

Quality Management Plan

REACH, CAL-ORE, CALSTAR

2020



Defining the process of quality care

Revised January 2020

Continuous Quality Management Program 2020

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Introduction

REACH Medical Holdings (RMH) includes the entities of REACH, CAL-ORE, CALSTAR and subsidiary branches. RMH has a strong commitment to providing safe, efficient medical transportation and patient care excellence. This commitment includes helicopter, airplane and ground ambulance services for the critically ill and injured patients throughout California, Oregon, Texas, Nevada, Colorado and surrounding states. RMH ascribes to a strong Continuous Management (QM) Program to include individual care providers, but also involves a global system process for defining, collating and analyzing outcome measures. This data reporting affords process improvement, as well as protocol, skill, and education development to benefit patient outcomes, our customers and all stakeholders. All QM practices must be based on the fundamentals of a Just Culture lens. This document's objective is to outline a system-wide process for evaluating and improving patient care services. It is reviewed and updated, minimally, on an annual basis, additionally as needed.

Mission Statement

"To provide customer-oriented, high-quality medical transport services in a safe and efficient manner. In every situation, do what is right for the patient".

As part of our One Team concept with Global Medical Response partners, we aim to provide care to patients in need all over the world.

Mission Statement: Providing care to the world at a moment's notice

Guiding Principles

- **PATIENT CARE**
We continually earn the privilege to care for our patients. It is at the forefront of everything we do.
- **ONE TEAM**
We respect each other and achieve together what no individual can alone.
- **INNOVATION**
We are driven to develop solutions that inspire progress.
- **VIGILANCE**
We will never waver in our commitment to safety and preparedness in the fulfillment of our duties.
- **OWNERSHIP**
We are accountable for what we do and take pride in how we do it.
- **CITIZENSHIP**
We are dedicated to being good stewards in the communities we serve.

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Areas of Clinical Operation

California

- REACH 1, Santa Rosa, Coastal Valley EMS
- REACH 2, Stockton, San Joaquin County
- REACH 3, Napa, Napa County
- REACH 5, Redding, Shasta County (S-SV)
- REACH 6, Lakeport, Lake County (North Coast EMS)
- REACH 7, Marysville, Yuba County (S-SV)
- REACH 9, El Centro, Imperial County
- REACH 11, Brawley, Imperial County
- REACH 13, San Bernardino, ICEMA County
- REACH 16, Oceanside, San Diego County
- REACH 17, Mather, Sacramento County
- REACH 18, Willits, Mendocino County (CVEMS)
- REACH 21, Alpine, San Diego County
- REACH 22, UCLA Program, LA County
- REACH 27, French Valley, Riverside County
- REACH 50, Mather, Sacramento County
- CAL-ORE Lifeflight, Crescent City, Del Norte County (North Coast EMS)
- CAL-ORE Lifeflight Eureka, Humboldt County (North Coast EMS)
- Sierra Lifeflight 1, Bishop, Inyo County
- Sierra Lifeflight 2, Bishop, Inyo County
- Con Air 1, Concord, Contra Costa County
- Con Air 2, Concord, Contra Costa County
- CALSTAR 2, Gilroy, Santa Clara County
- CALSTAR 3, Auburn, Placer County (S-SV)
- CALSTAR 4, Ukiah, Mendocino County (CVEMS)
- CALSTAR 5, Salinas, Monterey County
- CALSTAR 6, South Lake Tahoe, El Dorado County

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- CALSTAR 7, Santa Maria, Santa Barbara County
- CALSTAR 12, Modesto, Stanislaus County
- CALSTAR 13, Merced, Merced County
- CALSTAR 14, Watsonville, Santa Cruz County
- CALSTAR 70, McClellan, Sacramento County
- Arcata Mad River Ground, Arcata, Humboldt County
- City Ambulance Ground, Eureka, Humboldt County

Oregon

- REACH 8, Roseburg, Douglas County
- REACH 19, Brookings, Curry County
- REACH 53, North Bend, Coos County
- CAL-ORE Lifeflight Ground, Brookings, Curry County
- CAL-ORE Lifeflight Ground, Gold Beach, Curry County

Nevada

- REACH 23, Elko, Elko County
- REACH 58, Elko, Elko County
- American Medflight R63, Ely, White Pine County
- American Medflight R64, Reno, Washoe County

Colorado

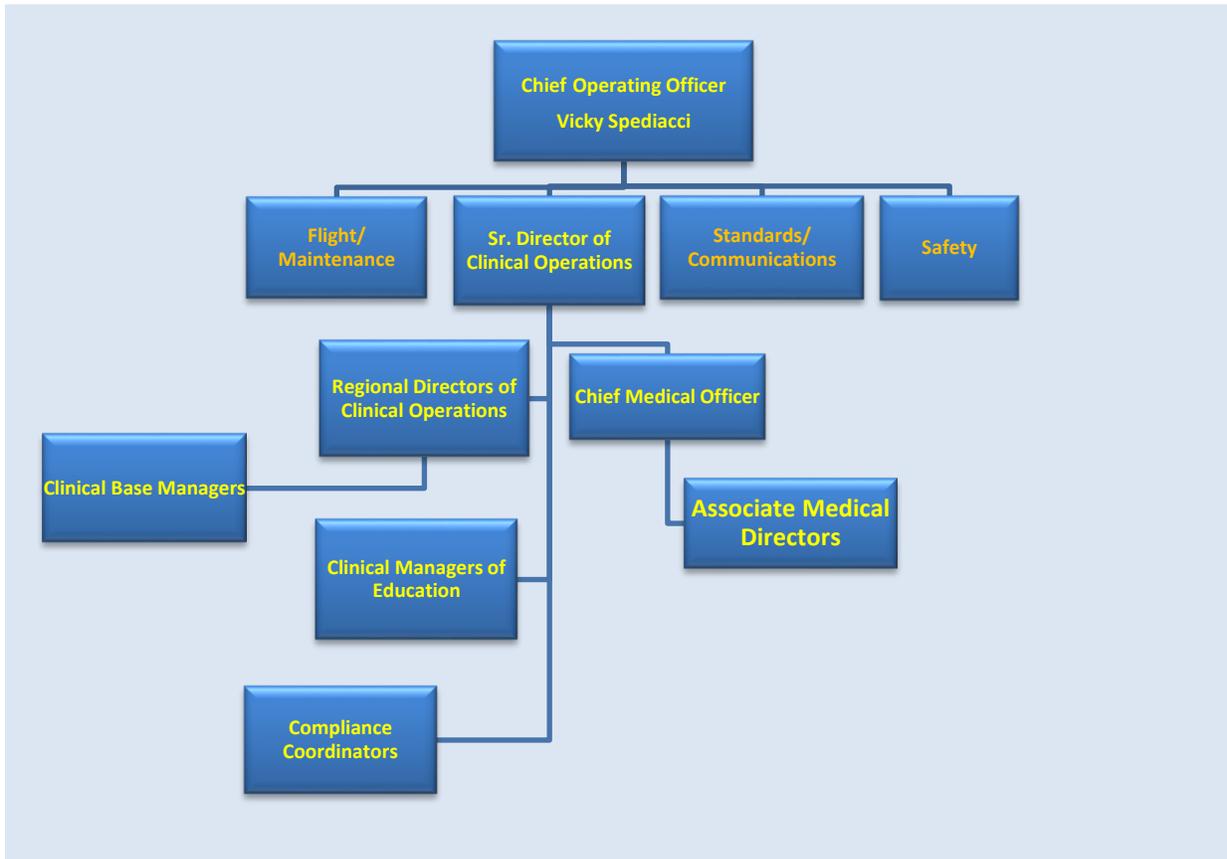
- REACH 26, La Junta, Otero County
- REACH 29, Buena Vista, Chaffee County

Texas

- REACH 101, Washington County Fire

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REACH Medical Holdings Organizational Structure Medical Operations



Global Medical Response SHARED SERVICES

HR, Finance, Marketing, Supply Chain, Facilities, IT, BD

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Medical Oversight

REACH Medical Holdings utilizes a multi-disciplinary medical team consisting of registered nurses and paramedics. Nurses are licensed through the State Board of Registered Nurses, providing care as defined by the State Business and Profession Code. Application of medical care and interventions is under the authority of the Executive Medical Director of Clinical Operations and Associate Medical Directors as provided through living policies, procedures, and protocols.

