



Emergency Medical Services Agency
2004 Annual Program Report

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I. Introduction

A. Overview of EMS

Emergency Medical Services is a system of services organized to provide rapid emergency medical response to serious medical emergencies, including immediate medical care and patient transport to definitive care in an appropriate medical setting. An effective EMS system involves a variety of agencies and organizations working together to accomplish this goal. While most EMS responses are day-to-day emergencies, EMS agencies also plan and prepare for disaster medical response.

The EMS system includes:

- Public safety dispatch centers
- Fire services
- Ground and air ambulance services
- Law enforcement agencies
- Hospitals and specialty care centers
- Training institutions and organizations
- Citizen, professional, and technical advisory groups
- Local and State EMS Agencies
- Other governmental and voluntary organizations

In California, EMS systems are organized on a county or regional basis. Local EMS Agencies (LEMSA's) are designated by county boards of supervisors as the lead agencies responsible for coordinating EMS services at the county or regional level consistent with State law and regulations.

The California Emergency Medical Services Authority (EMSA) approves local EMS system plans, provides guidance to local EMS agencies, develops EMS regulations, administers the Regional Poison Control Center program, and carries out other EMS activities. The State EMS Commission, with members appointed by the Governor and certain other State officials, is advisory to the EMSA and reviews and approves all EMS regulations.

In Contra Costa County, the Board of Supervisors has designated County Health Services as its Local EMS Agency. The EMS Director, EMS Medical Director, and staff carry out the EMS functions of Health Services. The EMS Medical Director has statutory responsibilities to oversee medical aspects of the EMS program. An Emergency Medical Care Committee (EMCC) provides advice regarding EMS matters to the Board of Supervisors and to the EMS Agency.

B. Local EMS Agency Functions.

Principal functions of a local EMS agency as specified in the Health & Safety Code include:

- Planning, implementing, and evaluating emergency medical services.
- Monitoring and approving EMT-I, paramedic, and Mobile Intensive Care Nurse (MICN) training programs.
- Conducting credentialing programs for EMT-I's, paramedics and MICN's.
- Authorizing advanced life support (ALS) programs.
- Establishing policies and procedures for EMS system medical control, including those for

dispatch, patient destination, patient care, and quality improvement.

- Establishing ordinances and/or exclusive operating areas for the regulation of ambulance services.
- Approving and monitoring Prehospital Continuing Education Providers.
- Developing and implementing a trauma system plan.
- Conducting an impact evaluation when notified that an acute care hospital plans to downgrade or cease providing emergency medical services.

The County Board of Supervisors has further charged the Health Services Department as the local EMS Agency with the following responsibilities:

- Implementing EMS program enhancements funded under County Service Area EM-1 (Measure H).
- Tracking and monitoring hospital emergency and critical care capacity.

Additionally, the EMS Agency is the lead agency responsible for:

- Procuring and monitoring emergency ambulance services countywide.
- Planning for and coordinating disaster medical response at local and regional levels.
- Implementing and monitoring an Emergency Medical Services for Children Program countywide.

To accomplish these functions, the EMS Agency employs a staff of 11, including the EMS director, part-time EMS medical director, program coordinator, Health Services disaster preparedness manager, two prehospital care coordinators, trauma coordinator, training coordinator, half-time contract RN, and two clerks.

C. Emergency Medical Care Committee.

Each county may, under the Health & Safety Code, establish an Emergency Medical Care Committee (EMCC) with membership prescribed and appointed by the county board of supervisors. A County EMCC acts as an advisory body to its board of supervisors and to its local EMS agency on all matters relating to EMS.

The Contra Costa EMCC consists of five consumer representatives and five consumer alternate representatives, one representative and alternate representative from each of the five supervisory districts, and representatives and alternate representatives of the following groups and organizations:

- Alameda-Contra Costa Medical Association
- American Heart Association
- American Red Cross
- California Highway Patrol
- Contra Costa Contract Ambulance Provider
- Air Medical Transportation Provider
- Emergency Department Physicians
- Emergency Nurses Association
- Contra Costa Fire Chiefs' Association
- Field Paramedic (1 private/1public)
- County Health Services

- Hospital Council – Bay Area Division
- Contra Costa EMS Training Institution
- Contra Costa Police Chiefs' Association
- Contra Costa Public Managers' Association
- Contra Costa Sheriff-Coroner
- Base Hospital
- Trauma Center
- Community Awareness and Emergency Response (CAER)
- Communications Center Managers Association
- EMS Director

The EMCC meets quarterly and all meetings of the EMCC and its subcommittees are open to the public. The Emergency Medical Care Committee will provide reasonable accommodations for persons with disabilities planning to attend Emergency Medical Care Committee meetings who contact Lauren Kovaleff, EMS Program Coordinator at least 24 hours before the meeting, at (925) 646-4690.

D. Delivery of EMS Services.

EMS services are typically provided in response to a medical emergency reported through the 9-1-1 emergency telephone system. A 9-1-1 call placed from any telephone is automatically routed to the appropriate designated Public Safety Answering Point (PSAP). Calls from cellular phones are routed to the Vallejo California Highway Patrol dispatch center. A dispatcher or complaint operator at the PSAP determines the nature of the emergency and, if the PSAP is part of a fire/medical dispatch center, obtains information necessary to dispatch appropriate response units. If the PSAP is not part of a fire/medical dispatch center, the call is transferred to a "secondary PSAP" where a dispatcher then obtains information necessary to dispatch appropriate fire/medical units.

