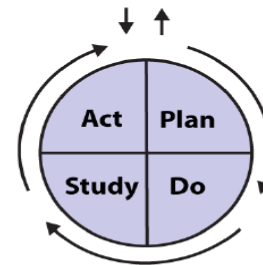
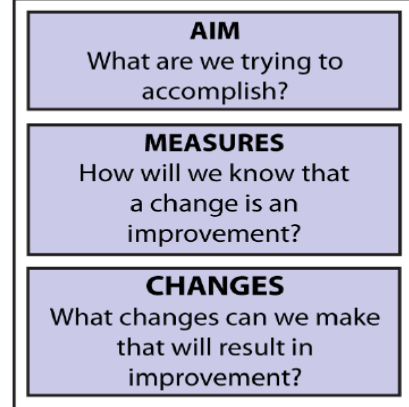




The Model for Improvement



© 2012 Associates in Process Improvement

Alameda County Emergency Medical Services Quality Improvement Program Plan

11/20/2012

California Code of Regulations
TITLE 22. SOCIAL SECURITY
DIVISION 9. PRE-HOSPITAL EMERGENCY MEDICAL SERVICES
CHAPTER 12. EMS System Quality Improvement

The URL for the EMS Quality Improvement Program (EQIP) Template from EMSAAC is:

<http://www.emsa.ca.gov/systems/files/EMSAACQITemplate.doc>

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

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Introduction

The Alameda County EMS Agency is a patient centered Local Emergency Medical Services Agency. With this patient centered perspective, Alameda County EMS understands that the practice of medicine is dynamic. We are committed to adapting the service we provide to our continually changing community. We believe in continuous education and Quality Improvement of ourselves, our providers and our community. Input from field providers and the public we serve is essential in developing and improving this plan.

From *The Institute of Medicine*, Alameda County EMS has adopted a shared vision of six specific aims for Quality Improvement. These aims are built around the core need for health care to be:

Safe: Avoiding injuries to patients from the care that is intended to help them

Effective: Providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit

Patient-centered: Providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions

Timely: Reducing waits and sometimes harmful delays for both those who receive and those who give care

Efficient: Avoiding waste, including waste of equipment, supplies, ideas, and energy

Equitable: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status

About This Plan

This plan is a guideline for each Alameda County EMS provider's Quality Improvement (QI) Plan. Each EMS provider is required to submit their QI Plan to the EMS agency for review and approval.

All pragmatic improvement plans, and each improvement activity within the plan, work best when they are simple and focused.

The Alameda County EMS Quality Improvement Plan integrates Quality Improvement models from a wide variety of sources including Result Based Accountability, Baldrige, Deming and Six Sigma. While these Quality Improvement models, on the surface, seem to vary in their methodologies, they all focus on answering fundamental questions. This Quality Improvement Plan focuses on answering these 5 fundamental question: (Mike Taigman)

“Why do we do what we do?”

“How do we see ourselves in the future?”

“What governs our day to day decisions?”

“How are we doing?”

“What are we doing to make things better?”

I. Alameda County EMS Mission – Vision – Values

Mission ***“Why do we do what we do?”***

The Alameda County EMS mission is to ensure the provision of quality emergency medical services and prevention programs to improve health and safety in Alameda County.

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

Vision ***“How do we see ourselves in the future?”***

The Alameda County EMS vision is to explore new frontiers while creating an environment where collaboration and consensus building thrive among staff and stakeholders.

*“We look to **measurably** reduce pain and suffering and improve the health of our patients.”*

Values ***“What governs our day to day decisions?”***

Alameda County EMS values a caring environment sustained by empowerment, honesty, integrity, and mutual respect. We embrace excellence through innovation, teamwork, and community capacity building.

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

STARCARE is a values based checklist developed by paramedic author/EMS educator **Thom Dick**. It has been adopted by the current largest ground transport provider, Paramedics Plus. STARCARE promotes a patient centered; values based culture as a guide for providers for decision making.

- ***Safe -- Were my actions safe for me, for my colleagues, for other professionals and for the public?***
- ***Team-based -- Were my actions taken with due regard for the opinions and feelings of my co-workers, even those from other agencies?***
- ***Attentive to human needs -- Did I treat my patient as a person? Did I keep him or her warm? Was I gentle? Did I use his or her name throughout the call? Did I tell him or her what to expect in advance? Did I treat his or her family and / or relatives with respect?***
- ***Respectful -- Did I act toward my patient, my colleagues, my first responders, the hospital staff and the public with the kind of respect that I would have wanted to receive myself?***
- ***Customer accountable -- If I were face-to-face right now with the customers I dealt with on this response, could I look them in the eye and say, "I did my very best for you."***
- ***Appropriate -- Was my care appropriate - medically, professionally, legally and practically, considering the circumstances I faced?***
- ***Reasonable -- Did my actions make sense? Would a reasonable colleague of my experience have acted similarly under the same circumstances?***
- ***Ethical -- Were my actions fair and honest in every way? Are my answers to these questions honest with integrity?***

II. Structure, Organizational Description, Responsibilities

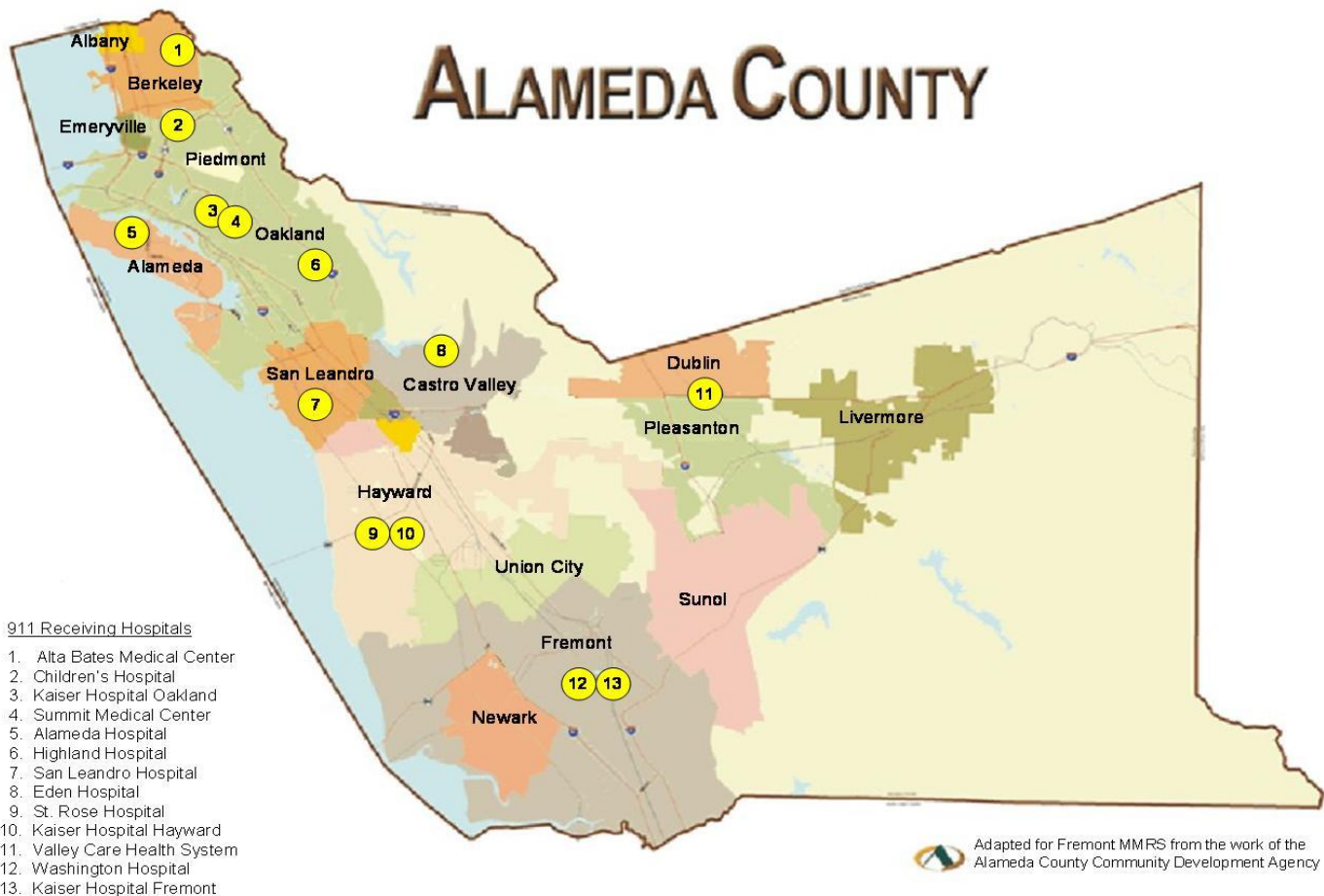
“Why do we do what we do?”

“What are we doing to make things better?”

Alameda County Demographics

Alameda County is both geographically and demographically diverse. The entire county covers 738 square miles and includes highly dense urban areas; the shoreline of San Francisco Bay is on the western border, lower density residential areas, a high concentration of industrial sites, and rural, wilderness and parks areas that stretch to the east. More than 1.5 million people live in Alameda County.

The City of Oakland, in the north part of the County, is the largest city with a population of 412,000+. Other large cities include Fremont in the south (210,000+), the City of Hayward in the mid-part of the County (146,000+), and the City of Berkeley in the northern sector of the County (105,000+). Approximately 160,000+ people reside in the cities of Livermore, Dublin and Pleasanton that are located in eastern Alameda County.



“Our purpose is to reduce pain and suffering and improve the health of our patients.”