Clinical practice for paramedics is defined by the state Code of Regulations. Medical oversight is under the accrediting State and/or Local Emergency Medical Service Authority (LEMSA) Medical Director within the area of jurisdiction where the paramedic is based. Pre-hospital protocols are provided by the EMSA/LEMSA. The EMSA/LEMSA is the regulatory agency which develops and enforces policies and patient care protocols to support effective pre-hospital care for the communities served by the paramedic provider.

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Overview of the Quality Management Plan

The purpose of the Quality Management Plan (QMP) is to ensure credibility and reliability of the process utilized in our quest to match performance to highest quality standards. This strategy defines an effective and repeatable process in which to identify potential areas for improvement in compliance with patient care protocols and policies, efficiency, training and education; as well as identifying outstanding clinical performance and best practices. Within this framework, the QMP is designed to provide REACH Medical Holdings with methods to plan, research, study, and model activities to meet quality objectives and to assess and research against those objectives to ultimately deliver continuous quality patient care.

Authority

1. Emergency Medical Service providers are required to develop and implement a QMP under EMSA/ LEMSA regulations.
2. Commission on Accreditation of Medical Transportation Services (CAMTS), 11th Edition
Accreditation Standards
 - i. § 02.00.00. Quality Management
 - ii. § 03.00.00. Patient Care

Guiding Principles of Quality Management

The guiding principles of Quality Management are:

- i. Quality Improvement is everyone's responsibility.
- ii. Quality cannot be demonstrated unless we define it, measure it, analyze it and reward it.
- iii. All outcomes are defined with the patient in mind.
- iv. Quality data is to be used for improvement and prevention, not criticism or punishment.
- v. We must continually ask: "Why do we do what we do and how can we do it better?"
- vi. Quality Management practice must embrace the organizations commitment to provide superior levels of quality and customer service.

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Steps in Quality Management

RMH has adopted the Plan-Do-Study-Act (PDSA) Deming model of improvement.¹ RMH utilizes the following steps to ensure the Continuous Quality Management Model:

Step 1: Identify a need/issue/problem and develop a problem statement

Step 2: Define the current situation—break down the problem into component parts, identify major problem areas, and develop a target improvement goal

Step 3: Analyze the problem—identify the root causes of the problem and use charts and diagrams as needed

Step 4: Develop an action plan—outline ways to correct the root causes of the problem, specific actions to be taken, identify who, what, when and where

Step 5: Look at the results—confirm that the problem and its root causes have decreased, identify if the target has been met and display results in graphic format before and after the change

Step 6: Start over—go back to the first step and use the same process for the next



¹ Emergency Medical Services System QIP Model Guidelines #166 Rev. 3/04 pg. I-1

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Indicators

Indicators are important aspects of measuring care. EMSA/LEMSA regulation requires an EMS Service Provider to identify indicators which address, but are not limited to, the following²:

1. Personnel
 - i. Number of registered nurses
 - ii. Number of paramedics
 - iii. Workload
 - iv. Education and Training
2. Equipment and Supplies
 - i. Preventative maintenance plans
 - ii. Pharmaceuticals
 - iii. Number of staffed aircraft/ambulances
 - iv. Mandatory equipment list
3. Documentation
 - i. Utilization of documentation standards, focused audits and follow-up education, followed by another audit until desired results are achieved
 - ii. Narcotics records
4. Clinical Care and patient Outcomes
 - i. Medical policies and procedures
 - ii. Medical Oversight
5. Skills Maintenance and Competency
 - i. Scope of Practice
 - ii. Skills utilization
 - iii. Infrequent skills
 - iv. Review success rates/setting benchmarks
6. Transportation/Facilities
 - i. Response times
 - ii. Wait times/on-scene times
 - iii. In Service Availability
 - iv. Specialty Care Center Destinations

² CCR Title 22 Social Security Division 9 Chapter 12 Article 2 100402 (a)(1)

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7. Public Education and Prevention
 - i. Community involvement
 - ii. Prevention programs
 - iii. Patient/family education
 - iv. Customer satisfaction

8. Risk Management
 - i. Issue resolution process
 - ii. OSHA compliance
 - iii. Post incident peer review
 - iv. Personnel safety monitoring
 - v. Peer Support Team

A key concept to identifying indicators is Structural Evaluation + Process Evaluation = Outcome. Structural Evaluation refers to the structure of the Department and the presence of mandated resources and center around non-personnel issues, i.e. equipment/inventory. Process Evaluation refers to the appropriate use of resources available, i.e. history taking, focused physical exam and appropriateness of treatment protocols. Outcome Evaluation refers to the results of the care provided to the patient. Each of the indicators are related and dependent upon one another. Changes in the structure may affect the process and the outcome. Similarly, changes in the process may affect the structure and outcome. Indicators provide focused information so that data can be reviewed and understood more efficiently and in a meaningful way.

RMH CQI Plan Process

The goal of the RMH QMP is to achieve the highest quality patient care that is efficient, timely and appropriate, and most importantly, with patient well-being at the forefront of decision making. QM review of every transport is performed with the inclusion of the Ground and Air Medical Quality Transport (GAMUT) criteria. QM occurs for every transport minimally by peer review and Clinical Base Manager review within 72 hours of transport completion.

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CQI Document Protection

RMH subscribes to a Patient Safety Organization (PSO), namely, the Center for Patient Services. As such, QM is a protected process allowing for frank, honest, purposeful discussion paving way to meaningful action of improvement.

Participants in Continuous Quality Improvement

QM/Peer Review

1. The QM/Peer Review process drives the collective purpose to review, monitor and evaluate patient care. QM involvement includes the following entities:
 - i. Medical Director review per indicators
 - ii. Directors of Clinical Operations
 - iii. Clinical Base Managers
 - iv. Peers
2. Quality Indicators are measured and reported monthly at the company Operation Action Council (OAC). The reports are discussed amongst the OAC multi-discipline team to allow for awareness and recruit constructive feedback.

QM Parameters

The goals of the QM/Peer Review Committee are to:

1. Promote excellence in the delivery of care by maintaining and/or improving compliance with the predetermined standards of care as outlined in the EMSA/LEMSA, and CAMTS accreditation standards.
2. Provide both the organization and individuals with meaningful and timely information regarding performance.
3. Recognize outstanding clinical performance and best practices.
4. Develop individual and/or system oriented education and/or training based on quality improvement findings.

To assure a consistent approach to process evaluation and improvement, the following imperatives will be followed any time QM processes are being performed:

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1. The confidentiality and non-disclosure is vital to the free and candid discussions necessary for effective QM. It is expected that every participant in the Committee respects and maintains the confidentiality of all discussions, deliberations, records and other information generated about these activities.

2. All personnel whose actions are discussed in case review are entitled to confidential and objective evaluation.
 - a) Questions or comments directed by QM/Peer Review members are expected to engage in professional and non-derogatory expression.
 - b) It is understood that QM/Peer Review members may be faced with circumstances where an objective evaluation of care must be performed on their own documentation at a committee level.

Responsibilities to the LEMSA, Jurisdictional, and Accrediting Bodies

1. RMH's QMP shall be reviewed by the EMSA/LEMSA as per regulatory requirement.
2. RMH will participate in EMSA/LEMSA CQI activities and programs to include:
 - a) Cooperation in carrying out the responsibilities of EMS QM Program
 - b) Cooperation with the implementation of state required EMS system indicators
 - c) Cooperation with the implementation of state optional EMS system indicators
 - d) Cooperation with the EMS agency in monitoring, collecting data, and evaluating state required and optional EMS system indicators
 - e) Cooperation in the re-evaluation and improvement of state and local EMS system indicators
 - f) Develop, monitor, collect data on, and evaluate indicators specific to the EMS provider as needed
 - g) Conduct meetings for internal review of EMS provider information and development of performance improvement plans related to the findings
 - h) Establish a mechanism to receive input from the local EMS agency, other service providers and other EMS system participants for the development of performance improvement plans

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- i) Assure reasonable availability of EMS QM Program training and in-service education for EMS provider personnel
- j) Participate in meetings and presentations of state and local EMS system information for peer review to local designated advisory groups and other authorized constituents
- k) Make available mutually agreed upon records and documents for program monitoring and evaluation

Annual Updates

RMH will publish annual summary reports of QM Program activity for distribution to following entities as required, and/or requested

1. Organizational leadership
2. Accrediting bodies (CAMTS)
3. The EMSA/LEMSA
4. Other relevant agencies as approved by organizational leadership

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Review and Revisions of the QMP

Review and revision of the QMP for relevance and appropriateness will occur under the following circumstances:

1. Annually at the beginning of each calendar year
2. As required and as needed

Distribution on the QMP

The RMH QMP will be made available and distributed upon request, and/or annually at the beginning of each calendar year to EMSA/ LEMSA and requesting agencies and organization.