The initial response to a potentially life threatening incident generally includes both a fire first responder unit and a paramedic staffed ambulance. The location of fire stations throughout the county enables firefighters to make a rapid initial response to a medical emergency. All fire fighters are trained in first aid, CPR and defibrillation. Most are trained and certified as Emergency Medical Technicians, which provide basic life support and many are trained and licensed as paramedics. Fire fighters arriving early on scene may be able to initiate lifesaving measures and achieve some patient stabilization before the ambulance arrives.

A private company, American Medical Response, under contract with the County, provides emergency ambulance services in most areas of the County. In the San Ramon Valley and Moraga-Orinda areas, emergency ambulance service is provided by the fire service. Depending upon the nature of the incident, an ambulance may be dispatched Code 3 (red lights and siren) or Code 2 (immediate response, but following normal traffic regulations). Ambulances may be staffed with either paramedic-trained or EMT-I trained personnel.

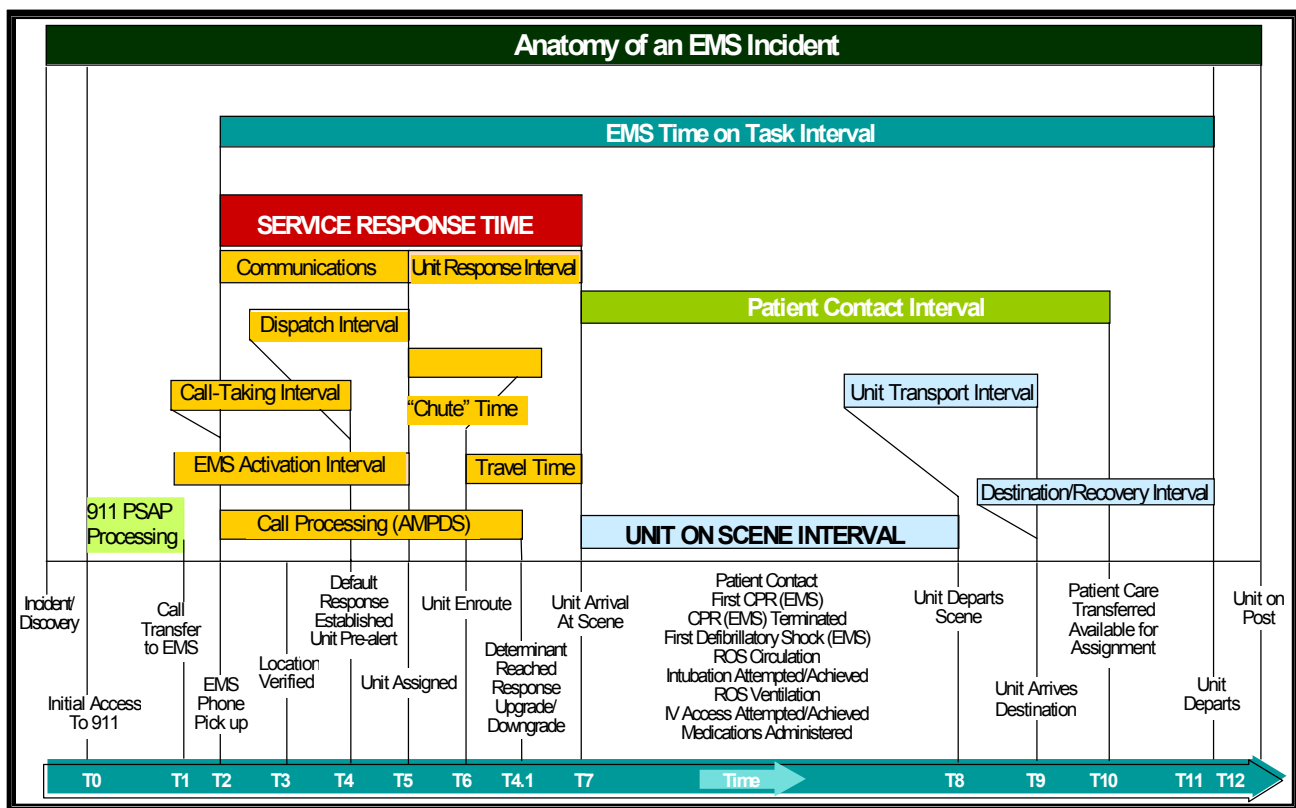
The staffing standard for response to potentially life threatening incidents is an advanced life support (ALS) ambulance staffed with 2 paramedics or 1 paramedic and 1 EMT-I. Paramedics are able to administer lifesaving drugs and perform other lifesaving procedures. Basic life support (BLS) ambulances are staffed with two EMT-I's and may be used for non-emergency response or to provide additional support at an emergency incident.

Patient treatment and transport are carried out under State and local EMS agency policies and procedures. These policies include, in the case of paramedics, making contact with a mobile

intensive care nurse (MICN) or physician at the designated base hospital for medical consultation in patient management according to County EMS treatment guidelines.

Patients are transported to hospitals able to provide needed services. Hospital destination is determined based upon patient preference and County EMS protocols. Critical patients may be directed to the nearest emergency department or to the trauma center. Non-critical patients may be transported to hospitals of choice within reasonable travel time.

Medical helicopter service is available to transport critical patients when ground ambulance transport time would be excessive. Two medical helicopter services, CALSTAR and REACH, are authorized to respond to local EMS calls on a daily rotation schedule. Both agencies provide advanced life support services and maintain 24-hour helicopter unit availability based at Buchanan Field in Concord. Other helicopter services are available to respond from neighboring counties if both CALSTAR and REACH are unavailable.