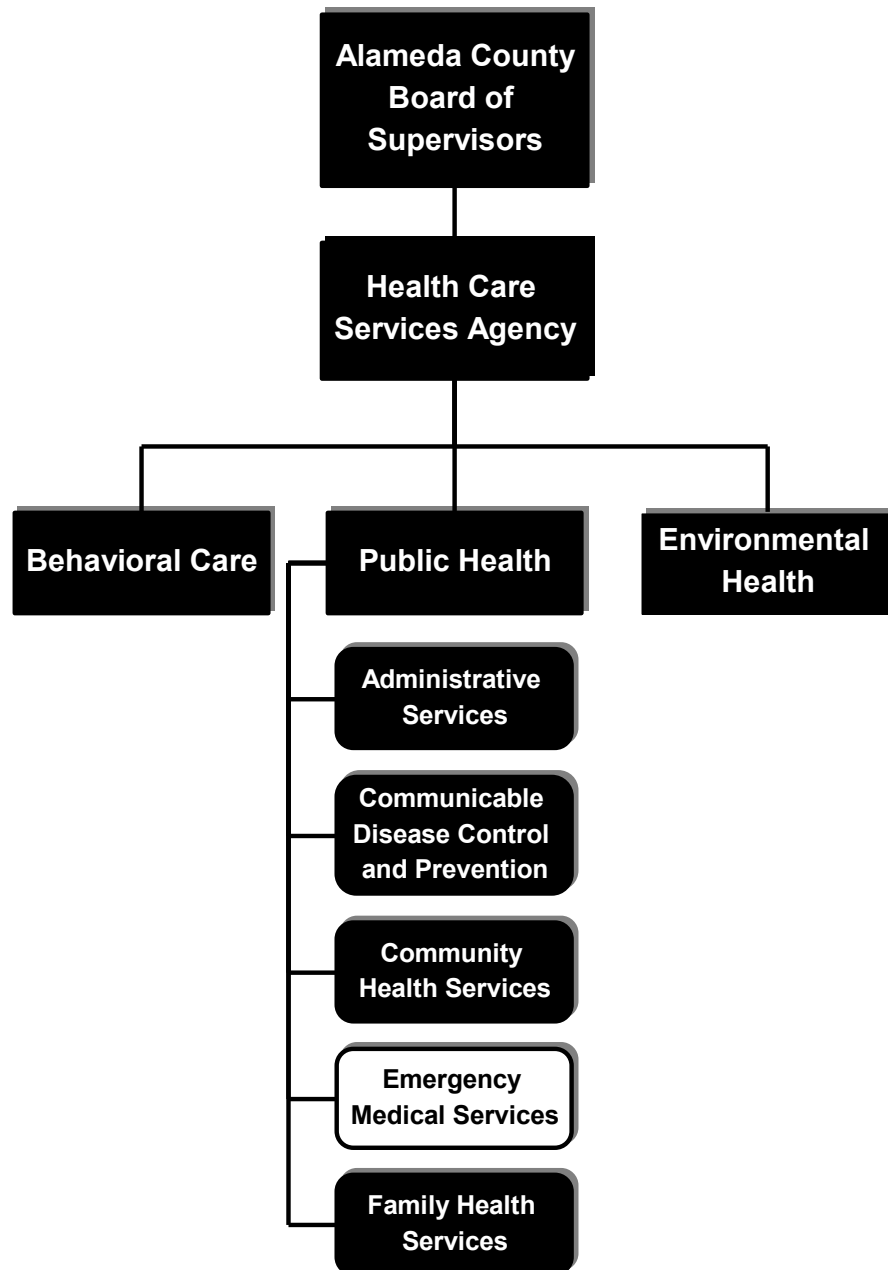
EMS Overview

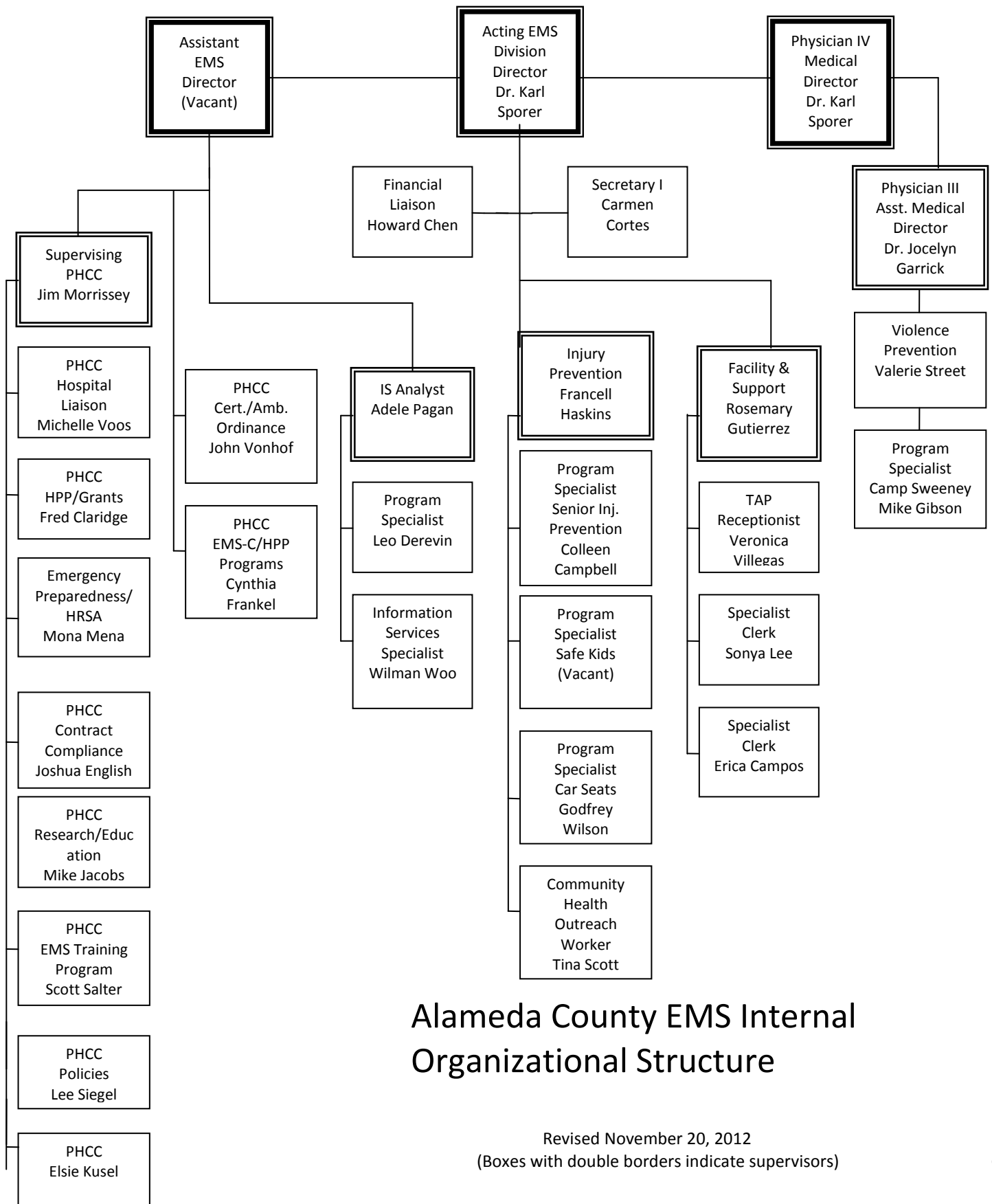
The Alameda County EMS system responds to approximately 124,000 patients annually for medical emergencies. Generally a fire department unit and a Paramedics Plus ambulance responds to emergency medical calls. Alameda, Albany, Berkeley and Piedmont fire departments provide ambulance transport services in addition to first response. In the remaining areas of the county, fire departments respond with ALS fire units and Paramedics Plus provides emergency transport services under contract with the County. Below is a list of the EMS providers in Alameda County.

EMS System Providers	EMS System Partners
<p><u>ALS Ground Transport Providers</u></p> <ul style="list-style-type: none"> • Alameda City Fire Department • Albany Fire Department • Berkeley Fire Department • Piedmont Fire Department • Paramedics Plus 	<ul style="list-style-type: none"> • Patients • Patient Families • The Community • All Providers • All Receiving Facilities • County Board of Supervisors and City Councils • Insurance companies and other third party payers • Vendors • Education/Training Organizations • Other Regulatory Agencies
<p><u>First Responder ALS (FRALS)</u></p> <ul style="list-style-type: none"> • Alameda County Fire Department • Albany Fire Department • Camp Parks Fire Department • Berkeley Fire Department • Piedmont Fire Department • Fremont Fire Department • Hayward Fire Department • Livermore-Pleasanton Fire Department • Oakland Fire Department • East Bay Regional Parks Fire Department <p>*ACFD at Livermore Lab transports patients from its facility with fewer than 100 responses</p>	
<p><u>Air Transport Providers</u></p> <ul style="list-style-type: none"> • REACH • CALSTAR • Lifeflight • East Bay Regional Parks 	
<p><u>Interfacility Transport (IFT) Providers</u></p> <ul style="list-style-type: none"> • Royal • Pro Transport One • Priority One • AMR • Norcal • Westmed 	
<p><u>Receiving Facilities</u></p> <ul style="list-style-type: none"> • Alta Bates Hospital • Summit Hospital • Childrens Hospital Oakland • Kaiser Oakland Hospital • Alameda Hospital • Alameda County Medical Center(Base Hospital) • San Leandro Hospital • John George Pavilion • Willow Rock • Eden Hospital • Valley Care Hospital • Kaiser Hayward Hospital • Kaiser Fremont Hospital • Washington Hospital 	

ORGANIZATIONAL STRUCTURE

The EMS Agency is a division of the Alameda County Health Care Services Agency, Department of Public Health. The EMS Agency coordinates EMS activities in Alameda County. The Board of Supervisors (five members) makes general policy decisions affecting the EMS Agency. The Director of Health Care Services reports to the Board of Supervisors. The County Health Officer is designated the EMS District Medical Director by the Board of Supervisors. The County Health Officer delegates this responsibility to the EMS Agency Medical Director. Medical control of the prehospital medical care within the system is the responsibility of the EMS Medical Director.





Alameda County EMS Internal Organizational Structure

Revised November 20, 2012
 (Boxes with double borders indicate supervisors)

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

QUALITY IMPROVEMENT RESPONSIBILITIES - GENERAL GUIDELINES

1. The EMS Agency shall establish and facilitate a system wide quality improvement program to monitor, review, evaluate and improve the delivery of prehospital care services.
 - 1.1 The program shall involve all system participants and shall include, but not be limited to the following activities:
 - 1.2.1 **Prospective** - designed to prevent potential problems.
 - 1.2.2 **Concurrent** - designed to identify problems or potential problems during the course of patient care.
 - 1.2.3 **Retrospective** - designed to identify potential or known problems and prevent their recurrence.
 - 1.2.4 **Reporting/Feedback** - all quality improvement activities will be reported to the EMS Agency in a manner to be jointly determined. As a result of Q.A. activities, changes in system design may be made.
2. Each agency shall submit a Quality Improvement plan, based on the appropriate policy to the EMS Agency for approval. The time frame for submission will be determined by the EMS Agency.
3. Appropriate revisions shall be made as requested by the EMS Agency.
4. Each agency shall conduct an annual review of their Q.A. plan.
5. The EMS Agency will evaluate the implementation of each agency's Q.A plan.

QUALITY IMPROVEMENT RESPONSIBILITIES - EMS

Authority: *Division 2.5 of the Health and Safety Code, Chapter 4.*

1. Prospective

- 1.1 Comply with all pertinent rules, regulations, laws and codes of Federal, State and County applicable to emergency medical services.
- 1.2 Coordinate prehospital quality improvement committees.
- 1.3 Plan, implement and evaluate the emergency medical services system including public and private agreements and operational procedures.
- 1.4 Implement advanced life support systems and limited advanced life support systems
- 1.5 Approve and monitor prehospital training programs.
- 1.6 Certify/authorize prehospital personnel.
- 1.7 Establish policies and procedures to assure medical control, which may include dispatch, basic life support, advanced life support, patient destination, patient care guidelines and quality improvement requirements.
- 1.8 Facilitate implementation by system participants of required Quality Improvement plans.
- 1.9 Design reports for monitoring identified problems and/or trends analysis.
- 1.10 Approve standardized corrective action plan for identified deficiencies in prehospital and base hospital personnel.

2. Concurrent

- 2.1 Site visits to monitor and evaluate system components.
- 2.2 On call availability for unusual occurrences, including but not limited to:
 - 2.2.1 Multicasualty Incidents (MCI)
 - 2.2.2 Ambulance Diversion.

QUALITY IMPROVEMENT RESPONSIBILITIES - EMS

3. Retrospective

- 3.1 Evaluate the process developed by system participants for retrospective analysis of prehospital care.
- 3.2 Evaluate identified trends in the quality of prehospital care delivered in the system.
- 3.3 Establish procedures for implementing the Certificate Review Process for prehospital emergency medical personnel.
- 3.4 Monitor and evaluate the Incident Review Process.

4. Reporting/Feedback

- 4.1 Evaluate submitted reports from system participants and make changes in system design as necessary.
- 4.2 Provide feedback to system participants when applicable or when requested on Quality Improvement issues.
- 4.3 Design prehospital research and efficacy studies regarding the prehospital use of any drug, device or treatment procedure where applicable.

QUALITY IMPROVEMENT RESPONSIBILITIES - DISPATCH**1. Prospective**

- 1.1 Participation on committees as specified by the EMS Agency.
- 1.2 Education
 - 1.2.1 Orientation to the EMS system
 - 1.2.2 Continuing education activities to further the knowledge base of the dispatcher, to include but not limited to:
 - 1.2.2.1 Tape review
 - 1.2.2.2 Educational programs based on problem identification and trend analysis
 - 1.2.2.3 Discussion of selected calls
 - 1.2.3 Participation in certification and training of the EMD
 - 1.2.4 Establish procedure for informing all EMDs of system changes
- 1.3 Evaluation - Develop criteria for evaluation of individual EMDs to include, but not limited to:
 - 1.3.1 Tape review or other documentation as available
 - 1.3.2 Evaluation of new employees
 - 1.3.3 Routine
 - 1.3.4 Problem-oriented
 - 1.3.5 Design standardized corrective action plans for individual EMD deficiencies.
- 1.4 Certification
 - 1.4.1 Initial certification
 - 1.4.2 Recertification

2. Concurrent Activities:

- 2.1 Establish a procedure for evaluation of EMDs utilizing performance standards through direct observation

IMPROVEMENT RESPONSIBILITIES - DISPATCH

3. Retrospective Analysis

- 3.1 Develop a process for retrospective analysis of dispatched calls, utilizing audio tape and dispatcher report form, to include but not limited to:
 - 3.1.1 High-risk
 - 3.1.2 High-volume
 - 3.1.3 Problem oriented calls
 - 3.1.4 Any call requested to be reviewed by EMS or other appropriate agency.
 - 3.1.5 Specific audit topics established through the Quality Improvement Committee.
- 3.2 Develop performance standards for evaluating the quality of care delivered by the EMD through retrospective analysis.
- 3.3 Participation in the incident review process
- 3.4 Comply with reporting and other quality improvement requirements as specified by the EMS Agency.
- 3.5 Participation in prehospital research and efficacy studies requested by the EMS Agency and/or the Quality Improvement Committee.

4. Reporting/Feedback

- 4.1 Develop a process for identifying trends in the quality of dispatch care
 - 4.1.1 Report as specified by the EMS Agency
 - 4.1.2 Design and participate in educational offerings based on problem identification and trend analysis
 - 4.1.3 Make approved changes in internal policies and procedures based on trend analysis.