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Training and Education

Effectiveness of the EMS QMP and related training is directly proportional to the energy and resources committed. Administrative oversight should be available and directly involved in the process. When clinical issues are addressed, medical oversight is recommended.

Action to Improve Process is embedded in Communication, Training and Education

Training and education are critical components of QM and performance improvement. The QMP has set criteria for measurement on critical indicators. Based on these criteria, delivery methods and content of training is developed in synchrony with learnings, process change, and policy change. This integrated process prevents misdirection which may occur when training is isolated from the QMP. Success of the performance improvement plan is dependent upon adapting behavior and knowledge of the staff who deliver care to patients or services to other participants and stakeholders. To implement change, we must deliver verifiable, ongoing training that is appropriate to the skill level, service goals of the organization and optimal outcomes for our patients.



Education and Training Goals

Education and training for RMH's critical care transport nurses and paramedics is commensurate with the organization mission and scope of service. Orientation, training and ongoing education is directed and guided by the transport program's scope of care, patient population and medical direction. Education, training and continuing education incorporates Federal Aviation Administration (FAA) directives, regulatory mandates, state statutes and accrediting standards. The program replicates currency and evidence-based practice and is driven by medical direction and clinical quality management as it relates to critical care and the transport environment. Initial and ongoing training and education will employ various teaching strategies and modalities that align with scholar learning styles to include but not limited to didactic, case studies, simulation, computer aided and self-learning online methodologies.

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Objectives

- a) Review the mission, vision, values and scope of service to assure alignment with education for clinicians. Examine and evaluate RMH policies, procedures and practices for accuracy and currency. Identify and demonstrate application of initial orientation and training completion.
- b) Identify and demonstrate application of continuing education and training needs
- c) Identify and apply applicable FAA directives as they relate to air ambulance transport
- d) Identify and apply applicable regulatory mandates
- e) Identify and apply applicable state statutes
- f) Identify and apply applicable accrediting standards
- g) Identify areas of clinical focus through medical direction and RMH's clinical quality management
- h) Examine current evidence-based practice to support initial orientation, training and continuing education
- i) Examine and relate evaluation modalities for identification of individual learning needs being met
- j) Recognize if learning needs are not met and employ methods to succeed
- k) Incorporate medical directive/clinical quality management identified deficiencies into initial and ongoing training and education
- l) Illustrate and manage orientation, initial and ongoing training and education documentation through an organized, centralized and retrievable location

Education Plan

- a) A written education plan is in place. At a minimum, the plan will be reviewed annually and updated as needed.
- b) Assure RMH's Mission, Vision, and Values to include Scope of Service and Scope of Care are represented in the training and education presented to nurses and paramedics.
- c) The Nurse and Paramedic Job Description and Skills Maintenance Policy will be reviewed on an annual basis to assure the job requirements remain current and appropriate with industry standards and meet the organizational mission footprint.

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- d) The education program will be Medical Director and clinical quality management driven. QM data is analyzed to provide and discuss clinical data and performance with the Medical Director on a monthly basis. An assessment of prioritized skill, knowledge, and performance needs will drive practice and policy change. Monthly education and training will incorporate highlighted needs assessment elements to cement incorporation into daily performance.
- e) Areas of clinical, didactic and/or technical skill deficiencies are identified through the Medical Directors and Clinical Base Manager assessment. Proficiency training is incorporated into the initial and continuing education for the transport team members.
- f) Perform an annual needs assessment with effected disciplines with regards to orientation, training and education. Clinical Operations will collaborate to develop strategies for the implementation of requested and identified needs and clinical standards for external audiences.
- g) Annual review with appropriate updates and amendments for clinical crew orientation as it applies to current trends in critical care and transport medicine. Annual review with appropriate updates and changes to ongoing/annual education, specific requirements per regulations, Commission on Accreditation of Medical Transport Systems (CAMTS) standards, RMH policy and procedures and identified learning needs.
- h) Regular review of content to include delivery methods and measurable objectives with updates as needed.
- i) Clinical Education Manager(s) will perform routine review of clinical proficiencies for accuracy and currency. In collaboration with Clinical Operations team, the Clinical Education Manager(s) build and add additional proficiencies as new procedures and practices, interventions, medications and equipment present.
- j) Monthly discussion in the multi-discipline Operation Action Council focusing on subject matter and identifying updates and changes to principles and practices for ambulance critical care transport.
- k) Transport team members will maintain documentation of licensure, certification and educational activities in the RMH designated electronic tracking management system.
- l) Clinical compliance is monitored and reported monthly by the Clinical Base Manager. Compliance reports are distributed then to Directors of Clinical Operations for oversight.

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Measurement of Success

- a) Ongoing review of clinical crew orientation post-course evaluations for identification of trends and learning needs. Real time adjustment of identified areas for improvement and focus with timely re-evaluation of changes.
- b) Monthly reporting of GAMUT and CAMTS QM indicators with consideration to front line feedback married with evidence-based practice standards to drive change.
- c) Review of cases in collaboration with Medical Directors, Directors of Clinical Operations and Clinical Base Managers focusing on clinical critical care thinking, assessment and implementation skills and clinical competency. The information will be shared with applicable parties to include case presentations at company base meetings and reflection in clinical scenarios during training. There will be dynamic bi-annual simulation scenarios representing identified challenges and/or learning opportunities. The findings will be incorporated into initial clinical crew orientation and ongoing RMH education.

Summary of Educational Plan

- a) RMH will support and maintain transport team members who possess knowledge and proficiency to successfully plan, implement, and evaluate actual and potential risk for their patients during critical care transport.
- b) RMH will accomplish this provision of knowledge and proficiency with education and training for their employees through medically driven, clinical quality management and diligent, structured and current evidence based clinical practices.

External Education

Education events for the community are offered through the REACH Medical Group Holdings footprint. The events are advertised through the organizational websites, social media and by email through a distribution list. Education events may be initiated through request from EMS agencies, hospitals or initiated by individuals within the organization. Once requested, the process flows through the Education Services Department for organization, facilitation and record keeping. External education records are stored electronically. These records are maintained by the Education Services Director. Evaluations after each event are collected through an electronic evaluation program. Reports from this program are stored with the records for the corresponding

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event. Continuing Education Certificates are processed and maintained through a program called CRM, the certificates are sent within 2 weeks of the conclusion of the event.

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Performance Improvement Plan

Once valid information has been presented and reliability evaluated, the decision to act or to solve a problem requires a structured approach that is adaptable and applied to each situation as it is identified. The following are components of a standardized improvement process:

1. Establish criteria for measurement and evaluation
2. Evaluate information
3. Decide upon actionable improvement opportunity
4. Establish criteria for improvement
5. Establish an improvement plan
6. Implement the improvement plan with timelines and terms
7. Measure the results of the improvement plan
8. Standardize or integrate change (plan) into the system
9. Establish a plan for monitoring future activities

Performance Improvement practices embody a Just Culture approach and are developed in cooperation with appropriate personnel and agencies, to include but not limited to:

1. RMH leadership and Human resources
2. Medical Director(s)
3. When appropriate or requested, the base hospital, State and local EMSA and Medical Director(s)
4. Board of Registered Nurses if required

Performance Improvement includes customer feedback loops of communication. Actionable feedback is achieved through

- a. Participation in the EMSA/LEMSA QM program that may include making available mutually agreed upon relevant records for program monitoring and evaluation.
2. Distribution of the QMP to stakeholders
3. Providing a mechanism for feedback and QMP development through interactions with all stakeholders annually at a minimum

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Medical Direction

The organization's QM Program team has input into the content and delivery methods of related training and education. This involvement provide consistency between the current and subsequent Performance Improvement Plans. The organization places the oversight for directing clinical training and education at the highest level of medical knowledge.