E. County Service Area EM-1 (Measure H) Funding.

In 1988 Contra Costa voters countywide passed ballot "Measure H" which provides for enhancements to the EMS system including increased paramedic service, additional medical training and equipment for firefighter first responders, and an improved EMS communications system. Following a 71.6% affirmative vote, the Board of Supervisors, with the support of the 18 city councils, formed County Service Area EM-1 to levy charges on real property as specified in Measure H. Assessments are limited to \$10.00 annually for a single-family residence. Commercial and industrial properties are generally assessed at \$30.00 or higher, depending upon the use code classification of the parcel.

Measure H assessments have been used to finance or assist with financing the following:

- Increased paramedic ambulance units available to respond to 9-1-1 calls,
- A countywide firefighter first responder defibrillation program including automated external defibrillators purchased and maintained for all fire response units,
- Fire first responder paramedic services,
- First responder training, equipment, and supplies,
- Medical supply caches purchased and maintained for multicasualty/disaster response,
- An upgrade to the MEDARS radio system used for ambulance-to-hospital communications,
- Radios for ambulances to communicate with fire first responders,
- An upgraded ambulance dispatch system and dispatcher preparedness and,
- Enhanced response to Hazardous Materials incidents.

II. List of Major Accomplishments – 2004

EMS Major Accomplishments – 2004

- Developed and implemented a comprehensive plan for the integration of paramedic first responder and ambulance services in those areas of the county covered by private ambulance services.
- Coordinated a competitive emergency ambulance selection process for emergency response areas 1, 2, and 5.
- Implemented a comprehensive EMS system quality improvement plan.
- Provided ongoing oversight to the countywide emergency medical services and trauma system, which included some **67,966** responses to emergency medical calls made by County-contracted ambulance services, **302** medical helicopter transports by County-designated air ambulance services, and **763** serious trauma patients treated at John Muir Medical Center, the County-designated trauma center.
- Assisted with ongoing development and expansion of fire first responder paramedic services now provided by Moraga-Orinda Fire and San Ramon Valley Fire and, on a partial coverage basis, by Contra Costa County Fire, El Cerrito Fire, Rodeo-Hercules Fire and Pinole Fire (2005); provided ongoing oversight to the countywide fire first responder defibrillation program.
- Conducted an EMS related cultural disparity project along with American Medical Response.
- Began a public access defibrillation (PAD) project. Implemented a PAD program within the EMS Agency offices.
- Participated in mass flu immunization clinics through out the county with public health personnel.
- Revised the trauma system and center review process.
- Provided the first annual Contra Costa EMS educational conference along with John Muir Medical Center, American Medical Response, and Contra Costa Fire. Specially trained interfacility transport paramedics transferred **563** in-patients to other acute care facilities as part of the County Interfacility Transfer Paramedic program.
- Participated along with hospitals, ambulance providers, Public Health and others in the Annual Statewide Disaster/Health Exercise.
- Expanded the EMS Agency website to include detailed information about the ambulance selection process, public access defibrillation and other new projects.
- Conducted an impact analysis for possible closure of Doctors San Pablo.
- Continued to support the Bay Area Disaster Medical Assistance Team (DMAT CA-6).

III. Issues in the Forefront

A. Integration of Paramedic First Responder and Ambulance Services

In May 2004, the Board of Supervisors approved a comprehensive plan for the integration of paramedic first responder and ambulance services in those areas of the county covered by private ambulance services; that is, all areas of the county outside the San Ramon Valley and the Moraga-Orinda Fire Protection Districts. This plan was developed with considerable input from the County Fire Chiefs Association and its Paramedic Engine Task Force and from American Medical Response. The plan was based upon recommendations made by Fitch and Associates in a consultant report to the EMS Agency made in October 2003 and recommendations made by the EMCC following a series of public meetings in which the Fitch report recommendation and EMS staff recommendations were reviewed.

The final plan approved by the Board had four objectives: (1) to promote the development of integrated paramedic ambulance and first response services by using existing Measure H funds to support the implementation and expansion of fire paramedic programs; (2) to assure that ambulance response and staffing standards remain unchanged for jurisdictions unable to undertake paramedic first response; (3) to assure that there be no diminution of paramedic services during the transition to an integrated paramedic ambulance/first responder program; and (4) that a measure of equity be maintained in the level of Measure H support for EMS services throughout the county.

As adopted, the plan divides the private ambulance service area into five response zones and sets new ambulance standards for areas with paramedic first responders – one paramedic/one EMT-I staffing and 11:59/90% (later changed to 11:45/90%) urban/suburban response time. These standards apply in all zones except Zone A. The five zones and response plans are as follows:

Zone A – City of Richmond. The plan provides for the continuation of paramedic ambulance service at the existing two-paramedic, 10-minute/95% level since the City of Richmond Fire Department does not currently have plans for a paramedic program. Use of a Quick Response Vehicle* to provide first responder services is not feasible due to the high call volume.

Zone B – West County (except Richmond). The plan provides for engine-based paramedic service provided by City of El Cerrito Fire Department, City of Pinole Fire Department, Contra Costa County Fire Protection District, and Rodeo-Hercules Fire Protection District. A QRV is to be stationed in the Crockett/Rodeo-Hercules area to supplement first responder service.

Zone C – Central County. Engine-based paramedic first response provided by Contra Costa County Fire Protection District.

Zone D – Pittsburg/Antioch/Bay Point. Engine-based paramedic first response provided by Contra Costa County Fire Protection District.

Zone E – East Contra Costa County Fire District. Paramedic first response provided by three AMR QRV's stationed in the Byron/Discovery Bay area, Brentwood/Oakley area and Bethel Island area.

* Quick Response Vehicles (QRV's) are single-paramedic-staffed units without transport capabilities operated by the private ambulance service.