PSAP and Dispatch Call Handling Structure in Alameda County

Call Location	Primary PSAP Receive 9-1-1 Call	Fire 1st Response Dispatch	Ambulance Dispatch	EMD* Provided By
Alameda City*	Alameda Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units and city ambulances	ACRECC dispatches fire and city ambulances	ACRECC
Alameda County (and areas served by County Fire)	County Sherriff (unincorporated and Dublin); San Leandro Police PSAP; Livermore Lab PSAP	Calls transferred from various PD PSAPs to ACRECC who dispatches fire units	ACRECC dispatches Paramedics Plus ambulances	ACRECC
Albany*	Albany Police PSAP	Albany PD dispatches fire and city ambulance units	Albany PD dispatches city ambulances	None
Berkeley*	Berkeley PD PSAP (dual police and fire)	Berkeley PD dispatches fire and city ambulances	Berkeley PD dispatches city ambulances	None
Camp Parks	City of Dublin Police PSAP	Call transferred from Dublin PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Paramedic Plus ambulances	ACRECC
Emeryville	Emeryville Police PSAP	Call transferred from Emeryville PD to Oakland Fire who dispatches Emeryville fire units	Oakland Fire transfers ACCREC who dispatches Paramedics Plus ambulances	Oakland Fire
Fremont	Fremont Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Paramedic Plus ambulances	ACRECC
Hayward	Hayward Police PSAP	Hayward PD PSAP dispatches fire units and transfers call to ACRECC	ACRECC dispatches Paramedic Plus ambulances	ACRECC
Livermore	Livermore Police PSAP	Livermore PD PSAP dispatches fire units and transfers call to ACRECC	ACRECC dispatches Paramedic Plus ambulances	ACRECC (on some but not all calls)
Pleasanton	Pleasanton Police PSAP	Pleasanton PD transfers call to Livermore PD; Livermore PD dispatches fire units and transfers call to ACRECC	ACRECC dispatches Paramedic Plus ambulances	ACRECC (on some but not all calls)
Newark	Newark Police PSAP	Newark PD PSAP dispatches fire units and transfers call to ACRECC	ACRECC dispatches Paramedic Plus ambulances	ACRECC
Oakland	Oakland Police PSAP	Call transferred from PD PSAP to Oakland Fire dispatches fire units	Oakland Fire transfers call to ACCREC who dispatches Paramedics Plus ambulances	Oakland Fire Dispatch
Piedmont*	Piedmont Police/Fire (joint PSAP)	Piedmont PD/Fire dispatches fire and city ambulances	Piedmont PD//Fire PSAP	None
East Bay Regional Parks**	EBRP PSAP and dispatch	EBRP dispatches Parks units and transfers call to ACRECC or to the transport city PSAPs	ACRECC dispatches Paramedic Plus ambulances; local PSAPs dispatch fire units/ambulances	ACRECC
Union City	Union City Police PSAP	Call transferred from PD PSAP to ACRECC who dispatches fire units	ACRECC dispatches Paramedic Plus ambulances	ACRECC
Cellular Calls	CA Highway Patrol	Per response jurisdiction	Varies by jurisdiction	Varies by jurisdiction

QUALITY IMPROVEMENT RESPONSIBILITIES – ALS Provider Agencies**1. Prospective**

- 1.1 Participation on committees as specified by the EMS Agency.
- 1.2 Education
 - 1.2.1 Orientation to EMS system
 - 1.2.2 Continuing Education
 - 1.2.3 Participate in certification courses and the training of prehospital care providers.
 - 1.2.4 Offer educational programs based on problem identification and trend analysis.
 - 1.2.5 Establish procedure for informing all field personnel of system changes
- 1.3 Evaluation - Develop criteria for evaluation of individual paramedics to include, but not limited to:
 - 1.3.1 PCR review/Tape review or other documentation as available
 - 1.3.2 Ride-along
 - 1.3.3 Evaluation of new employees
 - 1.3.4 Routine
 - 1.3.5 Problem-oriented
 - 1.3.6 Design standardized corrective action plans for individual paramedic deficiencies
- 1.4 Certification/Accreditation - establish procedures, Based on Alameda County policies, regarding:
 - 1.4.1 Initial certification/accreditation
 - 1.4.2 Recertification/Continuing Accreditation
 - 1.4.3 ITLS, PHTLS or ATT certification
 - 1.4.4 ACLS, ECC certification
 - 1.4.5 PALS or PEPP
 - 1.4.6 Preceptor authorization
 - 1.4.7 Other training as specified by the EMS Agency.

2. Concurrent Activities

- 2.1 Ride-along - Establish a procedure for evaluation of paramedics utilizing performance standards through direct observation
- 2.2 Provide availability of Field Supervisors and/or Quality Improvement Liaison personnel for consultation/assistance.
- 2.3 Provide patient information to the base hospital to facilitate obtaining patient follow-up information from receiving hospitals.

QUALITY IMPROVEMENT RESPONSIBILITIES – ALS Provider Agencies**3. Retrospective Analysis**

- 3.1 Develop a process for retrospective analysis of field care, utilizing PCRs and audio tape (if applicable), to include but not limited to:
 - 3.1.1 High-risk
 - 3.1.2 High-volume
 - 3.1.3 Problem-oriented calls
 - 3.1.4 Any call requested to be reviewed by EMS or other appropriate agency.
 - 3.1.5 Specific audit topics established through the Quality Council.
- 3.2 Develop performance standards for evaluating the quality of care delivered by field personnel through retrospective analysis.
- 3.3 Participate in the Incident Review Process
- 3.4 Comply with reporting and other quality improvement requirements as specified by the EMS Agency.
- 3.5 Participate in prehospital research and efficacy studies requested by the EMS Agency and/or the Quality Improvement Committee.

4. Reporting/Feedback

- 4.1 Develop a process for identifying trends in the quality of field care.
 - 4.1.1 Report as specified by the EMS Agency.
 - 4.1.2 Design and participate in educational offering based on problem identification and trend analysis.
 - 4.1.3 Make approved changes in internal policies and procedures based on trend analysis.

EMS Aircraft Provider Agency Responsibilities

- 1. Assign a liaison to interact with other EMS provider agencies, base hospital(s), and EMS Agency
- 2. Assure Agency's EMS personnel and pilots are currently and appropriately credentialed at all times
- 3. Assure Agency's personnel are fully oriented to EMS system prior to assigning to EMS response duties
 - 3.1 Orientation to include pertinent policies, protocols, hospital locations, map reading, documentation requirements, etc.
 - 3.2 Establish procedure for informing agency personnel of EMS system changes and updates
- 4. Provide the EMS Agency with clinical and response time data necessary for monitoring and evaluating the EMS system, particularly for trauma patients as part of the EMS trauma audit process
- 5. Participate in EMS Agency Quality Improvement activities

HOSPITAL RESPONSIBILITIES

1. A Receiving Hospital is a hospital designated as such by the Alameda County Health Officer and is licensed as a Basic Emergency Service or has in-house physician coverage 24 hours per day
2. A Receiving Hospital shall:
 - 2.1 Accept all emergency patients transported by EMS system units unless ambulance diversion has been initiated in accordance with Alameda County Ambulance Diversion Policy and the facility's approved internal diversion protocol.
 - 2.2 Admit emergency patients to the Hospital if appropriate, the patient accepts admission and the Hospital has space available. If transfer to another hospital is appropriate, the patient shall be transferred according to Alameda County Interfacility Transfer Guidelines.
 - 2.3 Procure and maintain an operational radio for two way voice communication on the County MEDNET, meeting County specifications, and place this equipment in the emergency department.
 - 2.4 Cooperate with the Alameda County Emergency Medical Services Agency and the Alameda County Health Care Services Agency in gathering and providing statistics and information needed for monitoring and evaluating prehospital programs.
 - 2.5 Cooperate with designated Alameda County Base Hospitals and ALS Provider Agencies in providing follow-up information regarding patient diagnosis, disposition and outcome.
 - 2.6 Follow and abide by the standards established for ALS programs and for Receiving Hospitals, including those standards pertaining to professional staffing.
 - 2.7 Ensure that the emergency department staff and other appropriate hospital personnel possess sufficient skill and knowledge in field procedures that are continued within the emergency department.
 - 2.8 Participate in the Receiving Hospital Committee and Trauma Audit Committee (TAC) meetings as requested.
 - 2.9 Participate in training of prehospital personnel, in cooperation with and as coordinated by the EMS District Medical Director or designee.
 - 2.10 Provide hospital census and bed availability information to the EMS agency through the "Reddinet" system daily by 7:00 a.m.
 - 2.11 Participate in "HAVBED" drills/exercises as directed by the Alameda County EMS Agency.

QUALITY IMPROVEMENT RESPONSIBILITIES – Base Hospital**1. Prospective**

- 1.1 Participation on the Quality Council
- 1.2 Education
 - 1.2.1 Continuing Education activities that is consistent with regulations (*Title 22, Chapter 2 and 4*).
 - 1.2.2 Offer educational programs based on problem identification and trend analysis.
 - 1.2.3 Participation in the training of prehospital care providers.
 - 1.2.4 Establish procedures for informing Base Hospital personnel of system changes
 - 1.2.5 Establish criteria for offering supervised clinical experience to paramedics.
- 1.3 Evaluation - Develop criteria to evaluate the Base Hospital Physician (BHP) to include, but not limited to:
 - 1.3.1 Evaluation of new employees
 - 1.3.2 Routine calls – tape and written record
 - 1.3.3 Problem oriented calls
 - 1.3.4 Design standardized corrective action plans for individual Base Hospital Physician deficiencies.
- 1.4 Authorization/Training - establish procedures, based on Alameda County policies, for Base Hospital Physicians regarding:
 - 1.4.1 Initial authorization
 - 1.4.2 Maintaining authorization
 - 1.4.3 Training and orientation
- 1.5 Participate in the evaluation of new paramedics, in conjunction with the provider agencies.

QUALITY IMPROVEMENT RESPONSIBILITIES – Base Hospital

3. Retrospective analysis

- 3.1 Develop a process for retrospective analysis of field care and base direction utilizing the BHP record, audio tape, PCR and/or patient follow-up, to include but not limited to:
 - 3.1.1 High-risk
 - 3.1.2 High-volume
 - 3.1.3 Problem-oriented calls
 - 3.1.4 Those calls requested to be reviewed by EMS or other appropriate agency
 - 3.1.5 Specific audit topics established through the Quality Council as reported by EMS.
- 3.2 Perform audits on all calls required by **Title 22**.
- 3.3 Develop performance standards for evaluating the quality of medical direction delivered by the BHPs through retrospective analysis.
- 3.4 Participate in the Unusual Occurrence Process
- 3.5 Comply with reporting and other quality improvement requirements as specified by the EMS Agency.
- 3.6 Participate in prehospital research and efficacy studies requested by the EMS Agency, Research Committee and/or the Quality Council.

4. Reporting/Feedback

- 4.1 Develop a process for identifying trends in the quality of medical direction delivered by BHPs.
 - 4.1.1 Report as specified by the EMS Agency.
 - 4.1.2 Design and participate in educational offering based on problem identification and trend analysis.
 - 4.1.3 Make approved changes in internal policies and procedures based on trend analysis.
- 4.2 Participate in the process of identifying trends in the quality of field care delivered by Field personnel.
- 4.3 Provide quarterly reports to include the total number of Base Physician calls handled by month, types of calls handled (i.e. AMA, trauma destination, etc) and Q.I. trends indentified.

EMS Leadership/Quality Council (QC)

The EMS Agency Director works with the EMS Medical Director, EMS QI Coordinator and the Quality Council to oversee the Alameda County EMS QI program.

Quality Council Purpose:

- Serves as the Technical Advisory Group (TAG) for Alameda County EMS
- Identifies Quality Improvement needs
- Charter (and/or serve as) Quality Task Force(s) to improve system-wide processes (also known as Process Improvement Teams)
- Provides input for the EMS System Quality Improvement Plan
- Develops Quality Indicators
- Contributes to the development of a consistent approach to developing quality indicators and gathering and analyzing data
- Contributes to the development of a consistent approach to research
- Monitors and evaluates system data reports to identify opportunities for improvement and training needs

Quality Council Membership:

- EMS Medical Director (Chair)
- EMS Director
- EMS Quality Improvement Coordinator
- EMS Quality Improvement Coordinators from each fire department
- Private 911 ambulance transport provider Quality Manager
- Base Hospital Paramedic Liaison Nurse
- One Paramedic and one EMT representing fire department in each of the North, South and East zones of Alameda County (6 total members)
- One Paramedic and one EMT from the 911 private medical transport provider agency
- One representative from an air transport provider
- Two representatives from Receiving Hospitals
- One representative each from OFD dispatch and ACCREC

Quality Council Chairperson: EMS Medical Director

Meetings:

- Monthly
- Two hours with a planned agenda

Committees

Various committee collaborations are set up in specific areas of Quality Improvement focus. These committees have at least one EMS agency representative attending and preferably the EMS medical director in attendance

- EMS Quality Council - (See previous page)
- Emergency Medical Oversight Committee EMOC -The committee shall serve in an advisory capacity to, and report to, the Alameda County Health Officer and EMS Medical Director. The meetings are public. and chaired by the EMS Medical Director. The committee is responsible for assisting in the development and/or implementation of:
 - Medical policies or procedures
 - Medical standards for prehospital care providers
 - Quality improvement standards
- Receiving Hospital Committee
- STEMI Committee
- Stroke Committee
- Trauma Audit Committee
- Research Committee
- Regional Trauma Committee
- Equipment QI Committee - The committee reviews and makes recommendations for changes to the standardized supply list found in the field manual. The committee serves in an advisory capacity to, and reports to, the EMS Medical Director. The Procedures/Objectives of the Committee are :
 - To only evaluate new equipment after study
 - To evaluate for adoption new equipment after significant field input
 - To evaluate new equipment using an objective format. (See: New Equipment Evaluation Form)
- Data Steering Committee
- EMS Section Chiefs Committee
- Alameda County Fire Chiefs Committee
- EMSAAC/EMDAAC
- LEMSA Coordinators Committee
- Various other ad-hoc committees

**ALAMEDA COUNTY EMERGENCY MEDICAL SERVICES AGENCY
NEW PRODUCT EVALUATION FORM**

Product Evaluated:	Date:
Evaluated by:	
Type of Incident:	Run #/PCR #:
Describe how you used the product:	
Describe any problems associated with using the product:	
<input type="checkbox"/> none	
<i>What was the outcome of the product use?</i>	
Describe what you liked about the product:	
Describe what you didn't like about the product:	
How many times have you used this product in the past day? _____ week? _____	
Do you think this product would improve patient care or make your job easier or better? <input type="checkbox"/> yes <input type="checkbox"/> no why?	
Crew members (print names) 1.	2.
3.	Your unit #:
Additional Comments:	

III. Data Collection, Evaluation of Indicators and Reporting

“How are we doing?”