Measure the Results of the Performance Improvement Plan

Once the Performance Improvement Plan has been implemented, the measurement of a successful outcome will be dependent upon the validity of the plan and the effectiveness of the training and education. If the outcome is not satisfactory, it is necessary to examine both the content of the Plan and delivery method of related training and education.

Integrate Change

Based on the Performance Improvement Plan, the appropriate policies and procedures will be revised, and staff will successfully complete training and educational components of the plan. Continuing education at appropriate reoccurring intervals will be conducted to re-evaluate the original system indicators.

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Just Culture

A “Just Culture” balances the assessment of systems, processes and human behavior when an error or event is reported. It is a safety-supportive system of shared accountability where health care organizations are accountable for the systems they have designed and for responding to the behaviors of their staffs in fair and just manners. Staff, in turn, is accountable for the quality of their choices and for reporting both their errors and system vulnerabilities. *Just Culture* correlates with nurse and paramedic critical thinking skills in determining the root cause of an error. The process relies heavily on acute assessment skills, identification or anticipation of a problem, and a crafted plan implemented to improve or avoid that problem.

“Just Culture” is an environment where negligence is identified and discipline is applied appropriately after a systematic review of the error. To ensure a fair and just process, an established set of objective questions follow an algorithm to identify if the error occurred due to a system or process issue and/or due to human error. Staff is held accountable for their actions and behaviors. Staff is held blameless when there is a system or process that allowed the error to happen. By utilizing the “Just Culture” principles and decision-making algorithm, RMH can hold each person accountable and move away from an overly punitive or blame free culture and attain a middle ground with staff and systems. This model is designed to help change an organization’s culture by placing less focus on events, errors and outcomes, and more focus on risk, system design and the management of behavioral choices. In this model, errors and outcomes are the outputs to be monitored; system design and behavioral choices are the inputs to be managed.

The goal of a “Just Culture” environment is to design safe systems that will reduce the opportunity for human error and capture errors before they reach the patient. Safe systems should facilitate the staff to make good decisions and should make it more difficult to make an error. However, it is up to individuals to manage their behaviors and choices.

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Error Definitions in a Just Culture

In this culture, we recognize that humans will make mistakes. It is the behavior choices that we must manage to make sure we do not drift into unsafe places. Humans must recognize that risk is everywhere and we must be responsible for our behaviors. The behaviors we can expect to explore when assessing an event are human error, at risk, and reckless behavior.

- a) Human Error – inadvertent action; inadvertently doing other than what should have been done; slip, lapse, mistake.
- b) At-Risk Behavior – behavioral choice that increases risk where risk is not recognized, or is mistakenly believed to be justified.
- c) Reckless Behavior – behavioral choice to consciously disregard a substantial and unjustifiable risk.

Types of Errors

1. Diagnostic/Assessment

- Error in delay of monitoring or assessment
- Failure to employ indicated monitoring or assessment
- Misuse or inappropriate monitoring or assessment
- Failure to act on results of monitoring or assessments

2. Treatment

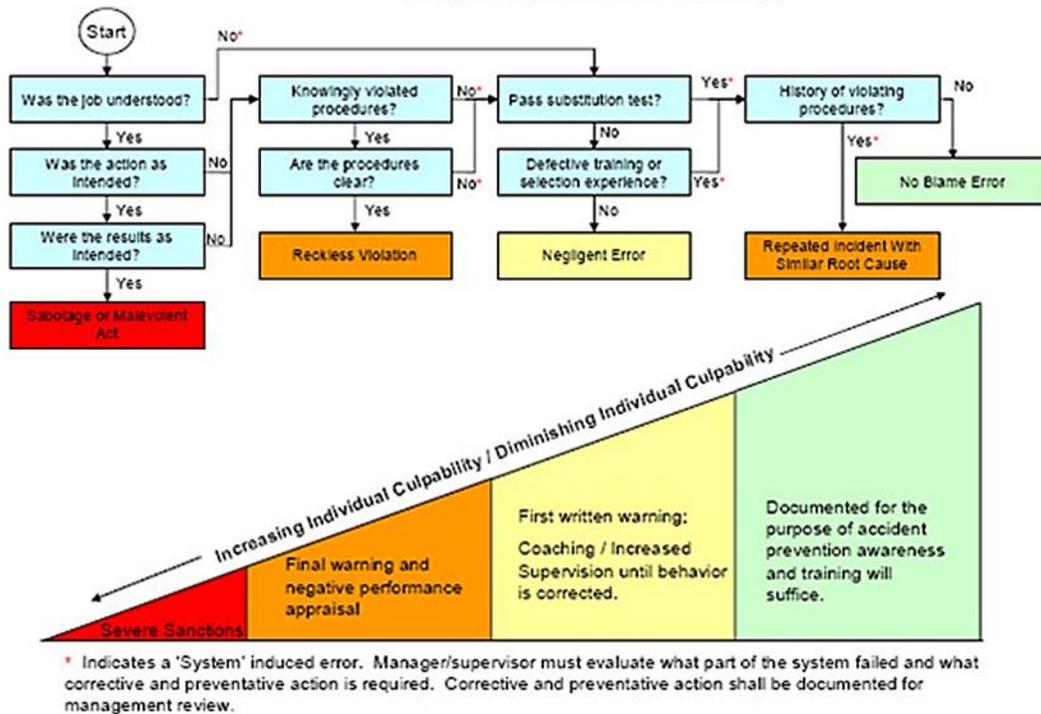
- Error in performance of a procedure or intervention
- Avoidable delay in responding to an abnormal finding
- Inappropriate or omitted care

3. Preventative

- Failure to adequately monitor and assess after an intervention or procedure
- Failure to anticipate and preplan

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Just Culture Process



Detection of Medical Errors

To analyze and plan to remedy a problem, it is first necessary to collect data about the problem and then to summarize that data. Collection strategies include: retrospective chart review, performance monitoring, anonymous incident reporting, event audit, and analysis of complaints. Each strategy has unique strengths and none is sufficient by itself.

The analysis of incidents is a powerful method of learning about the organizations and, hopefully, leads to improvements for enhancing patient safety, such as adopting protocols or organizational changes in the field where the error has been found more likely to occur. A non-punitive method of incident reporting (Baldwin) is a key strategy. If this is the goal, not only incidents, but also near misses have to be documented, where a near miss is defined as “any action or condition that could have caused an injury or damage”. Near misses are useful tools, supporting patient safety, because they give a wider overview of the issue than only those incidents that really occur do.

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Medical Event Reporting

Notification of a clinical incident, near miss and/ or Serious Reporting Event (SRE) is confidential and protected under the umbrella of RMH subscription to a Patient Safety Organization, namely, Center for Patient Safety. The information is directed internally to medical participants per the following escalation:

1. The author of the incident report
2. The Clinical Base Manager
3. The Regional Director of Clinical Operations
4. The Sr. Director of Clinical Operations
5. The Chief Operating Officer
6. The involved Medical Director(s)
7. The legal & compliance departments

The following events require clinical leadership notification, follow-up, and loop closure. This is accomplished through the clinical portal of the Baldwin reporting system.

1. Any Failed Airway scenario
2. Any surgical cricothyrotomy; successful or failed
3. Any error, event, or omission resulting in adverse effect or outcome or potential adverse effect or outcome including, but not limited to, medication errors or complications, treatment and/or intervention errors, assessment errors, or destination errors.
4. Policy and/or procedure deviations or omissions
5. Unanticipated decline in patient status
6. Death of patient receiving care of company clinical team
7. Care affected by equipment or device failure
8. Injury to a patient during and/ or as a result of transport
9. Any transport decline due to patient status or care needs
10. Destination diversions from intended facility
11. Transport of patient whereby care was transferred prior to arrival at the receiving facility destination
12. Any conflict with an outside agency or health care provider

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Medical Event Review Progression

A Medical Event Review follows the normal chart review progression of self, peer and management critique. A Medical Event Report can emanate in the following way:

1. The clinical crew member(s) involved are to submit the notification within 24-hours of the event.
2. If, during a CQI review, an event is discovered and a notification was not previously generated by the involved crew members, the reviewer must submit a Baldwin.