The plan approved by the Board eliminated the Measure H subsidy for paramedic ambulance service and establishes subsidies for paramedic engine operational costs and for fire paramedic startup costs. The plan was implemented September 1, 2004.

B. Competitive Selection for Emergency Ambulance Service

A Request for Proposal (RFP) for emergency ambulance services, based on the integrated ambulance/first responder paramedic plan described above, was released in September 2004. The RFP covered those areas currently served by American Medical Response; i.e., all areas of the county except for the San Ramon Valley and Moraga-Orinda Fire Protection Districts. EMS consultant Fitch and Associates provided assistance in proposal solicitation and review. Proposals were received from incumbent provider American Medical Response and StarWest Ambulance, a subsidiary of Arizona-based Southwest Associates.

The review process that had been established by the Board of Supervisors included scoring of proposals by a ten-member Proposal Review Panel. The Proposal Review Panel was comprised of representative from the Fire Chiefs Association, Hospital Council, Police Chiefs Association, Public Managers Association United Professional Firefighters Association (IAFF Local 1230), Service Employees International Union Local 250, a Contra Costa EMCC consumer member, Contra Costa emergency physician, out-of-county emergency nurse, and out-of-county local EMS agency director selected by the Health Services Director. The Panel met over a three-day period to review and score proposals in accordance with a 1,400 point scoring system. An independent CPA firm was retained to monitor the review process and compile scores from score sheets submitted by the panelists. Each proposer also was able to make an oral presentation to the Panel and answer panelists' questions. The result of the Panel review was that the two proposals received tie scores.

A unique feature of Contra Costa's competitive ambulance selection process was that documents related to the proposals and review were placed on the EMS web site. These included the RFP, proposals, scoring report, preliminary recommendation, appeal and response, final recommendation, and supplementary proposal information requested by the Board.

Following the process set forth in the RFP for preliminary recommendation and appeal, the Health Services Director made a final recommendation, approved by the Board of Supervisors in February 2005, for the selection of AMR. A new five to nine-year ambulance contract was negotiated with AMR that was approved by the Board of Supervisors on June 28, 2005 and became effective on July 1, 2005. Key features of the new contract include:

- No paramedic ambulance subsidy.
- Single paramedic/EMT-I staffing and 11:45 urban/suburban area Code 3 response times for all zones except Richmond, which remains at two-paramedic staffing with a 10-minute response time.
- Response time standards set for each of five response zones and for both emergency and non-emergency response with monetary penalties set for failure to meet standard.
- Four non-transporting, single-paramedic-staffed Quick Response Vehicles provided at no cost to County to augment fire first response in designated areas.
- Upgrade of front line ambulance vehicles from the Type II van unit to larger Type III modular unit.
- Specified clinical quality assurance resources.
- Specified disaster response resources, including six non-staffed ambulance units to be positioned at designated fire stations (or equivalent resources).

- Paramedic training for up to 100 firefighters at AMR's Northern California Training Institute.
- Public CPR training – 24 classes per year.
- Public Access Defibrillation – donation of AED's and leadership assistance in County's PAD program.

C. Indian Gaming

Indian gaming became an issue for EMS when three major casino projects were proposed for Contra Costa County in 2004. These projects, currently in various stages of consideration include:

- (1) Lytton Band of Pomo Indians in San Pablo,
- (2) Scotts Valley Band of Pomo Indians in North Richmond, and
- (3) The Guidiville Band of Pomo Indians, at Point Molate in the City of Richmond.

Large-scale gaming sponsored by Indian tribes on reservation land first became popular in the early 1980's with the introduction and growth of state lotteries. Under federal law, tribal governments may engage in any type of gaming permitted under state law, but *without* being subject to state regulation. The 1988 federal Indian Gaming Regulatory Act divided Indian gaming into three classes. Class I gaming includes traditional gaming played in tribal ceremonies by tribal members and is regulated by the tribal government. Class II gaming includes bingo and bingo-like games and any non-banking card games that are not explicitly banned by state constitutions. Class II gaming is regulated by the National Indian Gaming Commission, established by the Indian Gaming Regulatory Act. Class III gaming includes Las Vegas-style gaming and all other forms of gaming not covered under Class I or II. Class III gaming requires both state approval under a state-tribal agreement (compact) and approval by the National Indian Gaming Commission.

In 2000, the voters of California passed Proposition 1A amending the state constitution to allow Class III gaming by federally recognized tribes on Indian lands, subject to legislative approval of a state-tribal compact. Currently, there are some 53 casinos operating over 54,000 slot machines on tribal lands in California under state-tribal compacts approved in 2000 and 2004. An additional 26 casino projects are proposed. The number of casino projects could increase further since there are 108 federally recognized tribes in California and additional tribes not currently federally recognized could petition for recognition.

The three proposed Contra Costa casino projects, if approved, would be the first tribal casinos to be located in urban areas of the state. The County Emergency Medical Care Committee has been particularly concerned about the proposed San Pablo casino because of its proposed size and its location adjacent to Doctors Medical Center. The Lytton Band of Pomo Indians purchased the San Pablo Casino, which had operated for a number of years under California law as a card club. The parcel was subsequently recognized under federal legislation as a reservation and thus made eligible for Class III gaming under a state-tribal compact.

In order to assess the potential impacts of urban casinos in Contra Costa County on emergency medical services and public health, the EMS Agency retained the services of the Abaris Group. The results of the Abaris assessment should better position the County to argue for appropriate mitigation from the tribe should any of the projects move forward.