“MEASURE – IMPROVE, MEASURE – IMPROVE, MEASURE – IMPROVE” Mickey Eisenberg, MD

Various data systems in the Alameda County EMS system, including CAD, ZOLL ePCR, Reddinet, and First Watch, contain relevant data. Electronic PCR data elements are NEMESIS/CEMESIS compliant. The implementation of all these data systems into user friendly data entry and reporting formats is essential to ensure that clean usable data is obtained. Integration of these data systems between dispatch, EMS providers, receiving facilities and state and national data systems is essential in opening up communication necessary to facilitating Quality Improvement.

These data systems are used to:

- Prospectively identify areas for improvement and enable data driven decisions
- Monitor system changes after QI interventions have been implemented
- Monitor individual and group performance in the EMS system
- Support research
- Provide benchmarks with other EMS systems

Data Quality Improvement activities include:

- Implementation of a user friendly Zoll ePCR program for all 911 providers
- Implementation of a user friendly data reporting tool
- Integration and continuing maintenance of all data systems

EMS Provider Quality Indicators and Activities

Fitch Consultant Report, Alameda County, California, EMS System Review, January 31, 2008

Alameda County EMS engaged Fitch & Associates to conduct a review of the Alameda County EMS system and make recommendations for system design improvements. Many of those recommendations for Provider Quality Indicators and Activities, with some updates, are listed in the next table.

While the EMS Agency is responsible for creating and coordinating the overall Quality Improvement Plan for the EMS system, each EMS provider agency involved is responsible for developing their own EMS QI plan to monitor internal quality indicators and perform quality improvement activities. While quality improvement procedures for clinical aspects of the organization are important, they are not exclusive. The EMS agency should also include quality improvement activities and measures for all aspects of the organization as it relates to EMS.

It would be overwhelming to attempt to list each activity and quality indicator that each system provider was responsible for accomplishing to maintain its ability to provide quality service to the EMS system users. The next table lists core quality activities and quality indicators for PSAPs, Dispatch, First Responders, Transport Agencies and Receiving Hospitals. These core activities and quality indicators are to be used as guidelines for specific EMS providers. Input from EMS providers comes to EMS through the Quality Council and other forums in determining the specific indicators and activities necessary in assessing, monitoring and improving the quality of the EMS system.

It is important to note that the purpose of Quality Indicators and Activities is to “turn up the volume” on the things the EMS system is doing well as well as identify processes that require improvement.

The focus of EMS performance improvement is non-punitive.

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

Summary of Provider Quality Indicators and Activities

PSAPs	Dispatch Centers	First Responders	Ambulance Services	Receiving Hospitals
Personnel/Resource Management				
<p>Activities</p> <ul style="list-style-type: none"> • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare <p>Indicators</p> <ul style="list-style-type: none"> • Workload Management • Employee Satisfaction • Employee Turnover Rate 	<p>Activities</p> <ul style="list-style-type: none"> • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare <p>Indicators</p> <ul style="list-style-type: none"> • Workload Management • Employee Satisfaction • Employee Turnover Rate 	<p>Activities</p> <ul style="list-style-type: none"> • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare <p>Indicators</p> <ul style="list-style-type: none"> • Workload Management • Employee Satisfaction • Employee Turnover Rate 	<p>Activities</p> <ul style="list-style-type: none"> • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare <p>Indicators</p> <ul style="list-style-type: none"> • Workload Management • Employee Satisfaction • Employee Turnover Rate 	<p>Activities</p> <ul style="list-style-type: none"> • Workload Management • Matching schedules to demand • Resource deployment practices • Risk Management • Employee welfare <p>Indicators</p> <ul style="list-style-type: none"> • Workload Management • Employee Satisfaction • Employee Turnover Rate
Equipment/Supplies				
<p>Activities</p> <ul style="list-style-type: none"> • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources <p>Indicators</p> <ul style="list-style-type: none"> • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures 	<p>Activities</p> <ul style="list-style-type: none"> • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources <p>Indicators</p> <ul style="list-style-type: none"> • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures 	<p>Activities</p> <ul style="list-style-type: none"> • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources <p>Indicators</p> <ul style="list-style-type: none"> • The effect of the equipment on patient pain/suffering and outcome • Patient surveys/feedback • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures 	<p>Activities</p> <ul style="list-style-type: none"> • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources <p>Indicators</p> <ul style="list-style-type: none"> • The effect of the equipment on patient pain/suffering and outcome • Patient surveys/feedback • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures 	<p>Activities</p> <ul style="list-style-type: none"> • Maintaining and upgrading equipment and information systems • Inventory Control • Sharing of Resources <p>Indicators</p> <ul style="list-style-type: none"> • The effect of the equipment on patient pain/suffering and outcome • Patient surveys/feedback • Provider surveys/feedback • Ease of use • Resources involved in personnel skills training • Resources involved equipment acquisition, associated equipment costs, maintenance, resupply and consumables • Equipment durability/failures
Documentation				
<p>Activities</p> <ul style="list-style-type: none"> • Integration of Data Systems and Reporting <p>Indicators</p>	<p>Activities</p> <ul style="list-style-type: none"> • Integration of Data Systems and Reporting <p>Indicators</p>	<p>Activities</p> <ul style="list-style-type: none"> • Integration of Data Systems and Reporting • Documentation reviews (especially non-transports, critical patients, under-triages) <p>Indicators</p> <ul style="list-style-type: none"> • PCR data field compliance • PCR Printing compliance 	<p>Activities</p> <ul style="list-style-type: none"> • Integration of Data Systems and Reporting • Documentation reviews (especially non-transports, critical patients, under-triages) <p>Indicators</p> <ul style="list-style-type: none"> • PCR data field compliance • PCR Printing compliance 	<p>Activities</p> <ul style="list-style-type: none"> • Integration of Data Systems and Reporting • Documentation reviews (especially non-transports, critical patients, under-triages) <p>Indicators</p> <ul style="list-style-type: none"> • PCR data field compliance • PCR Printing compliance

PSAPs	Dispatch Centers	First Responders	Ambulance Services	Receiving Hospitals
Operations/Clinical Care/Patient Outcome				
<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Unusual occurrence investigations • Error Management <ul style="list-style-type: none"> • Error reporting system (including self-reporting) • Correct assignment of resources • Call Reviews • Peer Reviews <p>Indicators</p> <ul style="list-style-type: none"> • Time increments • Call volume • Calls per call taker • Correct prioritization • Accuracy of location identification • Correct provision of prearrival instructions • Correct transfer • Time of day distribution • Equipment failures • Unusual occurrence tracking • Complaint and Commendation tracking 	<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Unusual occurrence investigations • Error Management <ul style="list-style-type: none"> • Error reporting system (including self-reporting) • Correct assignment of resources • Call Reviews • Peer Reviews <p>Indicators</p> <ul style="list-style-type: none"> • Time increments • Call volume • Calls per call taker • Correct prioritization • Categorization accuracy • Correct patient condition code • Accuracy of location identification • Correct provision of prearrival instructions • EMD compliance • Correct transfer • Time of day distribution • Equipment failures • Unusual occurrence tracking • Complaint and Commendation tracking 	<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Unusual occurrence investigations • Error Management <ul style="list-style-type: none"> • Error reporting system (including self-reporting) • Correct assignment of resources • Call Reviews • Peer Reviews <p>Indicators</p> <ul style="list-style-type: none"> • Tracking critical procedures • Pain reduction Indicators • Patient centered outcomes and changes • Patient satisfaction surveys • Verifiable and accurate data collection • Over triage/Undertriage • Unusual occurrence tracking • Complaint and Commendation tracking 	<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Unusual occurrence investigations • Error Management <ul style="list-style-type: none"> • Error reporting system (including self-reporting) • Correct assignment of resources • Call Reviews • Peer Reviews <p>Indicators</p> <ul style="list-style-type: none"> • Tracking critical procedures • Pain reduction Indicators • Patient centered outcomes and changes • Patient satisfaction surveys • Verifiable and accurate data collection • Over triage/Undertriage • Unusual occurrences • Complaints and Commendations 	<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Unusual occurrence investigations • Error Management <ul style="list-style-type: none"> • Error reporting system (including self-reporting) • Correct assignment of resources • Call Reviews • Peer Reviews <p>Indicators</p> <ul style="list-style-type: none"> • Patient diagnosis • Pain reduction Indicators • Time to definitive treatment • Pt length of stay • Pt morbidity/mortality • Verifiable and accurate data collection • Over triage/Undertriage • Unusual occurrence tracking • Complaints and Commendations
Education and Skills Competency				
<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Continuing education • Skills competencies • New procedures and technology • Emergency Medical Dispatch training and continuing ed. • Field Training/Evaluations • Mass casualty/disaster drills • Research Studies <p>Indicators</p> <ul style="list-style-type: none"> • Skills performance measures 	<p>Activities</p> <ul style="list-style-type: none"> • Training link to QI • Continuing education • Skills competencies • New procedures and technology • Emergency Medical Dispatch training and continuing ed. • Field Training/Evaluations • Mass casualty/disaster drills • Research Studies <p>Indicators</p> <ul style="list-style-type: none"> • Skills performance measures 	<p>Activities</p> <ul style="list-style-type: none"> • Training linked to Quality Improvement findings • Continuing education • New procedures and technology • Skill competencies • Recertification • Driver training • Mass casualty/disaster drills • Annual EMS training requirements • Protocol Development • Field Training/Evaluations • Research Studies • Establish patient outcome feedback loop to field providers <p>Indicators</p> <ul style="list-style-type: none"> • Skills performance measures 	<p>Activities</p> <ul style="list-style-type: none"> • Training linked to Quality Improvement findings • Continuing education • New procedures and technology • Skill competencies • Recertification • Driver training • Mass casualty/disaster drills • Annual EMS training requirements • Protocol Development • Field Training/Evaluations • Research Studies • Establish patient outcome feedback loop to field providers <p>Indicators</p> <ul style="list-style-type: none"> • Skills performance measures 	<p>Activities</p> <ul style="list-style-type: none"> • Training linked to Quality Improvement findings • Continuing education • New procedures and technology • Skill competencies • Recertification • Mass casualty/disaster drills • Protocol Development • Field Training/Evaluations • Research Studies • Establish patient outcome feedback loop to field providers <p>Indicators</p> <ul style="list-style-type: none"> • Skills performance measures