Medical events must be reviewed and resolved in a timely manner. The process in entirety should not take more than 1-week to complete from the date of occurrence, including all involved parties. The process and outcome must embrace the guiding principles of QM as defined in this document.

Requirements for Error Correction

The final step in quality improvement is the correction of problems. Once an error has been identified, steps must be taken to correct the error and prevent reoccurrence. Correction of errors can occur within the level of the Quality Management team outward, or from the staff level outward. In either situation, open correspondence is crucial to assure all points of view are considered with management and staff concurrence in the corrective action.

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Guiding Principles for Error Correction

- The process must be objectively, openly, and fairly administered.
- Remedial activity should be initiated by concern for the individual’s overall performance rather than a single case and discussed with them in confidence.
- Emphasis is placed on policy, process, skill, knowledge, performance, education and modification.
- Monitoring and documentation of remediation must be clearly documented.
- Disciplinary actions are only imposed if an individual is not responsive to remedial activities and should be imposed in timely, consistent and equitable fashion.

Human Error Levels, Definitions, Resolution and Goals

Just Culture ERROR LEVEL	DEFINITION	RESOLUTION	GOAL
Console	Error recognized and reported by team	Case reviewed by CBM or designee with strategy discussion with involved clinical team for future avoidance	< 95% of all errors
Coach	Error unrecognized or unreported by team	Case reviewed by Clinical Operations team and plan devised based upon circumstances, behavior and performance, not the error alone	< 4% of all errors
Counsel	Error either recognized or unrecognized with disregard for policy, process, protocol or consequence	Clinical Operations to review the event, interview the clinical team, conduct a root-cause analysis, devise training, education and/ or remediation plan, or determine if further actions are required	< 1% of all error

Loop Closure

Loop closure is a key component for any Quality Management Plan and patient safety program. The key to effective loop closure is to assign problems to categories and to have a database that allows for tracking and trending of these categories. This makes it possible to identify recurring problems that action plans were designed to address. Loop closure must be creative and multifaceted. Effective loop closure requires a commonsense approach to problem solving. Acceptable loop closure is proof that thorough measures have been taken to ensure that a quality issue has been addressed satisfactorily to improve patient safety. The following steps are important components of adequate loop closure:

1. Action plans are formulated

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2. Action plans are implemented by the assigned personnel.
3. Action plans, after an appropriate period, are evaluated for their effectiveness in solving the problem.
4. The QM process re-evaluates for problem recurrence over a predefined period.
5. Resolution of the problem is documented before the problem is closed in the database.
6. If a problem recurs, the problem is reopened and the entire problem-solving process is started all over.

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Standards of Performance:

The Standards of Performance describe a competent level of behavior in the professional role, including activities related to quality of professional practice, professional practice evaluation, education, collegiality, ethics, collaboration, research, resource utilization, and leadership. Although the Standards of Professional Performance delineate the expectations of all medical crew members, membership in professional organizations, certification, continuing education, and the pursuit of advanced degrees are additional methods of demonstrating professionalism.

1. Quality of Practice

Caring for the patient systematically evaluates and seeks to improve the quality and effectiveness of clinical practice.

- a) Participates in clinical inquiry through quality improvement activities.
- b) Uses systems thinking to initiate changes in clinical practice and the healthcare delivery system.
- c) Ensures that quality improvement activities incorporate the patient's and family's beliefs, values, and preferences as appropriate.
- d) Questions and evaluates practice in an ongoing process, providing informed practice and innovation through research and experiential learning.
- e) Identifies organizational systems barriers to quality care and patient outcomes.
- f) Collects data to monitor the quality and effectiveness of clinical practice.
- g) Develops implements, evaluates, and updates policies, procedures, and/or guidelines to improve the quality and effectiveness of clinical practice.

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2. Professional Practice Evaluation

Cares for the patient evaluates his or her own clinical practice in relation to professional practice standards, institutional guidelines, relevant statutes, rules, and regulations.

- a) Engages in a self-assessment and/or formal performance appraisal on a regular basis, identifying areas of strength as well as areas where professional development would be beneficial.
- b) Seeks and reflects on constructive feedback regarding his or her own competencies from the team of patient, family, and other healthcare providers.
- c) Acts to achieve performance goals.

3. Education

Acquires and maintains current knowledge and competency in the care of ill and injured patients.

- a) Participates in ongoing learning activities to acquire and refine the knowledge and skills needed to care for patients and their families.
- b) Seeks learning opportunities that reflect evidence-based practice to maintain clinical skills and competencies needed to care for patients and families.
- c) Participates in ongoing learning activities related to professional practice.
- d) Maintains professional records that provide evidence of competency and lifelong learning.

4. Collegiality

Caring for the acutely and critically ill patient interacts with and contributes to the professional development of peers and other healthcare providers as colleagues.

- a) Shares knowledge, skills, and experiences with peers and colleagues.
- b) Provides peers and colleagues with constructive feedback regarding skill, knowledge and performance.
- c) Interacts with peers and colleagues to enhance his or her own professional practice and promote optimal patient outcomes.
- d) Contributes to a supportive and healthy work environment that is conducive to the education of healthcare professionals.

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- e) Contributes to a healthy work environment by working with others in a way that promotes mutual respect and meaningful recognition of each person's contribution.

5. Ethics

Decisions and actions are carried out in an ethical manner in all areas of practice.

- a) Practice is guided by ethical care and ethical principles.
- b) Maintains patient confidentiality within legal and regulatory parameters.
- c) Works on another's behalf and represents the concerns of patients, their families, and the community.
- d) Delivers care in a nonjudgmental and nondiscriminatory manner that meets the diverse needs, strengths, and weaknesses of the patient and preserves patient autonomy, dignity, and rights.
- e) Uses available resources in formulating ethical decisions.
- f) Demonstrates a commitment to self-care and self-advocacy.
- g) Reports illegal, incompetent, or impaired practices.

6. Collaboration

Caring for the acutely and critically ill patient uses skilled communication to collaborate with the team of patient, family, and healthcare providers in providing patient care in a safe, healing, humane, and caring environment.

- a) Uses skilled communication to foster true collaboration.
- b) Partners with others to effect change and generate optimal outcomes through knowledge of the patient or situation.
- c) Commits to establishing and maintaining a healthy work environment.
- d) Initiates referrals as appropriate to promote continuity of care.
- e) Collaborates with the patient's family and significant others to promote effective transition across care settings.

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7. Research/Clinical Inquiry

Caring for the patient uses clinical inquiry and integrates research findings into practice.

- a) Continually questions and evaluates practice and uses the best available evidence, including research findings, to guide practice decisions.
- b) Participates in activities to support clinical inquiry as appropriate to the clinician's skill, knowledge and scope.

8. Resource Utilization

Caring for the acutely and critically ill patient considers factors related to safety, effectiveness, cost, and impact in planning and delivering clinical services.

- a) Considers factors related to safety, effectiveness, availability, cost, and impact on outcomes when choosing among practice options.
- b) Assists the patient and family in identifying and securing appropriate and available services to address health-related needs according to resource availability.
- c) Assigns or delegates aspects of care, based upon an assessment of the needs and condition of the patient, the potential for harm, the stability of the patient's condition, the predictability of the outcome, the availability and competence of the healthcare provider, and the availability of resources.
- d) Assists the patient and family to become informed consumers by facilitating learning of the options, alternatives, risks, benefits, and costs for treatment and care.

9. Leadership

Caring for the acutely and critically ill patient provides leadership in the professional practice setting as well as the profession.

- a) Works to create and maintain healthy work environments in local, regional, national, and international communities.
- b) Encourages peers and colleagues through mentoring and other strategies.
- c) Demonstrates flexibility and the ability to remain patient-focused in a rapidly changing environment.