IV. EMS System Participants

A. Advisory Committees

Emergency Medical Care Committee (EMCC):

The EMCC is a multidisciplinary committee appointed by and advisory to the County Board of Supervisors, to the Health Services Director and its EMS Agency. Membership consists of representatives of EMS related organizations and consumers. The EMCC meets quarterly (March, June, September, December), and meetings are open to the public. Specific meeting information is available through the EMS Agency. The EMCC Public Information and Education subcommittee is working on a plan to see that large groups of residents are trained in cardiopulmonary resuscitation and public access defibrillation awareness.

Medical Advisory Committee (MAC):

The Medical Advisory Committee provides advice and recommendations to the EMS Agency and EMS Medical Director on medically related topics. Examples include ALS and BLS medical treatment guidelines; new prehospital skills and/or medications; and prehospital policies and procedures related to patient medical management. Membership consists of base hospital coordinator/liaison physician, ALS provider agency representatives, and receiving hospital emergency physician representatives.

Trauma Audit/Pre-Trauma Audit Committees (TAC/Pre-TAC):

These committees evaluate trauma system care and monitor compliance to the trauma system standards established in the County Trauma System Plan according to provisions of State trauma regulations. Both TAC and Pre-TAC are held jointly with Alameda County and provide monitoring for two separate trauma systems. County EMS Medical Directors appoint members of these confidential quality improvement committees. Pre-TAC is responsible for initial committee review of all trauma related system issues, including select trauma center cases. Cases identified by Pre-TAC are referred to the Bi-County TAC.

Co-chaired by the county EMS Medical Directors, TAC meets bimonthly and includes multidisciplinary representation from the four Alameda/Contra Costa County trauma centers, as well as representatives of non-trauma center receiving hospitals, prehospital care providers, ACCMA, coroner's offices, and EMS agency staff. Trauma surgeons from trauma centers outside of Contra Costa and Alameda County also participate in case review activities. Cases referred from Pre-TAC are reviewed along with cases identified as having teaching value. This committee presents observations and makes recommendations to respective EMS agencies regarding identified trauma system or trauma center issues.

Quality Improvement Committee:

Organizations involved in the Contra Costa EMS delivery system are committed to assuring the highest level of care to their patients. The purpose of this committee is to monitor, review, evaluate and identify steps to improve the delivery of prehospital care

services. This committee meets every other month and membership includes representatives from fire agencies, emergency ambulance providers, and base hospital. Once the planning phases are complete, this group will become a confidential quality improvement committee.

First Responder Defibrillation Operations Committee:

This committee is charged with reviewing and evaluating operational matters related to the first responder defibrillation program. Membership consists of training representatives from each fire first-responder agencies. This group meets every six months.

Facilities/Critical Care Committee:

This committee evaluates and makes recommendations to the EMS Agency with respect to issues that impact hospitals and their interface with the EMS system. Membership includes ED Nurse Managers and others. This committee meets every other month.

Hospital Disaster Forum (HDF):

Contra Costa HDF meets quarterly and has membership consisting of hospital disaster planners, clinics, cities, ambulance, fire, OES, and EMS. HDF provides for discussion of issues of mutual concern regarding hospital disaster preparedness. Through the HDF, Contra Costa EMS facilitated the 2004 Statewide Med/Health Exercise for participating facilities/agencies.

Multicasualty Advisory Committee (MCAC):

This ad hoc multidisciplinary committee was originally organized by the EMS Agency in 1978 to develop an integrated emergency response plan for multicasualty incidents. The committee has also developed additional procedures for emergency response to varying magnitudes of emergency medical incidents. Representatives from police, fire, EMS, ambulance providers (both ground and air) and receiving hospitals participate. The Multicasualty Incident Plan was last revised in 1998.

B. PSAP's and Dispatch Centers

Public Safety Answering Points:

- Antioch Police Department
- California Highway Patrol
- Concord Police Department
- East Bay Regional Park Police
- Martinez Police Department
- Pinole Police Department
- Pleasant Hill Police Department
- Richmond Police Department
- Sheriff's Communications
- Walnut Creek Police Department

Fire/Medical Dispatch Centers:

- Contra Costa County Fire Dispatch
- West County Consolidated Communications Operations (Richmond Police)
- San Ramon Valley Fire Dispatch
- Sheriff's Dispatch (multicasualty coordination)

Ambulance Dispatch Centers:

- American Medical Response
- San Ramon Valley Fire
- Contra Costa County Fire (Moraga-Orinda only)

C. First Responders

County Fire Protection Districts:

- Contra Costa County Fire Protection District - 30 stations
- Crockett-Carquinez Fire Protection District - 2 stations
- East Contra Costa County Fire Protection District - 8 Stations
- Pinole Fire Protection District (served by Pinole Fire Department)

Municipal Fire Departments:

- El Cerrito Fire Department - 3 stations
- Pinole Fire Department - 2 stations
- Richmond Fire Department - 7 stations

Independent Fire Protection Districts:

- San Ramon Valley Fire Protection District (10 stations)
- Rodeo-Hercules Fire Protection District (2 stations)
- Moraga-Orinda Fire Protection District (5 stations)
- Kensington Fire Protection District (served by El Cerrito Fire Department)

Other First Responders:

- East Bay Regional Parks
- California Division of Forestry
- Private & military fire services

Paramedic First Responder Programs:

- Moraga-Orinda Fire - Paramedic Engine (3 units)

- American Medical Response - Byron/Discovery Bay, Bethel Island, Oakley and Crockett areas – ALS Quick Response Vehicles - QRV's (4 units)
- Contra Costa Fire - Paramedic Engine (23 full time units and 3 part time units)
- San Ramon Valley Fire – Paramedic Engine/Ambulance (8 units)
- El Cerrito Fire Department – Paramedic Engine (2 units)
- Rodeo-Hercules Fire Protection District (1 part-time unit)
- Pinole Fire Department (1 part-time unit)
- California Highway Patrol - Helicopter Unit
- East Bay Regional Park - Helicopter Unit

