coordinator, Program Manager, Executive Director, Associate Director</p>	<p>All North Coast EMS PCNCs provide at least one pediatric specific FCA annually No change</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional EDAPs and base hospitals, posted on NCEMS Web Site</p>

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 12 Rationalize the care and transport of mental health emergency medical patients.</p>	<p>Identify EMS field and ED challenges in the assessment, treatment and transport of mental health patients</p>	<p>Mental Health Nurse Contractor, NCEMS Executive Director, Medical Director, Associate Director</p>	<p>Develop and submit annual survey to EMS stakeholders to determine the needs confronting prehospital care providers and hospital EDs in the assessment, transport and treatment of 5150 patients</p> <p>2017 Continue Meeting monthly with the Medical Society, Mental Health & local hospitals to address issues as they arise. Meeting monthly with the nurse managers from local ER's, clinics. Law enforcement and mental Health</p> <p>Developing information on the 72 hour clock laws. Assessing the impact of minors in psychiatric crisis on the adult psych setting and the effect on ER's</p> <p>2018 Continue Meeting monthly with the Medical Society, Mental Health & local hospitals to address issues as they arise. Meeting quarterly with the nurse managers from local ER's, clinics. Law enforcement and mental Health</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>

			Participating in the Medical Society's "small group" to develop collaborative pilot programs regarding when the 72 hour clock starts, HSC 1799.111, ER MD designation criteria for eligibility to rescind 5150 holds and develop a collaborative pilot protocol for minors to be seen at ER by mental health mobile response teams to address the impact of minors in psychiatric crisis on the adult psych setting and the effect on ER's	
	Update as needed reference materials regarding the clinical and legal framework for assessment, treatment and transport of mental health patients	Mental Health Nurse Contractor, NCEMS Executive Director, Medical Director, Associate Director	Update reference materials designed to support EMS and ED personnel in the assessment, transport and treatment of 5150 patients 2017 Continue to Update NCEMS 5150 web guide annually & as needed. Created a standardized Medical Clearance form for admittance to designated psych facility document. Piloted for 3 months with success. Now in review for revisions. Plan to assist Detox & Jail with creating medical clearance forms for their facilities. Assisting ER's with information on tele-psychiatrist's ability to treat & process to enable them to lift	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site

			<p>5150 holds if the person can be properly served without being detained.</p> <p>2018 Continue to Update NCEMS 5150 web guide annually & as needed.</p> <p>Medical Clearance form for admittance to designated psych facility document successfully piloted, now in full effect. Jail medical clearance completed. Assisting ER's with information and being the bridge of collaboration between MH, ER, EMS & Law enforcement regarding WIC 5150 HOLDS</p>	
	<p>Promote education for the EMS community regarding the optimal assessment, treatment and transport of 5150 patients</p>	<p>Mental Health Nurse Contractor, NCEMS Executive Director, Medical Director, Associate Director</p>	<p>Promote training opportunities for EMS responders in Del Norte/Humboldt County and Lake County</p> <p>2017 Created 5150 training videos for each of the 3 counties to be accessible any time. Held Field Care Audit trainings on medical clearance, and medical detox & 5150 Holds. Educate staff at monthly Medical Advisory Committee meetings, as well as field emails, & questions as they come in. Have trainings scheduled for 2018. Plan to update videos yearly.</p> <p>2018 Created training videos and links to the 5150</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>

			<p>webguide following annual update. Created videos for each of the 3 counties to be accessible any time. Held Field Care Audit trainings on medical clearance, and medical detox & 5150 Holds. Educate staff at monthly Medical Advisory Committee and Medical Society meetings, as well as field emails, & questions as they come in. Plan to update videos yearly.</p>	
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 13 Early identification of emergency interfacility transfer concerns</p>	<p>Development of emergency IFT reporting requirements by sending hospitals and transport providers</p>	<p>NCEMS QI Coordinator, Executive Director, Medical Director, Associate Director</p>	<p>Emergency IFT reporting requirements incorporated into EMS Provider Agreements and Base Hospital Contracts No action taken pending Humboldt County EOA implementation. 2107 North Coast EMS has contracted with a EOA Oversight Officer and is developing contracts for the EOA providers. 2018 This project was interrupted due to the contractor moving out of the area unexpectedly.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>
	<p>Quarterly reporting by sending hospitals and transports providers of key emergency IFT elements</p>	<p>NCEMS QI Coordinator, Executive Director, Medical Director, Associate Director</p>	<p>Submission of data regarding key emergency IFT elements by sending hospitals and EMS IFT providers No action taken pending Humboldt County EOA implementation. 2107 North Coast EMS has contracted with</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>