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- d) Directs the coordination of care across the continuum and among caregivers, including oversight of licensed and unlicensed personnel in any assigned or delegated tasks.
- e) Participates on committees, councils, and administrative teams.
- f) Promotes advancement of the discipline through participation in professional organizations.
- g) Contributes to a culture of safety for patients, families, organization, and other healthcare providers.
- h) Promotes communication of information and advancement of the profession through writing, publishing, and presentations for professional and lay audiences.
- i) Uses a proven systematic methodology in the development and implementation of innovative solutions.

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Clinical Measures

Clinical Measures are a quantifiable method to assess how well a process achieves the objective. It is a method or instrument to estimate or monitor the extent to which the action of the practitioner or process conforms to practice guidelines, policy, medical review, or standards of quality. The data is collected and reported in a monthly, quarterly or annual report depending on the measure. Clinical Measures and Benchmarks are established through evidence based practice in conjunction with EMSA/ LEMSA's, industry, clinical, accreditation standards and research to promote the most optimal patient outcomes.

Performance Measures are measurement tools that are specific, measurable, action oriented, relevant and timely. There are three types of indicators used to measure quality in patient care; structure, process, and outcome. Relying on only one type of performance measures can yield a very narrow perspective on quality care. The ultimate goals of performance measures are quantifying and demonstrate the true value of the system.

Structural Measures are attributes of the setting in which care is provided. These usually refer to the characteristics of the different components of a system including facilities, equipment, staffing, knowledge-base, credentialing and deployment. Response time standard is the most commonly used structure measure

Process Measures are the components of the encounter between the care giver and the patient. It is an evaluation of the steps of the care provided. A process is the repeatable sequence of actions used to produce good patient outcome. In contrast to structure and outcome measures that provide an indirect approach to quality measurement, process measures allow for a direct assessment of quality of care. One example is collecting specific data points on the process of endotracheal intubation to monitor the success rate of this procedure.

Outcome Indicators evaluate the change in patient's subsequent health status in response to a clinical intervention. Outcome research in EMS focuses on determining the effectiveness of interventions, showing the true value of an EMS system since it offers feedback on all aspects of care.

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Performance Indicator/Attribute Format

- i. Indicator/Attribute Name – Name or title of the performance indicator
- ii. Key Process Path – Starting with one of the predefined key process names, this item shows which key process and sub-process that the indicator reflects
- iii. Patient or Customer/Need – Indicators are designed to reflect how well or how efficiently a given patient or customer need is being met. This item shows what patient or customer need the indicator reflects
- iv. Type of Measure – Structure, process, or outcome
- v. Objective – Describes why an indicator is useful in specifying and assessing the process or outcome of care measured by the indicator
- vi. Indicator/Attribute Formula – The equation for calculation of the indicator. If applicable, separate sections will separately address the numerator and denominator of the indicator equation.
- vii. Indicator/Attribute Formula Description – Explanation of the formula used for the indicator. Where applicable, separate descriptions detailing the numerator and denominator will be provided.
- viii. Denominator Description – Description of the population being studied or other denominator characteristics, including any equation or other key aspects that characterize the denominator
- ix. Denominator Inclusion Criteria – Additional information not included in the denominator statement that details the parameters of the denominator population
- x. Denominator Exclusion Criteria – Information describing criteria for removing cases from the denominator
- xi. Denominator Data Sources – Sources for data used in generating the denominator. These are either NEMESIS-dataset-derived or based on recommended surveys to be done by directors (administrative/operations/medical) of local, regional, or State EMS systems or provider agencies.
- xii. Numerator Description – Description of the subset of the population being studied or other numerator characteristics, including any equation or other key aspects that characterize the numerator

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- xiii. Numerator Inclusion Criteria – Additional information not included in the numerator statement that details the parameters of the numerator population
- xiv. Numerator Exclusion Criteria – Information describing criteria for removing cases from the numerator
- xv. Numerator Data Sources – Sources for data used in generating the numerator. These are either NEMSIS-dataset-derived or based on recommended surveys to be done by directors (administrative/operations/medical) of local, regional, or State EMS systems or provider agencies.
- xvi. Sampling Allowed – Indicates if sampling the study population is or is not allowed in calculation of this indicator.
- xvii. Sampling Description – If sampling is allowed, this will describe the sampling process to be used for this indicator.
- xviii. Minimum Number of Data Points – Tells how many data points are needed, at a minimum, for calculation of this indicator.
- xix. Suggest Reporting Format: Numerical – The suggested way in which the numerical results should be expressed (i.e., decimal minutes, percentages, ratios)
- xx. Suggest Reporting Format: Graphical – The suggested way in which reports should be presented in graphical format (i.e., pie charts, statistical process control charts, etc.)
- xxi. Suggest Reporting Frequency – Time frame, number of successive cases or other grouping strategies by which cases should be aggregated for calculating and reporting results
- xxii. Testing – Indicates if a formal structured evaluation has been performed on the various scientific properties of the indicator such as its reliability, validity, and degree of difficulty of data collection
- xxiii. Stratification – Indicates if stratification has been applied to the indicator
- xxiv. Stratification Options – Suggested stratification criteria for use with this indicator
- xxv. Current Development Status – Describes the amount of work completed to date relative to the final implementation of the indicator
- xxvi. Additional Information – Further information regarding an indicator not addressed in other sections

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Evaluation and Reporting of Indicators

Indicators and benchmarks are evaluated and reported per calendar year quarter, or more frequently as required, then summarized in a yearend report. Data trends and information are compared against benchmarks and presented to staff in the form of video conference and or publication each month or more frequently as required. Data and information is presented via:

1. PowerPoint
2. Lecture
3. Charts
4. Graphs
5. Reports
6. Publications
7. Interactive Learning Management Systems (Cornerstone)

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Important Aspects of Care

1. PATIENT CARE

- a. Care is supported by evidence based policy and practice
- b. Harm does not come to the patient as the result of preventable error
- c. The benefit of care and/or transport is beneficial to comfort, recovery and outweighs the risk

2. AIRWAY MANAGEMENT

- a. Intubations documented and current on an educational record
- b. Number of endotracheal intubations (ETI) performed by Video Laryngoscopy vs Direct Laryngoscopy
- c. Successful ETI on first attempt all age groups
- d. Overall intubation success rate all age groups
- e. Backup/Rescue Airway Use, Needle/Surgical Cricothyrotomy
- f. Back up airway success rate all age groups
- g. Overall advanced airway success rate
- h. Percent of RSI protocol compliance
- i. Frequency of ventilator use in patients with advanced airway
- j. ETCO₂ monitored for ventilated patients

3. STEMI PATIENTS

- a. STEMI transports scene and interfacility
- b. Scene times
- c. In-hospital bedside times
- d. Time to definitive care
- e. Administration of aspirin
- f. Acquisition of 12-lead EKG
- g. Correct analysis of 12-lead EKG

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4. STROKE PATIENTS

- a. Stroke transports scene and interfacility
- b. Scene times
- c. In-hospital bedside times
- d. Time to definitive care
- e. Blood pressure management within specified parameters
- f. Documented stroke scale

5. STATE AND LOCAL TRAUMA SYSTEM PATIENTS:

- a. Number of trauma patients transported
- b. Scene time for trauma
- c. Number of patients receiving TXA
- d. TXA policy compliance
- e. Trauma patients diverted to non-trauma center
- f. Number of burn patients transported
- g. Number of patients needing chest decompression

6. PAIN MANAGEMENT

- a) Recognition and measurement of pain
- b) Reliable pain scales
- c) Effective dosing, use, and delivery of analgesia

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7. NEONATAL/ PEDIATRIC PATIENTS:

- a. Total number of pediatric patients transported scene and interfacility
- b. Total number of neonatal patients transported scene and interfacility
- c. Body temperature regulation and monitoring denoting unintended temperature out of range
- d. Prevention of hypoglycemia
- e. Guidance of care through contact with Medical Control

8. MATERNAL HROB PATIENT TRANSPORT

- a) The number of maternal HROB transports completed
- b) Monitoring of FHR and contractions through tocometry
- c) External Fetal Monitoring includes assessment of HR variability, accelerations, decelerations and patterns
- d) Tocolytic therapy
- e) Fetal neuro-protective therapy
- f) Blood pressure management in patients with Eclampsia or Pre-eclampsia
- g) Delivery of newborn during HROB transport

9. ADVANCED LIFE SUPPORT AND ADVANCED SKILLS:

- a. Percentage of CPR on patients
- b. Patients resuscitated from cardiac arrest with ROSC
- c. Patients transported under cardiac arrest
- d. Determination of Death

10. INFREQUENT SKILLS

- a. The number of infrequent skills including but not limited to:
 - i. IO insertion attempts
 - ii. Needle decompression
 - iii. UVC placement
 - iv. Surfactant administration
 - v. Impella

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vi. IABP

vii. ECMO

b. Frequency and success of infrequent skills

c. The percentage of policy compliance

11. Pain Control

a. Effective dosing, use, and delivery of analgesia and sedation

b. Least amount of sedation and/or restraint is utilized to meet the need

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Utilization Review and Utilization Management

Utilization Review and Management evaluates how the service is being used and delivered, to confirm it is being utilized in a way which is effective, efficient, and cost effective.