D. Emergency Ambulance Providers

- American Medical Response (19 – 35 ambulances)
- San Ramon Valley Fire (5 ambulances)
- Moraga-Orinda Fire (2 ambulances)

E. EMS Helicopters

Air Ambulances:

- CALSTAR (1) Buchanan Field; (additional helicopters in Gilroy, Salinas, Auburn and Roseville and other areas of northern California).
- REACH (1) Buchanan Field; (additional helicopters in Santa Rosa and Sacramento.
- Helicopter services available in surrounding counties include Stanford Life Flight, Palo Alto; Medi-Flight, Modesto; Air Med Team, Stanislaus County

Rescue Aircraft:

- California Highway Patrol (ALS helicopter)
- East Bay Regional Parks (ALS helicopter)
- U.S. Coast Guard (BLS rescue capabilities, including hoist ability)

F. Hospitals

Receiving Hospitals:

- Contra Costa Regional Medical Center, Martinez
- Doctors' Medical Center, San Pablo Campus
- John Muir Medical Center, Walnut Creek
- Kaiser Medical Center, Walnut Creek
- Mt. Diablo Hospital Medical Center, Concord

- San Ramon Regional Medical Center, San Ramon
- Sutter Delta Medical Center, Antioch
- Kaiser Medical Center, Richmond

Base Hospital:

- John Muir Medical Center

Trauma Centers:

- John Muir Medical Center
- Children's Hospital and Research Center (regional trauma center for pediatric patients)

V. EMS Program Activities

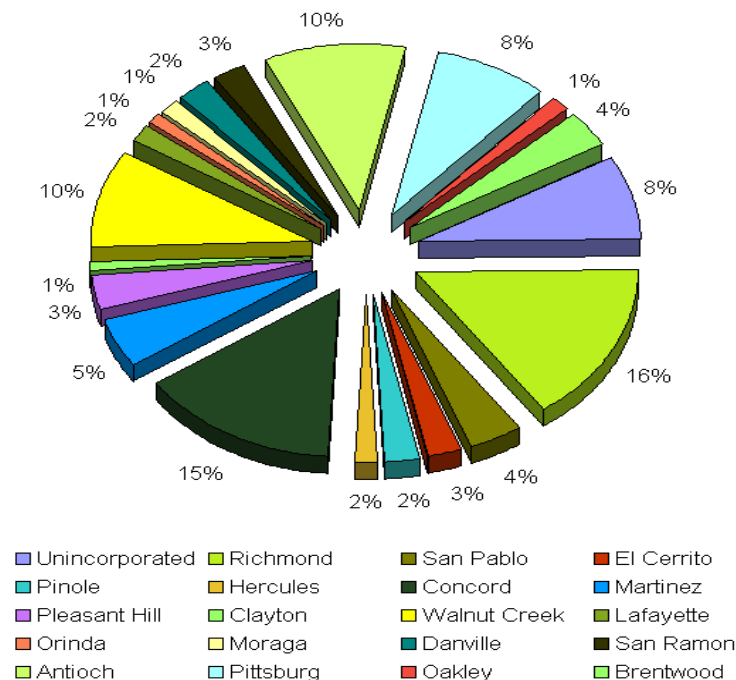
A. Emergency Ambulance Services

Emergency ambulance services are provided countywide under performance based contracts in each of three exclusive operating areas. The County currently contracts with American Medical Response, San Ramon Valley Fire Protection District and Moraga-Orinda Fire Protection District. Contracts are awarded on a competitive basis, as required by law, except for Moraga-Orinda Fire, which is exempt from the competitive bid requirement under of the Health & Safety Code.

American Medical Response	All of west, east county and north/central county. Includes cities of Richmond, San Pablo, El Cerrito, Hercules, Pinole, Pittsburg, Antioch, Oakley, Brentwood, Martinez, Pleasant Hill, Lafayette, Walnut Creek, Concord, and Clayton.	19 – 35 ALS/BLS ambulances
Moraga-Orinda Fire	Area of Moraga-Orinda Fire Protection District including town of Moraga and city of Orinda.	2 ALS ambulances
San Ramon Valley Fire	Area of San Ramon Valley Fire Protection District including cities of Danville and San Ramon.	5 ALS ambulances

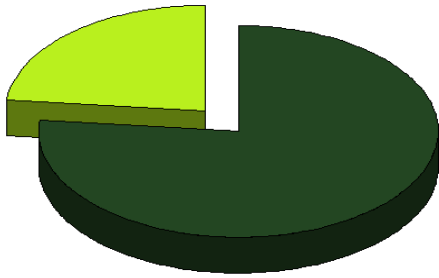
Contracts with all three providers require ALS level response to all life threatening or potentially life threatening emergencies, and a 10-minute or shorter response time for at least 95 percent of all Code 3 calls within urban areas. An exception to the 10 minute/95% response standard is in the central county area of the Contra Costa Fire Protection District where a ten-minute/90% ambulance response standard has been set based on rapid paramedic first response by Contra Costa fire paramedics. A new contract with American Medical Response due to be implemented on July 1, 2005, will include changes in response times as first responder paramedics are integrated into the EMS response system.