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

PSAPs	Dispatch Centers	First Responders	Ambulance Services	Receiving Hospitals
Transport/Facilities				
<p>Activities</p> <ul style="list-style-type: none"> Facility management Disaster Resources/Caches 	<p>Activities</p> <ul style="list-style-type: none"> Facility management Disaster Resources/Caches 	<p>Activities</p> <ul style="list-style-type: none"> Fleet management Facility management Resource deployment practices Disaster Resources/Caches <p>Indicators</p> <ul style="list-style-type: none"> Response times Call time increments Time on task Call volume Mutual aid requests Accident rates Vehicle/equipment failure rates Simultaneous demand 	<p>Activities</p> <ul style="list-style-type: none"> Fleet management Facility management Resource deployment practices Disaster Resources/Caches <p>Indicators</p> <ul style="list-style-type: none"> Response times Call time increments Time on task Call volume Mutual aid requests Accident rates Vehicle/equipment failure rates Simultaneous demand 	<p>Activities</p> <ul style="list-style-type: none"> Facility management Disaster Resources/Caches Reddinet Updates <p>Indicators</p> <ul style="list-style-type: none"> Number and distribution of base contacts Time to answer communications from field Quantity of patients received Frequency and duration of diversion Number of patients received at wrong facility Quantity of secondary transfers Wait Times (drop times)
Public Education and Prevention				
<ul style="list-style-type: none"> Community CPR AED Programs Bay Area Journal Club Disaster Preparedness Injury Prevention 	<ul style="list-style-type: none"> First Aid When to call 911 Vials of Life type programs Referrals to other social and health care services (211) 	<ul style="list-style-type: none"> End of Life Care., POLST, Hospice Neighborhood Safety Violence Prevention Illness Prevention 		
Risk Management				
<p>Activities</p> <ul style="list-style-type: none"> Specialized safety and risk training CAL OSHA training and policy compliance Unusual Occurrence investigations Patient/Customer complaint Investigations <p>Indicators</p> <ul style="list-style-type: none"> Illness/Injury rates and their severity Unusual Occurrence tracking including "near misses" 	<p>Activities</p> <ul style="list-style-type: none"> Specialized safety and risk training CAL OSHA training and policy compliance Unusual Occurrence investigations Patient/Customer complaint investigations <p>Indicators</p> <ul style="list-style-type: none"> Illness/Injury rates and their severity Unusual Occurrence tracking including "near misses" 	<p>Activities</p> <ul style="list-style-type: none"> Specialized safety and risk training CAL OSHA training and policy compliance Unusual Occurrence investigations Patient/Customer complaint investigations <p>Indicators</p> <ul style="list-style-type: none"> Illness/Injury/Exposure rates and their severity Vehicle accident rate "Near misses" Unusual Occurrence tracking including "near misses" Patient/Customer complaint tracking Medication/Treatment error identification and tracking 	<p>Activities</p> <ul style="list-style-type: none"> Specialized safety and risk training CAL OSHA training and policy compliance Unusual Occurrence investigations Patient/Customer complaint investigations <p>Indicators</p> <ul style="list-style-type: none"> Illness/Injury/Exposure rates and their severity Vehicle accident rate Unusual Occurrence tracking including "near misses" Patient/Customer complaint tracking Medication/Treatment error identification and tracking 	<p>Activities</p> <ul style="list-style-type: none"> Specialized safety and risk training CAL OSHA training and policy compliance Unusual Occurrence investigations Patient/Customer complaint investigations <p>Indicators</p> <ul style="list-style-type: none"> Illness/Injury/Exposure rates and their severity Unusual Occurrence tracking including "near misses" Patient/Customer complaint tracking Medication/Treatment error identification and tracking
Transparency				
<p>Activities</p> <ul style="list-style-type: none"> Periodic and consistent reporting to policy-makers and governing entity Timely, accurate, and complete data and information delivered to County EMS Agency Open Communication Development of an Non-Punitive Error Reporting Process 	<p>Activities</p> <ul style="list-style-type: none"> Periodic and consistent reporting to policy-makers and governing entity Timely, accurate, and complete data and information delivered to County EMS Agency Open Communication Development of an Non-Punitive Error Reporting Process 	<p>Activities</p> <ul style="list-style-type: none"> Periodic and consistent reporting to policy-makers and governing entity Timely, accurate, and complete data and information delivered to County EMS Agency Open Communication Development of an Non-Punitive Error Reporting Process 	<p>Activities</p> <ul style="list-style-type: none"> Periodic and consistent reporting to policy-makers and governing entity Timely, accurate, and complete data and information delivered to County EMS Agency Open Communication Development of an Non-Punitive Error Reporting Process 	<p>Activities</p> <ul style="list-style-type: none"> Periodic and consistent reporting to policy-makers and governing entity Timely, accurate, and complete data and information delivered to County EMS Agency Open Communication Development of an Non-Punitive Error Reporting Process

Alameda County Quality Indicators

(*** Evidenced based performance measures recommended by the 2007 Consortium U.S. Metropolitan Municipalities' EMS Medical Directors)

Clinical Area	Element	Quality Indicators / Performance Measures	QI Indicator Status	Key Findings	Action Plan	QI Status
Advanced Airways	ETT / King Tube	<ul style="list-style-type: none"> % success King/ETT ratio 	Active	King/ETT ratio has increased since 2008	<ul style="list-style-type: none"> Data stratification of intubation / king tube success required Data of overall advanced airway success % required Training and policy emphasis on ETT as first line advanced airway in cardiac arrest pts 	<ul style="list-style-type: none"> % overall advanced airway success is unchanged
Cardiac Arrest	Res-Q-Pod	<ul style="list-style-type: none"> % of Pts receiving Res-Q-Pod Mean time to Res-Q-Pod 	Active Proposed	<ul style="list-style-type: none"> 68% 	<ul style="list-style-type: none"> Res-Q –Pod retraining Pit crew training with 2013 policy updates 	Improving
Cardiac Arrest	Mech. CPR	% of pts receiving Mech. CPR	Active	88% average	Lucas Implemented System Wide 11-1-2011	Unchanged
Cardiac Arrest	Defibrillation	% of cardiac arrest pts defibrillated	Active	32% average		Unchanged
CVA	Blood Glucose	% of Pts with CVA/TIA Impression receiving Glucose Monitoring/CPSS Assess	Active	93%	Will monitor quarterly	Unchanged
Respiratory Distress***	Albuterol / Atrovent	% of Pts with Resp. Distress /Bronchospam receiving Alb/Atr combo	Active	90%	Not developed	Unchanged
STEMI***	12 lead/ASA	% of Pts with CP-Suspected ACS Impression receiving ASA	Active	70%	Verify data accuracy, measure ASA, ePCR dropdowns to reflect reasons pts did not receive ASA	Unchanged
Cardiac Arrest***	ROSC / Survival to Discharge	% Survival to Hospital Discharge	Active	Witnessed VF/VT Survival to Discharge was 22% in 2005 and 40% in 2010 (see page 30)	<ul style="list-style-type: none"> Update policies to 2012 AHA guidelines in progress Neuro status of these patients in progress 	Improving since 2005
IV Tx	IV	% Success Per Attempt	Active	82%	% Success Per Pt also would be a valuable measure	Improved from 75% in Nov. 2011
Sepsis	Sepsis Alerts	<ul style="list-style-type: none"> # of Sepsis Alerts % of pts with Impression of Sepsis and Sepsis Alerts 	Active	<ul style="list-style-type: none"> 22% 	<ul style="list-style-type: none"> % of sepsis alerts of indicated pts also would be a valuable measure Education Sepsis Study in Progress 	
Data Compliance	LP-15 data	% of 12 lead uploads from LP-15 to Zoll ePCR	Active	10 to 17%		Requires Improvement

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Clinical Area	Element	Quality Indicators / Performance Measures	QI Indicator Status	Key Findings/Priority Issues Identified	Improvement Plan/Actions	Quality Improvement Status
Continuity of Care	Data Field/Printing Compliance	<ul style="list-style-type: none"> % of Transports with Complete PCR's left at receiving facility % of Critical Pt Transports with Complete PCR's left at receiving facility 	Active	Measurement process requires improvement	Training and continued monitoring	Improving
Call Response	Response Time	Response Time Compliance	Active			
Transfer of Patient Care	Hospital Drop Times	Median drop times	Active			
Advanced Airways	ETCO2	% pts with advanced airways receiving ETCO2 monitoring	Active June 2012	87% average from June to Aug	Develop "workflow" in Zoll ePCR, Focused education	No Change
Cardiac Arrest	Hypothermia post ROSC	#/% of ROSC pts receiving hypothermia	Active	Avg. 14/quarter from 9/quarter in 2009		Improving
Cardiac Arrest	12 leads post ROSC	#/% of ROSC pts receiving 12 leads	Estimated			
Pulmonary Edema***	NTG, CPAP	% receiving NTG,CPAP	Proposed			
Cardiac Arrest***	Time to Defib	Median time from TCR to defib	Proposed			
Status Seizure***	Versed	% of pts with status seizures receiving Versed	Proposed			
Trauma***	Pts with ISS > 15 to trauma center		Proposed			
Trauma***	Pts > 65 with ISS > 21 to trauma center		Proposed			
ALOC	Blood Glucose	% of pts with GCS < 14 receiving glucose monitoring				
Anaphylaxis	Epi		Proposed			
Assessment	Ntg, Morph, Versed	% of pts receiving repeat VS	Proposed			
Cardiac Arrest	Death in Field	% of pts with Death Determination in Field	Proposed		Death in Field Policy Updated Training	
CVA	Time	Time intervals Start with total time, time of symptom onset to definitive care	Proposed			
Dysrhythmias			Proposed			
IO Treatment	GCS > 3	#/% of IO when GCS > 3	Proposed			
IV Tx		% of pts receiving IV tx	Proposed			
Pain Management	Pain Management	% of pts with isolated ext.Inj receiving Morphine when pain >5	Proposed			
Pain Management	Pain Scale	Pain Scale reductions.....	Proposed			

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

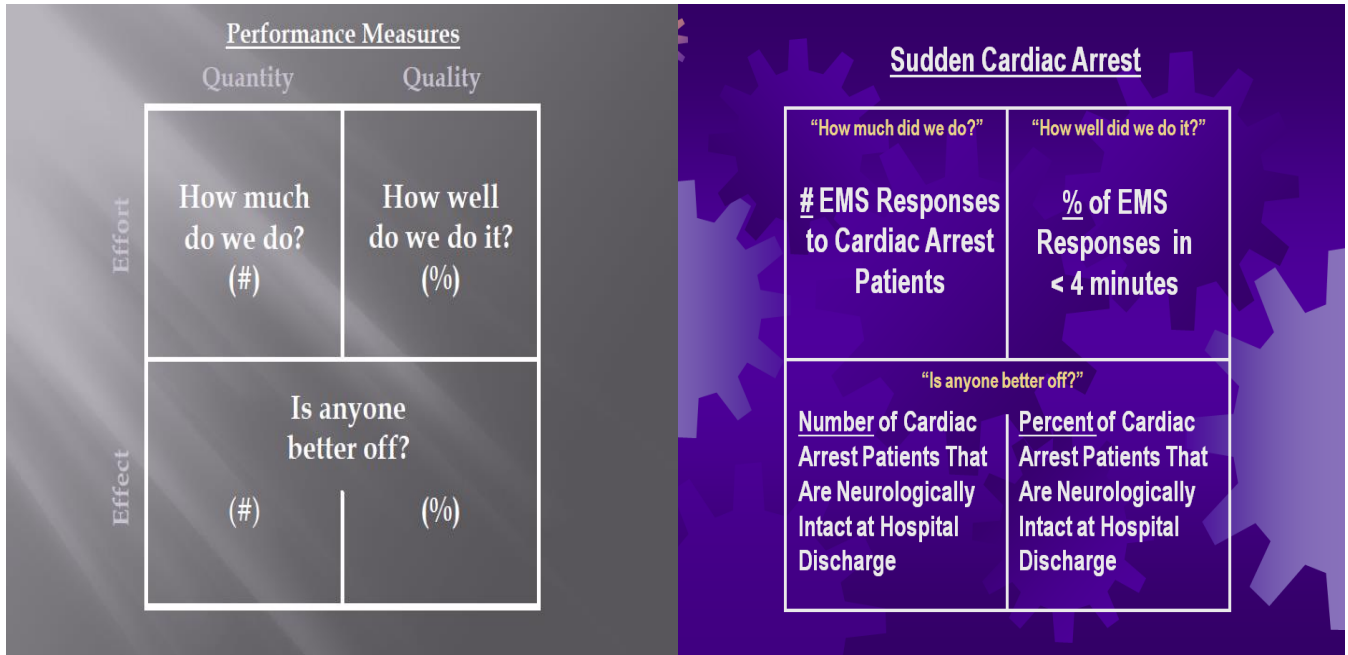
Clinical Area	Element	Quality Indicators / Performance Measures	QI Indicator Status	Key Findings/Priority Issues Identified	Improvement Action Plan	Quality Improvement Status
Patient Satisfaction	Time Pain Discomfort	Sample Questions <ul style="list-style-type: none"> • Did the paramedics arrive quickly? • Was pain, discomfort, breathing improved? • Did paramedics act in a caring and concerned manner? • Did paramedics explain what they were doing and why? • Overall care and service? 	Proposed			
Pain Management	morphine + narcan		Proposed			
Sedation	versed + morphine		Proposed			
Shock	IV Fluid	% of pts receiving IV fluid when BP < 90	Proposed			
STEMI	Time	Time intervals, Start with total time, time of symptom onset to definitive care	Proposed			
Transport Rates	Compliance with non-transport criteria (ROC, ROS)	Transport Rate	Proposed			
Trauma	Time	Time intervals, Start with total time, time of incident to trauma center arrival	Proposed			
Trauma	Spinal Immobilization	% of Pts receiving spine motion restriction interventions	Proposed		Spine Motion Restriction Policy Developed Training	

Process, Data and Quality Indicator Analysis

RESULTS BASED ACCOUNTABILITY (RBA) – *Mark Friedman - “Trying Hard Is Not Good Enough: How to Produce Measurable Improvements for Customers and Communities”*

RBA uses a practical model for developing meaningful performance measures (quality indicators) by asking 3 simple questions:

- **“How much do we do?”** Input resource components (such as leadership, workforce, suppliers, equipment, etc.) are measured. These are the least important performance measures but the easiest to obtain. These performance measures assess the quantity of effort we put in.
- **“How well do we do it?”** The efficiency of design and delivery of work processes, productivity and operational performance are measured. These performance measures assess the quality of effort we put in.
- **“Is anyone better off?”** The result or outcome of patient care, support services, and fulfillment of public responsibilities are measured. These are the most important performance measures and the most difficult to obtain. These performance measures assess the quality effect of our efforts.