1. UTILIZATION REVIEW:

- a. Completed missions
- b. Aborted missions
- c. Declines
- d. GZ downgrades
- e. Compliance with LEMSA destination policies

2. UTILIZATION MANAGEMENT:

- a. 2-patient transports
- b. Patient care given but patient not transported
- c. Patients transported by rotor-wing directly to or from a non-critical care unit
- d. Patients initially transported by rotor-wing and fixed wing for completion of transport
- e. Patient transported from scene under CPR
- f. Patient death during transport
- g. Patient diversion to facility other than originally intended
- h. Patients transported ground by flight team from sending location to destination

3. OPERATIONS:

- a. Types of request
- b. Nature of request
- c. Number of completed transports
- d. Flights missed/aborted due to maintenance
- e. Flights missed due to scheduled maintenance
- f. Flights missed due to pilot duty time

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- g. Flights missed due to clinician duty rest
- h. Flights missed due to lack of staffing
- i. Flights missed due to other flight in progress
- j. Requests redirected internally/externally
- k. Lift off times day and night set to specific benchmark
- l. Flights missed/aborted to patient acuity or equipment/aircraft limitations
- m. Request acceptance to lift off times

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GAMUT CRITERIA

The GAMUT QI Collaborative reports show how programs perform on individual quality metrics compared to other participants. The desired level of performance for each metric is referred to as a 'benchmark', which can be used as a targets or goals for quality improvement initiatives and to demonstrate that a program is continuously providing high quality care.

There are many approaches in calculating benchmarks in healthcare, such as “significantly better than average”, “Leading 10%”, or expert consensus (ie. predetermined targets such as 100% or 0%). While these benchmark methods are intuitive and relatively simple to implement, they do have limitations. “Significantly better than average” does not really establish the best possible performance level. The “Leading 10%” method is most suitable when the group sizes are similar. Expert consensus may be appropriate for some metrics but not for others where it is not clear what the best performance level really should be.

The GAMUT QI collaborative uses the Achievable Benchmarks of Care™ (ABC) method (Kiefe et al., 1998). The ABC™ establishes the performance level consistently being attained by the best participants that account for at least 10% of the overall population.

The ABC™ is designed to compare performance between groups of varying sizes, as is the case with the GAMUT QI Collaborative, which includes small and large programs. It has been used to establish quality performance benchmarks for hospitals (Parikh et al., 2014), surgeons (Hatfield, Ashton, Bass, & Shirkey, 2016), and other healthcare providers (Gardner, Taylor, & Gordon, 2014).

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GAMUT CRITERIA

METRIC	REPORTED AS:	NUMERATOR:	DENOMINATOR
Ventilator use in patients with advanced airways	Reported as “Percent of patient transport contacts with an advanced airway supported by a mechanical ventilator differentiated amongst neonatal, pediatric, adult patient contacts	Number of transport patient contacts during the calendar month involving a patient with an advanced airway supported by a mechanical ventilator.	Number of transport patient contacts during the calendar month involving a patient with an advanced airway.
Scene and bedside times for STEMI activation <i>STEMI patients are defined as those patients with ST segment elevation by ECG and those patients with STEMI activations initiated by the referring facilities or the transport team itself.</i>	Reported as “Average (mean) bedside time and average scene time (min) for STEMI patients.”	(1) Sum of IFT bedside times (in minutes) for all transport patient contacts with STEMI activations from patient contact to en route to transport vehicle (2) Sum of initial SCENE arrival time by the transport team to departing the scene with the patient	(1) Number of IFT patient contacts with STEMI activations. (2) Number of SCENE STEMI transports
Unintended neonatal hypothermia <i>(infants less than 29 days)</i>	Reported as “Percent of transported neonates hypothermic upon admission.	The number of neonates with admission temperatures at the destination facility less than 36.5 axillary (excluding those being intentionally cooled, either actively or passively)	Number of neonates transported during the calendar month.

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METRIC	REPORTED AS:	NUMERATOR:	DENOMINATOR
<p>Blood glucose check for altered mental status</p> <p><i>A blood glucose check includes those checks by the transport team or prior to transport team arrival if reviewed and documented by the transport team</i></p>	<p>Reported as “Percent of patient transport contacts with altered mental status or focal neurologic deficit with a documented blood glucose check.”</p>	<p>Number of patient transport contacts with GCS < 15 (or focal neurologic deficit with suspicion of stroke) at the time of initial transport evaluation that have a documented blood glucose check.</p>	<p>Number of patient transport contacts with GCS</p>
<p>Waveform capnography in ventilated patients</p>	<p>Reported as “Percent of patient transport contacts with advanced airways in whom continuous waveform capnography was used.” categorized by age (neonatal defined as infants</p>	<p>Number of patient transport contacts with an advanced airway for whom waveform capnography is initiated and/or maintained throughout transport by the transport team.</p>	<p>Number of transport patient contacts during the calendar month involving a patient with an advanced airway</p>
<p>First attempt tracheal tube (TT) success</p> <p><i>An attempt is defined as the insertion of a laryngoscope or the insertion of any introducer device past the lips.</i></p>	<p>Reported as “Percent of patient transport contacts successfully intubated on the 1st attempt by the transport team.”</p>	<p>Number of patient transport contacts with successful TT placement during the 1st intubation attempt by the transport team.</p>	<p>Number of patient transport contacts undergoing intubation by the transport team during the calendar month.</p>
<p>DASH 1A- Definitive airway “sans” hypoxia/hypotension on first attempt</p> <p><i>Hypoxia is defined as oxygen saturation newly falling below 90%. Hypotension is defined as systolic blood pressure in adults < 90 mmHg and SBP < 5th percentile in children < 17 years of age</i></p>	<p>reported as “Percent of patients with definitive airway during the 1st attempt by the transport team without suffering hypoxia or hypotension” segregated by age group (adult, pediatric, neonate)</p>	<p>Number of patient contacts with attempted advanced airway device placement during 1st airway attempt by the transport team WITHOUT associated hypoxia or hypotension.</p>	<p>Number of patient transport contacts undergoing an airway attempt by the transport team during the calendar month</p>
METRIC	REPORTED AS:	NUMERATOR:	DENOMINATOR

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<p>Verification of TT placement</p> <p><i>Regardless of whether the transport team placed the tube themselves</i></p>	<p>Reported as the “Percent of intubated patient transport contacts with documentation of confirmed tracheal tube placement.</p>	<p>The number of patient transport contacts of patients with tracheal tubes with at least 1 of the following methods for TT confirmation: direct visualization, chest radiograph, or symmetric breath sounds.</p>	<p>Number of patient transport contacts with tracheal tubes during the calendar month.</p>
<p>Over-triage in mode of transportation</p> <p><i>Deaths during transport or in the emergency department prior to admission are excluded from the numerator</i></p>	<p>Reported as the “Percent of the HEMS patient transport contacts discharged without hospital admission.”</p>	<p>The number of HEMS patient transport contacts involving patients discharged directly from the emergency department or not admitted to the hospital</p>	<p>The number of HEMS patient transport contacts during the calendar month</p>
<p>Medication errors on transport</p> <p><i>There may be more than one medication error during a single patient transport contact and each of those should be included separately.</i></p>	<p>This metric will be converted to and reported as a “Rolling 12-month medication error rate per 10,000 patient transport contacts.</p>	<p>The number of documented medication administration errors (may be more than 1 per transport) during any transport patient contact.</p>	<p>Number of patient transport contacts during the calendar month</p>
<p>Rapid Sequence Intubation protocol compliance</p>	<p>Reported as “Percent of patient transport contacts undergoing RSI where all indicated elements of the program’s RSI protocol were completed.”</p>	<p>Number of patient transport contacts where ALL indicated elements of a program’s Rapid Sequence Intubation/Induction (RSI) protocol were completed</p>	<p>Number of patient transport contacts that received advanced airway management by the transport team and met inclusion criteria for use of the RSI protocol during the calendar month.</p>