Emergency Ambulance Response by City

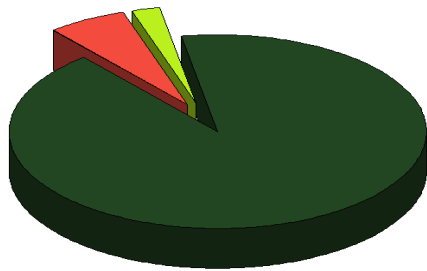
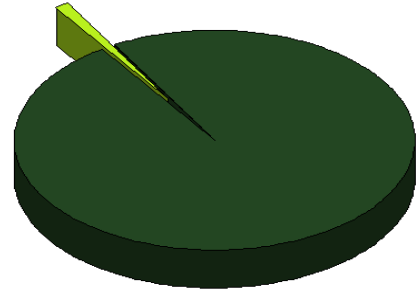


During **2004**, the EMS system received **67,966 requests for emergency ambulance response**.

Of these, **52,106 (76.7%) were considered to involve potentially life-threatening situations** to which a Code 3 (red lights and siren) ambulance response was necessary. The remaining 15,860 (23.3%) ambulance responses were dispatched Code 2 (immediate response without lights and siren).

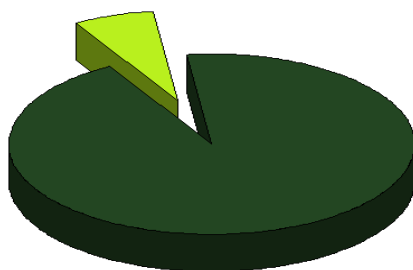
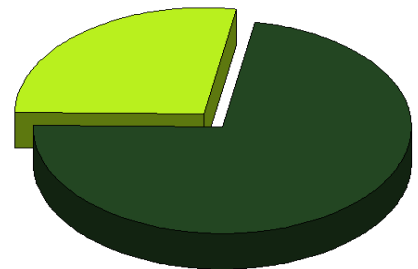


The level of response, ALS response (paramedic) or BLS response (EMT or paramedic), to emergency medical requests is determined by the Fire/Medical Dispatch center based on emergency medical dispatch protocols. A BLS unit is occasionally dispatched on a Code 3 dispatch if a paramedic unit is not available. Of the **52,106 Code 3 dispatches, a paramedic unit was dispatched on 51,180 (98.9%)** and an EMT-I unit was dispatched on 591 (1.1%).



Of the total responses, 62,350 (91.7%) were handled by American Medical Response, 4,100 (6.1%) by San Ramon Valley Fire Protection District ambulance, and 1,516 (2.2%) by Moraga-Orinda Fire Protection District ambulance. **Average Code 3 ambulance response time countywide was 8.01 minutes** (response time standards changed September 1, 2004). Paramedic level staffing was provided on 99.2% of all Code 3 ambulance responses.

Not all ambulance responses result in patient transport. Of the 67,966 emergency ambulance responses during the year, **49,314 (72.6%) resulted in patient transport to an emergency receiving hospital**. Ambulances responding to the remaining 18,652 (27.4%) requests were canceled either enroute or at the scene without the need for patient transport. Reasons for cancellation vary from poor information regarding patient severity, to the patient having been transported by other means such as private auto, to the patient refusing ambulance transport. In many instances a situation that was initially perceived to be a medical emergency has been resolved or stabilized by the time the transport ambulance arrives on scene.

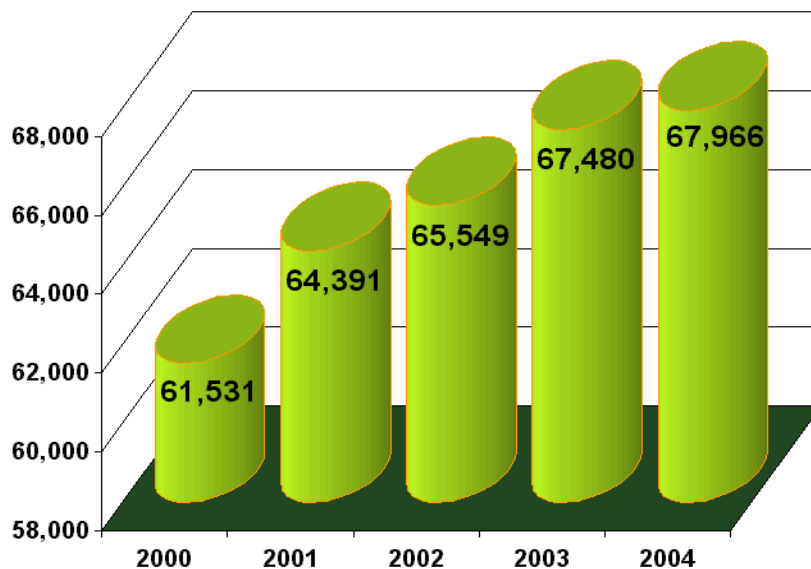


Of the 49,099 patients transported, **3,089 (6.3%) were transported Code 3**, lights and siren and 46,010 were transported Code 2.