			<p>a EOA Oversight Officer and is developing contracts for the EOA providers.</p> <p>2018 This project was interrupted due to the contractor moving out of the area unexpectedly.</p>	
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Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 14 Monitoring of key specialty care metrics - TRAUMA</p>	<p>Implement program and process for verification of trauma registry data entry</p>	<p>NCEMS Trauma Coordinator Contractor, Executive Director, Medical Director</p>	<p>A process for verification of trauma center registry data entry 2017 completed trauma registry data submission from each trauma center to NCEMS and the State Trauma Registry for first quarter in 2018. This requires continued coordination with Lancet Technologies and Digital Innovations, the vendors used by the trauma hospitals for their registries. 2018 No change in the status of this objective. Fully reviewing all submissions remains a challenge due to interface issues with the state trauma registry and limited available staff time.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving trauma center trauma coordinators, posted on NCEMS Web Site</p>
	<p>Improve suitability and compliance with North Coast EMS policies specific to designated Trauma Center activities.</p>	<p>NCEMS Trauma Contractor, Executive Director, Medical Director</p>	<p>To be determined in 2016. 2017 completed update of policy #7000 - Triage Determination and Transport Destination Policy, specific to each trauma center. Additional policies, #7001-7006 to be reviewed and updated in 2018, with coordination from TAC team members. 2018 No change in the status</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving trauma center trauma coordinators, posted on NCEMS Web Site</p>

			of this objective. Policies 7001-7006 will need to be updated in 2019.	
	Improve oversight and assurance of internal performance improvement requirements of designated Trauma Centers	NCEMS Trauma Contractor, Executive Director, Medical Director	To be determined in 2016. 2017 Currently trending patient demographics, ISS, injury type and patient outcomes/dispositions. Continue in 2018 to work with trauma center representatives and TAC team members to establish and enhance QI and case review processes. Will conduct quarterly data review and sharing with TPMs to increase familiarity with report development and facilitate accuracy of data. 2018 No change in the status of this objective. This continues to be a challenge due to technical issues with Lancet Trauma Registry and lack of access to Digital Innovations Trauma Registry. Pending JPA resolution of annual fees to fund Trauma Nurse Contractor time is necessary to coordinate quarterly data review/TAC meetings and evaluate the data.	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving trauma center trauma coordinators, posted on NCEMS Web Site

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 15 Monitoring of key specialty care metrics - STEMI</p>	<p>Improve NCEMS access to STEMI data within the ImageTrend database</p>	<p>NCEMS STEMI Contractor, Executive Director, Medical Director, Associate Director</p>	<p>The identification of a set of ImageTrend/NEMSIS data elements relevant to STEMI 2017 Due to staff constraints and challenges with ImageTrend, unable to utilize ImageTrend at this time.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving STEMI center STEMI coordinators, posted on NCEMS Web Site</p>
	<p>Refine and expand the STEMI indicators used by NCEMS to assess STEMI care at designated STEMI Receiving Centers</p> <ul style="list-style-type: none"> • Time of first medical contact to ECG • Advance hospital notification for suspected STEMI • Scene time for suspected STEMI • Transport of suspected STEMI to PCI hospital 	<p>NCEMS STEMI Contractor, Executive Director, Medical Director, Associate Director</p>	<p>A set of STEMI Indicators to be generated at least quarterly 2017 STEMI Receiving Center collects data on all key STEMI indicators</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving STEMI center STEMI coordinators, posted on NCEMS Web Site</p>

	Track provider compliance with STEMI reporting requirements	NCEMS STEMI Contractor, Executive Director, Medical Director, Associate Director	A tracking system, with compliance metrics for NCEMS region transport agencies	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving STEMI center STEMI coordinators, posted on NCEMS Web Site
	Active QI program to review performance and outcome data for STEMI patients at designated STEMI Receiving Centers (thinking of the Cardiac Coordinating Committee here - but do not know how this translates to Lake Co).	NCEMS STEMI Contractor, Executive Director, Medical Director, Associate Director	The designation of provider and hospital STEMI coordinators. Regularly scheduled meetings of regional STEMI program coordinators. 2017 Humboldt Cardiac Care Committee conducts quarterly STEMI data review with STEMI system representatives.	NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, receiving STEMI center STEMI coordinators, posted on NCEMS Web Site

Goal	Objectives (Activities)	Topic QI Review Committee	Metric	Reporting method/target audience
<p>Goal 16 Monitoring of key specialty care metrics - STROKE</p>	<p>Develop stroke system knowledge and awareness</p>	<p>NCEMS Executive Director, Medical Director, QI Coordinator</p>	<p>Evaluation of Stoke education opportunities for NCEMS EMS personnel. (Using NCEMS Quarterly Focused Review) 2017 No progress made on this goal due to competing priorities. 2018 No progress made on this goal due to competing priorities.</p>	<p>NCEMS Governing Board, NCEMS region provider agencies, regional base hospitals, posted on NCEMS Web Site</p>

Statewide Core Indicators

North Coast EMS actively supports the California EMS Authority's data standardization efforts, and the establishment of measurable standardized indicators of quality EMS systems and patient care. North Coast EMS believes that the development of standards should be process driven. Successful standardized indicators will emerge from a process that prioritizes the full participation of all those agencies, institutions and individuals who must ultimately persuade other individual system participants of the value of the standardization goal. Meaningful, comparable system and patient care measures will be achieved most readily when those engaged in the activities being measured understand and appreciate the value of their participation. Meaningful indicators require a development process that anticipates ongoing adjustments as well as the refinement of the tools, such as uniform terminology and data sheets that conform to the data elements and values of a single standard (i.e. NEMSIS). Agencies, institutions and individuals will support a standardization process that they feel accommodates their priorities, and respects their experience and the investment of their time and effort.

North Coast EMS continues to support state data collection initiatives and associated regulations. North Coast EMS notes that State core indicator conformance to the fields and values in the State required version of NEMSIS continues to improve.