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METRIC	REPORTED AS:	NUMERATOR	DENOMINATOR
Appropriate management of blood pressure for aortic emergencies	Reported as “Percent of patient transport contacts with known or suspected aortic dissection receiving indicated blood pressure and heart rate therapies.”	Number of patient transport contacts with known or suspected aortic dissection with heart rates less than 60 beats per minute and systolic blood pressures less than 120 mm Hg OR documented interventions during transport aimed at achieving these parameters	Number of patients transported with known or suspected aortic dissection in the calendar month.
Unplanned dislodgements of therapeutic devices <i>May be more than 1 per transport. This does not include IVs that infiltrate without obvious dislodgement</i>	Reported as “Unplanned dislodgements of therapeutic devices per 1000 patient transport contacts.”	The number of documented unplanned dislodgements while under the care of the transport team of the following devices (IOs, IVs, UACs/UVCs, central venous lines, arterial lines, advanced airway, chest tubes, and tracheostomy tubes).	Number of transport patient contacts during the calendar month.
Rate of Serious Reportable Events (SREs) <i>An SRE is defined as any unanticipated and largely preventable event involving death, life-threatening consequences, or serious physical or psychological harm</i>	This metric will be converted to and reported as a “Rolling 12 month SRE rate per 10,000 patient transport contacts	The number of SREs during the calendar month.	All patient transport contacts during the calendar month.

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METRIC	REPORTED AS:	NUMERATOR	DENOMINATOR
<p>Incidence of hypoxia during transport</p> <p><i>Multiple incidents with one patient are considered as one incident. If the pulse oximetry reading is chronically low or is below 90% when contact is made, the patient is not included except for those patients where the saturation has been corrected to greater than 90% and falls again.</i></p>	<p>Reported as “Percent of patient transport contacts experiencing transport related hypoxia.”</p>	<p>Number of patient transport contacts during which the documented pulse oximetry reading drops below 90%.</p>	<p>Number of patient transport contacts during the calendar month (excluding those with chronic oxygen saturations lower than 90% or oxygen saturations lower than 90% that persist throughout the entire transport)</p>
<p>Management of hypertension in hemorrhagic stroke</p> <p><i>Hemorrhagic stroke is defined as non-traumatic, intraparenchymal hemorrhagic bleed identified on CT or MRI.</i></p>	<p>Reported as “Percent of transport patient contacts with hemorrhagic stroke and appropriate blood pressure management</p>	<p>Number of known hemorrhagic stroke transport contacts with goal systolic blood pressure (SBP) less than 160 (OR 20% less than initial MAP for initial SBP greater than 200), or maintained at physician ordered parameters during flight team care.</p>	<p>Number of known hemorrhagic stroke patient transport contacts during the calendar month</p>
<p>ECG interpretation for STEMI patients</p>	<p>Reported as “Percent of transport patient contacts with accurately interpreted 12-lead ECG evaluations</p>	<p>Number of 12-lead ECGs in transport patient contacts with possible cardiac ischemia correctly evaluated for STEMI by the transport team</p>	<p>Number of 12-lead ECGs in transport contacts assessed by the transport team for evaluation of possible cardiac ischemia during the calendar month</p>

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METRIC	REPORTED AS:	NUMERATOR	DENOMINATOR
<p>Appropriate management of hemorrhagic shock</p>	<p>Reported as the “Percent of patient transport contacts with hemorrhagic shock appropriately managed.</p>	<p>Number of patient transport contacts with hemorrhagic shock in which 1) hemorrhage control measures are initiated if applicable, 2) IV administration of blood products if available, and 3) tranexamic acid administration, and/or 4) IV fluid resuscitation if indicated</p>	<p>Number of patient contacts with hemorrhagic shock during the calendar month. Hemorrhagic shock is defined as hypovolemic shock resulting from confirmed or suspected hemorrhage with clinical signs of hypoperfusion</p>
<p>Medical equipment failure</p> <p><i>Examples include IV pumps and ventilators that malfunction during transport, broken monitor leads, empty medical gas tanks, etc.</i></p>	<p>Reported as “Medical equipment failures per 1000 patient transport contacts.</p>	<p>The number of documented medical equipment failures (may be more than 1 per transport) while under the care of the transport team.</p>	<p>The number of transports during the calendar month.</p>
<p>Adverse drug event during transport</p> <p><i>Adverse drug events (ADEs) are defined as any injuries resulting from medication use, including physical harm, mental harm, or loss of function</i></p>	<p>Reported as “Adverse drug events per 1000 patient transport contacts.”</p>	<p>Number of patient transport contacts for which there is documentation of an unanticipated drug related event during transport.</p>	<p>Number of patient transport contacts during the calendar month</p>

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METRIC	REPORTED AS:	NUMERATOR	DENOMINATOR
<p>Patient near-miss or precursor adverse events</p> <p><i>Near-miss events are defined as deviations from accepted performance standards that occurred but did not “reach” the patient, perhaps because the error was caught. Precursor adverse events are deviations from generally accepted performance standards that reach the patient but result in no harm or minimal, temporary patient harm.</i></p>	<p>Reported as a "Rolling 12-month transport related patient mishap rate per 10,000 patient transport contacts."</p>	<p>The number of documented transport related patient near-misses or patient precursor adverse events</p>	<p>The number of patient transport contacts during the calendar month</p>
<p>Reliable pain assessments</p> <p><i>When obtainable based on patient level of consciousness and ability to communicate</i></p>	<p>Reported as “Percent of patient transport contacts with a documented pain assessment.”</p>	<p>Number of patient transport contacts with documented pain assessments using age-appropriate pain scales</p>	<p>Number of patient transport contacts during the calendar month.</p>
<p>Average mobilization time of the transport team</p> <p><i>Includes all transports excluding transports scheduled in advance in minutes (rounded up to nearest minute) from the start of the referral phone call to the transport team to the time the transport team is en route</i></p>	<p>Reported as “Average (mean) mobilization time for all unscheduled transports during the calendar month.”</p> <p>Segregated by scene, interfacility and specialty response</p>	<p>NA</p>	<p>NA</p>

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METRIC	REPORTED AS:	NUMERATOR	DENOMINATOR
<p>Rate of transport-related patient injuries</p> <p><i>Examples include a patient fall, a loose piece of transport equipment that falls and strikes the patient, injury suffered in a transport vehicle accident, etc</i></p>	<p>Reported as a “Rolling 12-month transport related patient injury rate per 10,000 transports.”</p>	<p>The number of documented transport related patient injuries or deaths</p>	<p>juries or deaths. DENOMINATOR: The number of transports during the calendar month.</p>
<p>Rate of CPR performed during transport</p> <p><i>If CPR is in progress when the team arrives, this should not be included in this count</i></p>	<p>Reported as a “Rolling 12-month CPR rate per 10,000 transports.</p>	<p>The number of transports during which chest compressions are performed from the time the transport team assumes care (“hands on”) until the patient hand-off is completed at the destination facility</p>	<p>The number of transports during the calendar month.</p>
<p>Rate of transport-related crew injury</p>	<p>reported as a “Rolling 12-month transport related crew injury rate per 10,000 transports.”</p>	<p>The number of transport-related crew injuries or deaths reported to the institution’s employee health department or equivalent during the calendar month.</p>	<p>The number of transports during the calendar month.</p>
<p>Use of a standardized patient care hand-off</p>	<p>Reported as “Percentage of transports involving a standardized patient care hand-off.”</p>	<p>The number of transports for which there is documented use of a standardized hand-off procedure for turning over patient care at the destination hospital.</p>	<p>The number of transports during the calendar month.</p>