CHARTS

The use of charts is essential in the analysis of processes, data and quality indicators. While many different types of charts exist, the following charts provide the best process analysis. These charts are also easy to create and use.

CONTROL CHARTS measure process improvement.

Process Improvement = Quality Improvement

“Our current processes are perfectly designed to produce the results we are getting.” ***Davis Balestracci***

If given two different numbers, one will be bigger than the other. However, if given a series of numbers over a period of time and then “plotting the dots”, a picture of a process starts to emerge.

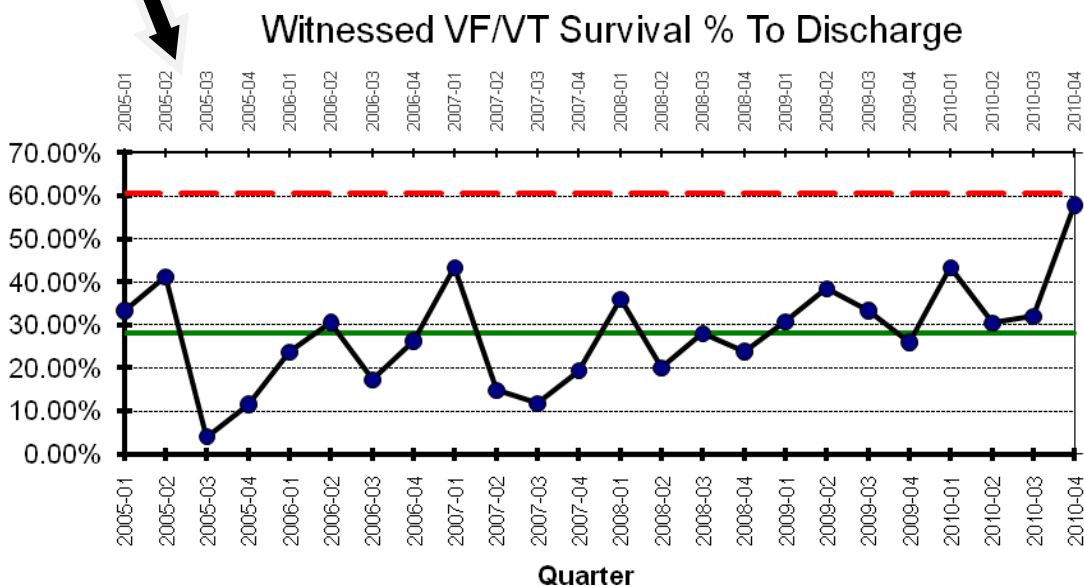
All data has a time component of some sort. While many charts analyze process improvements, Control charts provide the best illustrations of process improvement over time. These charts are simple to create and easy to understand. Control charts in particular are a necessary tool all organizations **must** use to determine whether a process is improving or merely operating within some variation.



A chart of numbers is just a chart of numbers.

A Control Chart presents a picture of the story.

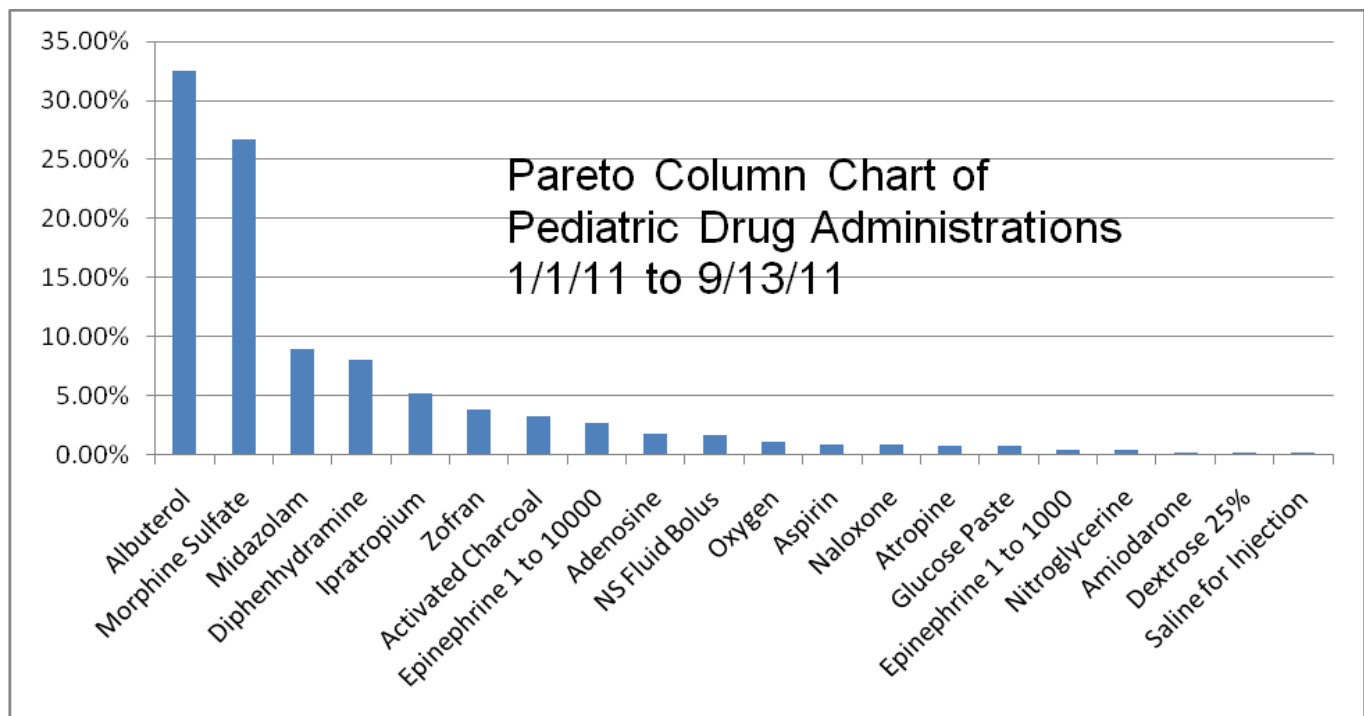
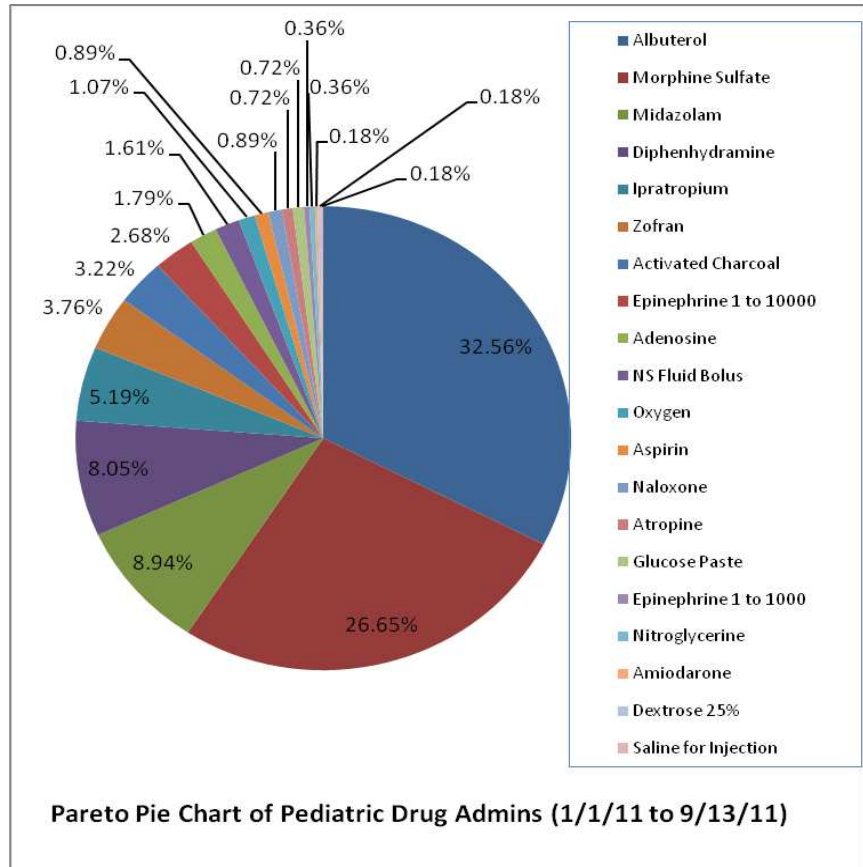
Quarter	Witnessed VF/VT Survival # To Discharge	Witnessed VF/VT	Witnessed VF/VT Survival % To Discharge
2005-01	11	33	33.33%
2005-02	7	17	41.18%
2005-03	1	25	4.00%
2005-04	3	26	11.54%
2006-01	9	38	23.68%
2006-02	11	36	30.56%
2006-03	5	29	17.24%
2006-04	5	19	26.32%
2007-01	13	30	43.33%
2007-02	4	27	14.81%
2007-03	4	34	11.76%
2007-04	6	31	19.35%
2008-01	9	25	36.00%
2008-02	3	15	20.00%
2008-03	7	25	28.00%
2008-04	5	21	23.81%
2009-01	8	26	30.77%
2009-02	10	26	38.46%
2009-03	8	24	33.33%
2009-04	7	27	25.93%
2010-01	13	30	43.33%
2010-02	7	23	30.43%
2010-03	8	25	32.00%
2010-04	11	19	57.89%



“Our purpose is to reduce pain and suffering and improve the health of our patients.”

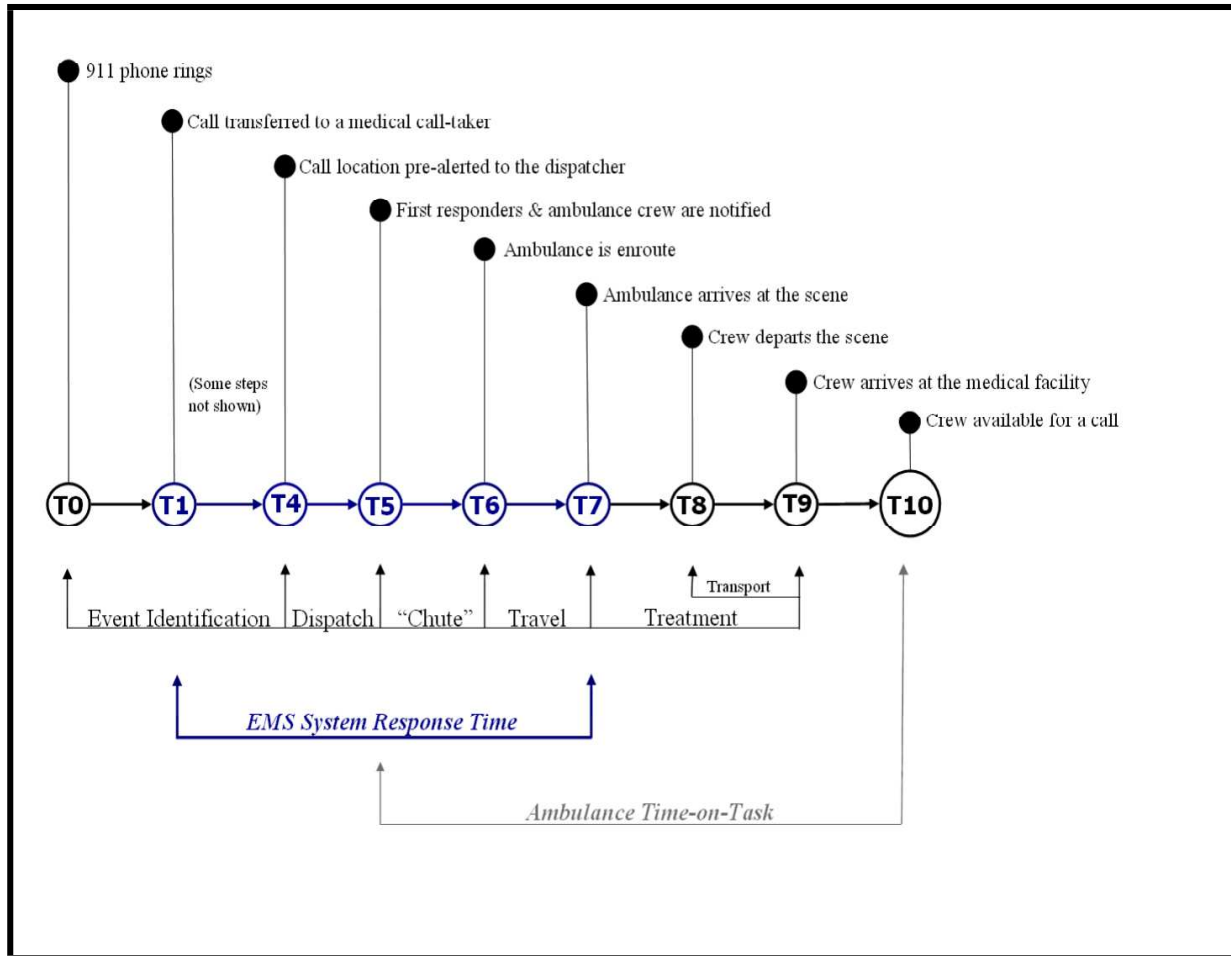
PARETO CHARTS / PIE CHARTS identify the most common contributing factors to a process. For example, regarding pediatric medication safety, first focusing efforts in analyzing and reducing errors in Morphine and Midazolam administrations makes sense.

	% of Total Pediatric Med. Administrations
Albuterol	32.56%
Morphine Sulfate	26.65%
Midazolam	8.94%
Diphenhydramine	8.05%
Ipratropium	5.19%
Zofran	3.76%
Activated Charcoal	3.22%
Epinephrine 1 to 10000	2.68%
Adenosine	1.79%
NS Fluid Bolus	1.61%
Oxygen	1.07%
Aspirin	0.89%
Naloxone	0.89%
Atropine	0.72%
Glucose Paste	0.72%
Epinephrine 1 to 1000	0.36%
Nitroglycerine	0.36%
Amiodarone	0.18%
Dextrose 25%	0.18%
Saline for Injection	0.18%
TOTAL	100.00%



“Our purpose is to reduce pain and suffering and improve the health of our patients.”

FLOW CHARTS provide a picture of the structure of an organization or the work flow of a process over time.



Anatomy of an EMS Call

Fitch Consultant Report, Alameda County, California, EMS System Review, January 31, 2008

IV. Action to Improve

“What are we doing to make things better?”

The EMS Agency shall establish and facilitate a system wide quality improvement program to monitor, review, evaluate and improve the delivery of prehospital care services.

The program shall involve all system participants and shall include, but not be limited to the following activities:

- Prospective - designed to prevent potential problems.
- Concurrent - designed to identify problems or potential problems during the course of patient care.
- Retrospective - designed to identify potential or known problems and prevent their recurrence. Reporting/Feedback - all quality improvement activities will be reported to the EMS Agency in a manner to be jointly determined. As a result of Q.A. activities, changes in system design may be made.
- Reporting/Feedback - all quality improvement activities will be reported to the EMS Agency in a manner to be jointly determined. As a result of Q.A. activities, changes in system design may be made.

In developing QI activities, various models and methodologies such as The Model for Improvement, PDSA, DMAIC and The Program/Project Management Model can be used by any organization’s quality improvement team.

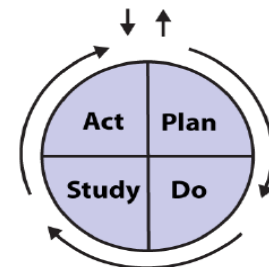
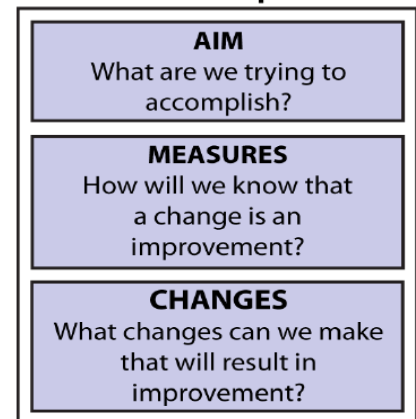
The Model for Improvement – PDSA Cycle *Institute for Healthcare Improvement*

- The **Aim**: *What are we trying to accomplish? How good? By when? For whom?*
- The **Measures**: *How will we know a change is an improvement? What are the process and outcome measures?*
- The **Changes**: *What change can we make that will result in improvement?*

The PDSA cycle gives us a way to quickly test changes on a small scale, observe what happens, tweak the changes as necessary, and then test again—before implementing anything on a broad scale.

- **Plan** – State objective of the test, make predictions, Develop an improvement plan to carry out the test (who, what where, when)
- **Do** - Carry out the test or trial, document problems and unexpected observations, begin analysis of the data
- **Study** - Complete the analysis of the data, compare the test data to predictions, and summarize what was learned
- **Act** - What changes are to be put into policy and institutionalized? What will be the objective of the next cycle? What, if any, re-education or training is needed to effect the changes?

The Model for Improvement



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Six Sigma

Institute For Healthcare Improvement

The focus of Six Sigma is reducing variation or the defect rate, measured by Sigma level, or “Defects per Million Opportunities.” The Six Sigma improvement framework consists of six basic steps, known as DMAIC for short:

- **Define.** Define the problem in detail.
- **Measure.** Measure defects (in terms of “defects per million,” or Sigma level).
- **Analyze.** In-depth analysis using process measures, flow charts, defect analysis to determine under what conditions defects occur.
- **Improve.** Define and test changes aimed at reducing defects.
- **Control.** What steps will you take to maintain performance?

Once an Improvement Plan has been implemented, the results of the improvement will be measured. Changes to the system will be integrated and standardized. A plan for monitoring future activities will be established to ensure the change continues. Findings and plans are discussed and implemented through the EMS Quality Council.

Program/Project Management Model

Program/Project Title	A short title that labels the program/project should be concise and clear.
Purpose	A clear program/project purpose related to the overall EMS <u>Purpose</u> to improve health and reduce pain and suffering should be clearly defined in one sentence.
Vision	Where we see the program/project in the future related to the overall EMS <u>Vision</u> should be clearly defined in one sentence.
Values	The main concerns and cares of the program/project related to the overall EMS <u>Values</u> of STARCARE should be stated.
Program/Project Scope	The parameters of the program/project, what’s included and/or not included, “what’s in or out”, should be defined.
Program/Project Members	The program/project leader and members should be listed. The roles and responsibilities of the leader and each member should be clearly defined.
Measurements, Outcome	Established benchmarks and measures as well as other innovative data measures that are pertinent to the improvement program/project should be established. Results and measurements from the patient’s perspective are essential.
Improvement Projects	Define the specific work being done within the Quality Improvement program/project.
Schedule	The difference between a wish and a goal is that a goal contains a deadline. Intermediate and final project deadlines should be determined and followed.

POLICY REVIEW PROCESS

1. INTRODUCTION

- 1.1 The policy review process is an advisory process to the County Health Officer and the EMS Medical Director for the formulation of medical protocols. Policy suggestions and/or draft policies are accepted from committees, system participants, individuals, and/or interested parties.
- 1.2 Policies will be evaluated on an annual basis with adequate time allowed for training and distribution. Specific recommendations for additions, deletions and/or revisions should be forwarded to the EMS Agency.

2. POLICY PROCESS

2.1 Written Public Comment Draft

- 2.1.1 The EMS office will distribute draft policies to the appropriate system participants and/or interested parties for written comments.
- 2.1.2 Policies under consideration that affect the EMS system as a whole will be sent out for review by all systems participants. A policy under consideration that applies to a limited group will only be sent to those who would be directly affected.
- 2.1.3 The time frame allowed for the return of comments will be 60 days. Comments may be mailed or faxed to the EMS office, but must be received no later than 4 p.m. on the deadline date.
- 2.1.4 All comments will be reviewed by the EMS Medical Director. All suggestion will be taken into consideration.

2.2 Public Testimony

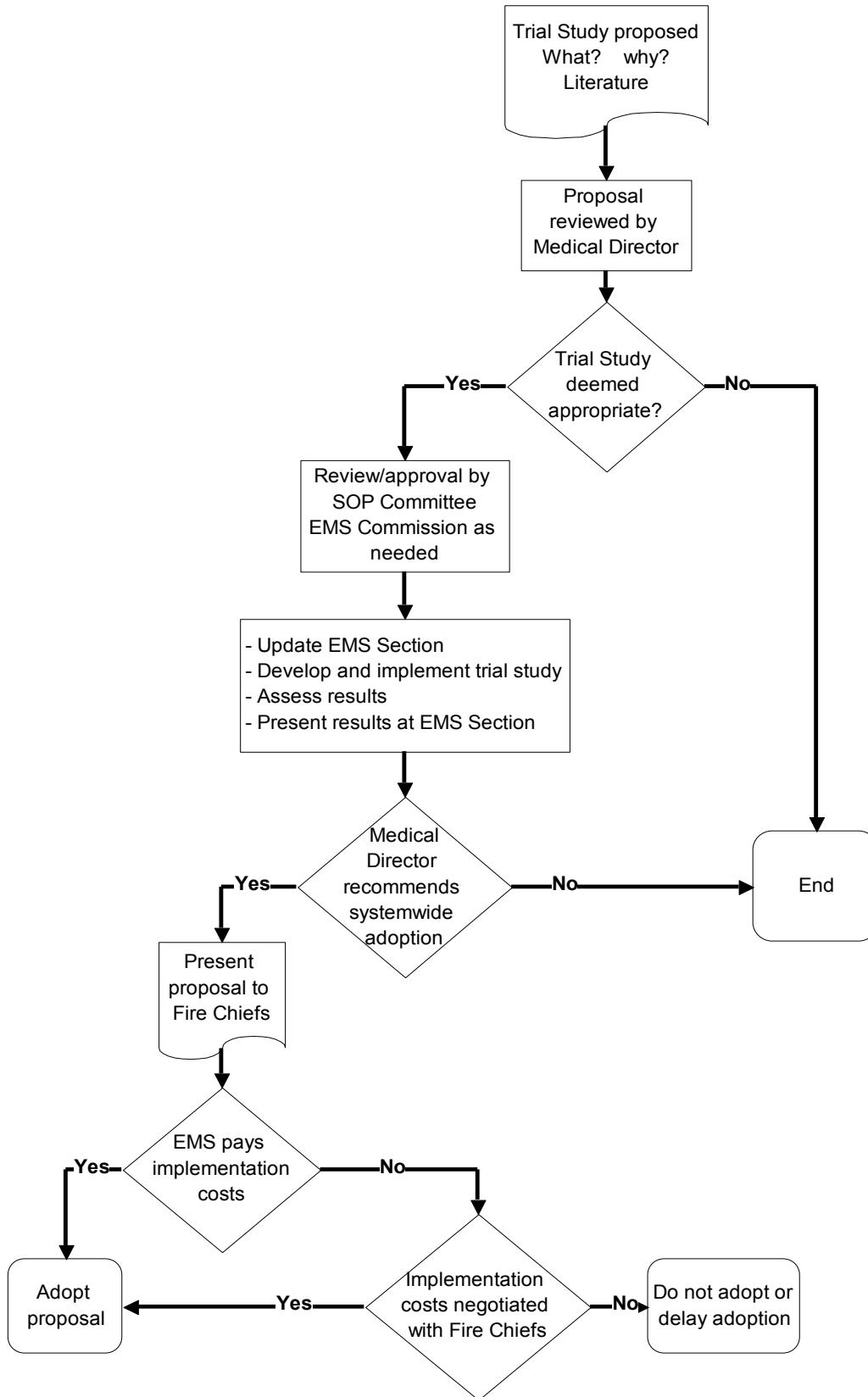
- 2.2.1 Public comments will be heard at the next most appropriate Emergency Medical Oversight Committee (EMOC) meeting (usually in August)
- 2.2.2 A final draft of the policy will be distributed prior to the meeting.
- 2.2.3 Time will be allotted at the meeting for public testimony and discussion. All recommendations will be taken into consideration during the finalization of the policy.

3. ANNUAL POLICY REVIEW PROCESS TIMELINE:

Policy Review Process	Timeline
Deadline for policy ideas	March
Written public comment draft released	April
Written comments due back to EMS	May
Public Testimony at EMOC	June
Finalized policies released	July
Update training	July/August
Effective date of new policies	December

Specific dates set annually. Subject to change

TRIAL STUDY PROCESS



Ongoing EMS Agency Quality Improvement Activities

QI Project/Programs	Primary QI Partners	QI Activities
Cardiac Care/STEMI	<ul style="list-style-type: none"> The STEMI Committee with STEMI centers and EMS providers Take Heart America CPR 7 with Schools Equipment Vendors 	<ul style="list-style-type: none"> CPR training System Based Approach Improving STEMI Triage Reduce time from onset to definitive care Community AEDs CPR 7 (7th graders trained in CPR) 12 Lead Program/Transmission Feedback to providers on Pt outcomes
Stroke Care	<ul style="list-style-type: none"> Stroke Committee with Stroke Centers and EMS providers 	<ul style="list-style-type: none"> Improving Stroke Triage Reducing time from onset to definitive care Public Education Feedback to providers on Pt outcomes
Trauma Care	<ul style="list-style-type: none"> Trauma Audit Committee (TAC) with Trauma Centers and Providers Regional TAC with other counties Air Transport Providers 	<ul style="list-style-type: none"> Trauma Case Reviews Improve Triage Improve Spinal Immobilization Triage and Care Efficient Aircraft Utilization Feedback to providers on Pt outcomes
Pain and Suffering Reduction	<ul style="list-style-type: none"> All 	<ul style="list-style-type: none"> Reduce pain and suffering Analyze pain scales before and after treatments Analyze causes of pain and suffering Analyze non-invasive pain reduction treatments in all demographics Analyze analgesic and anti-nausea treatments in all demographics Implementation of comfortable patient movement measures such as vacuum mattress use Patient Satisfaction Surveys
Disaster Planning and Response	<ul style="list-style-type: none"> All partners, local and statewide 	<ul style="list-style-type: none"> Improved communication strategies between local, state and federal agencies Improved surge capacity Improved disaster caches Development of standard MCI forms Urban Shield and other disaster drills and training
Contracts	<ul style="list-style-type: none"> Contracted Providers and Partners 	<ul style="list-style-type: none"> Contract compliance monitoring of all line items Development of new agreements
Unusual Occurrences/Investigations/Enforcement	<ul style="list-style-type: none"> All providers and receiving facilities 	<ul style="list-style-type: none"> Development of an EMS investigation/enforcement unit with CLEAR training (or equivalent) Identify sentinel events Development of a standard intake and investigation process Transparent reporting

QI Program/Project	Primary QI Partners	QI Activities
Data Collection, Flow and Analysis	<ul style="list-style-type: none"> • Data Steering Committee with all partners/provider • First Watch • Zoll • Medtronics • DNI 	<ul style="list-style-type: none"> • Improving the flow of data between all partners and EMS • Single Zoll ePCR for FRALS and ALS Transporters is being implemented • Improved data communications via wireless, internet, intranet and landlines • Use of data expertise • Use of local data for EMS system analysis and interventions if necessary • Surveys
EMT Certification/Paramedic Accreditation	<ul style="list-style-type: none"> • EMS Providers • EMSA 	<ul style="list-style-type: none"> • EMS to update certification and accreditation policies • Providers to develop new hire employee education and continuing education plans including field training and evaluation
EMT/ Paramedic Training Programs	<ul style="list-style-type: none"> • All In-County Training Programs • All providers 	<ul style="list-style-type: none"> • Update Training Program Policies • Preceptor Program Improvement including new graduate survey • Ensuring provider and training programs are compliant with EMS state and local policies • EMS Core
Policy/Protocol Development	<ul style="list-style-type: none"> • Quality Council • EMS Section Chiefs • Receiving Facilities • Field Providers 	<ul style="list-style-type: none"> • Continuous update of policy/protocols to address system improvement needs • Simplification of existing policies • Increase flexibility in protocol development and implementation to include online training and electronic protocol distribution
Research	<ul style="list-style-type: none"> • All 	<ul style="list-style-type: none"> • Sepsis study • Therapeutic hypothermia study • Vacuum mattress trial • Bay Area Journal Club • Analysis of latest medical research related to EMS
Injury Prevention	<ul style="list-style-type: none"> • All 	<ul style="list-style-type: none"> • Bicycles Helmets • Car Restraints • Senior Injury Prevention
Aircraft Utilization	<ul style="list-style-type: none"> • CALSTAR, REACH, CHP, Lifeflight ,EBRPD 	<ul style="list-style-type: none"> • Monitor appropriate aircraft utilization
Emergency Medical Dispatch	<ul style="list-style-type: none"> • All Providers and Dispatch Centers • All PSAPS 	<ul style="list-style-type: none"> • Timely dispatch of appropriate resources • MPDS QI/QA

Emergency Medical Services for Children (EMSC)

“Emergency Medical Services for Children (EMSC)” is a program that addresses the specific care of children within the EMS system to include the prevention, prehospital, emergency department, in-patient and rehabilitation services. This includes planning, implementation, management, policy development, evaluation, and education consistent with California / National EMSC standards/ guidelines.

Hospital Preparedness Program (HPP)

The purpose of the Federal Hospital Preparedness Program (HPP) grant is to allow EMS to improve local hospital, clinic and emergency medical service systems' preparedness to respond to bioterrorism, outbreaks of infectious diseases, and other public health threats and emergencies. The mandate of the grant is to work directly with local partners.

Alameda County Public Health Department collaborates and contracts with Alameda Health Consortium and Alameda County Medical Center (ACMC) to facilitate disaster and emergency preparedness efforts at their respective clinic sites in Alameda County. Alameda Health Consortium provides support for multiple clinic sites and ACMC provides oversight for some clinic sites. Together these clinic outpatient sites provide services to the majority of low income residents in Alameda County.

Regional Disaster Medical Health Specialist/Disaster Preparedness

The Alameda County EMS Agency has contracted with the California Emergency Medical Services Authority on to provide RDMHS services for Region II. That contract is will be renewed biannually. The RDMHS position is served by a Prehospital Care Coordinator here at the EMS Agency.

During a disaster, the RDMHS gathers situation status information and responds to resource requests received from affected counties. The RDMHS also works with all of the region's counties on emergency preparedness planning efforts.

ALCO AED Project HeartSAFE works with Alameda County departments for assignments of department contacts, site coordinators, people to be trained, placement of AEDs, and ongoing promotion and maintenance of the AEDs.

EMS Newsletter

The Agency creates a newsletter, *EMS News*, in January, April, July and October. We highlight new and changed policies, changes to the EMS system, provider updates, news about upcoming conferences and continuing education events, injury prevention news, staff updates, and stories of EMS in action. There is a subscribe button on our web site.

VI. Training and Education

EMERGENCY MEDICAL SERVICES CORPS

ALCO EMS works with the Alameda County Health Pipeline Partnership, Camp Sweeney and Bay EMT to provide ethnically diverse youth of the county with academic, social, and professional development to build a successful career in all areas of the health industry. The vision is to have a healthy workforce that reflects the rich ethnic and cultural diversity of our community.

Camp Sweeney is an unlocked facility that serves youth offenders in the juvenile justice system. ALCO EMS and Camp Sweeney provide a three component program consisting of Life Coaching classes, Transformative Mentoring groups and introductory First Responder EMT classes for juvenile offenders interested in health career training. Advanced EMT training is also provided with linkages to potential employers.

INJURY PREVENTION PROGRAM

The Injury Prevention Program primarily targets children, older adults and organizations that provide services to these populations.

The **Child Passenger Safety (CPS) Work Group** educates service providers on child passenger safety seat laws and proper use and installation of car seats. As part of an Alameda County Court Diversion program, the workgroup provides CPS education for people cited for car seat or seat belt violations. The workgroup also conducts annual CPS technician and educator courses.

The **Helmet Safety Program** provides age appropriate and interactive presentations focused on rules and best practices for using non-motorized wheeled vehicles (bikes, scooters, skateboards) for children ages eighteen and under.

The **Senior Injury Prevention Program (SIPP)** partners with community organizations to provide public education and assistance to reduce preventable injuries to older adult. All fall prevention research shows that the most effective fall prevention programs are multi-faceted and include these components:

- Physical Activity Training Sessions to train lay people who are conducting exercise classes
- SIPP partners with the Area Agency on Aging to provide home modifications, medication management assistance, and physical activity classes geared towards fall prevention.
- Fall Prevention Discussion Groups –These sessions began as focus groups in 1999 to help us collect data and understand when, where, and how falls occur in our community.
- Driving Safety
 - Driving Safety Discussion Groups –

- CarFit – Helps mature drivers learn how to adjust their car “fit” them in a way that provides the best visual ability, safety and access to controls.
- Bone Density Screenings are conducted by EMS/SIPP staff using the densitometer purchased with Measure A funding.
- Hospice “Getting the Most Out of Life” – This program’s vision is to increase enrollment of hospice eligible patients into hospice care by educating caregivers, patients and the public on what hospice has to offer and improving the current image of hospice.

DRILLS AND EXERCISES

- Urban Shield
- Annual CA EMSA Medical / Health Exercise Planning, Table-Top and Functional Exercise / AAR
- EMSA statewide medical health disaster exercise
- Golden Guardian Exercise
- ALCO annual disaster exercise, and other large scale drills and exercises

CONFERENCES

- Annual California Neonatal/Pediatric Disaster Coalition Conference
- Senior Injury Prevention Conference
- Operation Independence Emergency Preparedness Training
- Cardiac Arrest Symposium in 2011
- “Getting the Most Out of Life” Hospice Outreach

PARAMEDIC AND EMT TRAINING PROGRAMS

Paramedic and EMT Training Programs are approved and monitored in accordance with California Code of Regulations, **Title 22**. Training programs receive EMS education initiatives associated with treatment protocol updates and quality improvement activities.

CPR 7

Emergency Medical Services with School Health Services trains 7th graders and utilizes them to train others to create a multiplier effect to increase Alameda County’s bystander CPR rate.

During the 2010-2011 school year, CPR 7 took place in 38 Alameda County Middle Schools from 15 of our 18 school districts. The program was made available to 10,069 7th graders. A student from Alvarado Middle School, New Haven Unified School District in Union City trained 96 community members.

CONTINUING EDUCATION (CE) Title 22. DIVISION 9. CHAPTER 11

Training and Education is fundamental to the success of quality improvement and is addressed in collaboration with quality and training experts from all of our partners throughout the EMS system. CE training program objectives are designed to:

“Our purpose is to reduce pain and suffering and improve the health of our patients.”

- Meet State licensure/certification requirements and/or County accreditation requirements
- Be developed with educational content to address Alameda County specific needs
- Provide standards-based training for all fire and ambulance personnel
- Integrate prehospital skills/CE training into a county-wide system
- Utilize patient simulator training countywide to achieve training objectives
- Improve and integrate “partners” in ALS/BLS training
- Facilitate increased interagency training to promote cooperation and respect

The EMS QI Council Education Committee will work in strong partnership with CE training programs to communicate and educate EMS providers throughout the system in the following ways:

- Identification, development and implementation of EMS best practices
- Skills and protocol focused indicator reports monitoring field practice and success
- Annual EMS updates on protocol changes and quality initiatives
- Support in the development of standardized curriculum and resources to support training activities
- Review of educational needs assessment
- Recommendations for training on clinical and patient care issues

VII. Annual Update

ALAMEDA COUNTY ANNUAL REPORT

The EMS Medical Director will evaluate the QI Program with the EMS QI Council at least annually. This group will be tasked with ensuring that the QI Plan is in alignment with our strategic goals, and will review the plan to identify what did and did not work. From this information, an Annual Update will be provided to the CQI Team and will include the following:

- Indicated monitors
- Key findings and priority issues identified
 - Identification of any trends
- Improvement action plans and plans for further action
 - Description of any in-house policy revisions
 - Description of any continuing education and skills training provided as a result of Improvement Plans
- Description of whether the goals were met and whether follow up is needed
- Description of next year’s work plan based on the current year’s indicator review

The Annual Update is a written account of the progress of an organization’s activities as stated in the EMS QI Program. Refer to the previous year’s update and work plan describing how, how often and who (job title) in your organization evaluates the QI Program (annually at minimum). This include the indicators monitored, key findings/priority issues identified, improvement action plan/plans for further action, and state whether goals were met. If goals were not met, what follow-

up is needed, if any? The update shall include, but not be limited to a summary of how the provider’s EMS QI Program addressed the program indicators.

The EMS QI Program shall be reviewed by the LEMSA or the EMSA at least every five years.

Description of Organizations

The description should include an organizational chart showing how the QI Program is integrated into the organization.

Statement of EMS QI Program goals and objectives

Describe processes used in conducting Quality Improvement activities.
Were goals and objectives met?

List and define indicators utilized during the reporting year

- Define state and local indicators
- Define provider specific indicators
- Define methods to retrieve data from receiving hospitals regarding patient diagnoses and disposition
- Audit critical skills
- Identify issues for further system consideration
- Identify trending issues
- Create improvement action plans (what was done and what needs to be done)
- Describe issues that were resolved
- List opportunities for improvement and plans for next review cycle
- Describe continuing education and skill training provided as a result of Performance Improvement Plans
- Describe any revision of in-house policies
- Report to constituent groups
- Describe next year’s work plan based on the results of the reporting year’s indicator review

Sample Work Plan Template (see Quality Indicators on page 27)

Indicators Monitored	Key Findings/Priority Issues Identified	Improvement Action Plan Plans for Further Action	Were Goals Met? Is Follow-up Needed?