5-Year Emergency Ambulance Dispatch Summary

	2000		2001		2002		2003		2004	
	#	%	#	%	#	%	#	%	#	%
All EMS Ambulance Dispatches	61,531	100.0	64,391	100.0	65,549	100.0	67,480	100.0	67,966	100.0
Code 3 (lights & siren)	47,381	77.0	48,950	76.0	50,651	77.4	51,771	76.7	52,106	76.7
Code 2	14,150	23.0	15,441	24.0	14,808	22.6	15,709	23.3	15,860	23.3
American Medical Response	56,202	91.3	58,860	91.4	60,255	92.0	61,664	91.4	62,350	91.7
San Ramon Fire	3,624	5.9	3,943	6.1	3,710	5.7	4,256	6.3	4,100	6.1
Moraga-Orinda Fire	1,705	2.8	1,588	2.5	1,494	2.3	1,560	2.3	1,516	2.2
Transport	44,931	73.0	47,625	74.0	47,858	73.1	48,958	72.6	49,314	72.6
No Transport (Dry Run)	16,600	27.0	16,776	26.0	17,601	26.9	18,522	27.4	18,652	27.4
Avg. Code 3 Response	7.07 minutes		7.18 minutes		7.15 minutes		7.43 minutes		8.01 minutes	
Code 3 Responses Not Meeting Ambulance Staffing Standard	869	1.8	832	1.7	771	1.2	591	1.1	631	1.2

All Ambulance Dispatches by Year



B. First Responder Services

Most EMS responses involve dispatch of both first responder and ambulance units. Historically fire services have provided first response to medical emergencies. All firefighters are required by law to be trained in emergency first aid and most are certified as EMT-I's. Most fire services have either implemented or are in the process of implementing paramedic programs where firefighters licensed as paramedics respond on first responder units. Firefighters respond from the nearest fire station and are normally the first responder on the scene of a medical emergency. Eleven County-governed, independent district and municipal fire departments respond from a total of 69 fire stations within the county.

Fire first responder services are now augmented in some remote areas of the county by paramedic-staffed quick response vehicles (QRV's) deployed by American Medical Response.

Fire First Responder Paramedic Programs:

Fire first responder paramedics provide a method for combining early advanced life support care with the generally shorter response times provided by first responder units. Several models of paramedic first responder service are provided in Contra Costa County.

➤ **Moraga-Orinda Fire Protection District:**

Moraga Fire Protection District has provided paramedic ambulance services since 1977. In 1988, the Moraga Fire District implemented an ALS Engine program, to back up the Moraga paramedic ambulance. An ALS Engine, staffed with at least one paramedic and one EMT-I and stocked with ALS equipment/supplies, was dispatched simultaneously with an ALS transport unit to emergency medical requests.

In 1997, **Moraga Fire Protection District merged with the Orinda Fire Protection District** to form the Moraga-Orinda Fire Protection District. By 1999 all first responder units were staffed to provide paramedic advanced life support care.

➤ **East Contra Costa County Fire Protection District:**

In 2002, Bethel Island Fire Protection District, East Diablo Fire Protection District and Oakley Fire Protection District **merged to become the East Contra Costa County Fire Protection District**. As the District has not implemented a paramedic program, American Medical Response provides paramedic first responder services within the District with 3 quick response vehicles (QRV's).

➤ **San Ramon Valley Fire Protection District:**

The San Ramon Valley Fire Protection District has provided paramedic ambulance services since 1984. In 1997, San Ramon Valley Fire Protection District implemented a program under which minimum ambulance staffing was dropped from two paramedics to one paramedic and one EMT-I. This enabled the District to increase the number of stations with paramedic staffing and provided flexibility for responses of paramedic ambulances and paramedic engines for critical patients. A dispatch plan was developed based on Medical Priority's Emergency Medical Dispatch System to assure two paramedics are on scene when needed for certain categories of patients.

➤ **Contra Costa County Fire Protection District:**

In 1997, Contra Costa County Fire Protection District implemented a pilot first-responder paramedic program in the Walnut Creek area with two engines staffed with a paramedic and 2 firefighters, and a "Medic Unit", a non-transport vehicle staffed with one paramedic. Contra Costa County Fire has continued to expand their first responder

paramedic program. As of April 2005, there were 23 full-time and 3 part-time units. In addition, all stations were equipped with paramedic equipment to allow extra available paramedics to provide ALS service.

➤ **El Cerrito Fire Department:**

In 2001, El Cerrito Fire Department implemented an ALS program by providing a paramedic engine to cover the Kensington and El Cerrito hills where ambulance response times are typically over 10 minutes. El Cerrito currently has 2 paramedic engines in their District, which also covers the Kensington area.

➤ **Rodeo Hercules Fire Protection District:**

In 2004, Rodeo Hercules Fire Protection District implemented a first responder paramedic program by providing a part-time paramedic-staffed engine. By early 2005, Rodeo Hercules had one full-time and one part-time paramedic engine.

➤ **Pinole Fire Department:**

In 2005, Pinole Fire Department implemented a first responder paramedic program by providing a part-time paramedic-staffed engine.

All First Responder Paramedic programs operate under base hospital medical direction as well as EMS Agency policies and procedures.

Paramedic Quick Response Vehicles (QRV's):

In 1992, the first paramedic-staffed non-transport quick response vehicle (QRV), funded by Measure H and provided by American Medical Response (AMR), was stationed in the Byron-Discovery Bay area to provide timely paramedic response in a remote area of the County where response times could be extended. AMR stationed a second QRV in the Bethel Island area in 2002 to replace the fire first responder paramedic program formerly provided by Bethel Island Fire Protection District.

In 2004, AMR assumed full responsibility for the QRV program and stationed 4 paramedic staffed QRV's to provide a timely paramedic response in remote areas where the fire services have not implemented paramedic first responder programs. Three QRV's were stationed throughout East County (Byron/Discovery Bay, Bethel Island and Oakley areas) and one QRV was stationed to augment paramedic first responder services in the Crockett, Rodeo-Hercules, and Pinole areas of West County.

First Responder Automated External Defibrillator (AED) Program:

The first responder defibrillation program, established on a countywide basis in 1992, provides rapid access to life-saving care for patients with cardiac arrest. The survival rate since program implementation has remained steady over the past several years, but the number of patients shocked has decreased. In part, this is due to the increased presence of first responder paramedic units, which utilize manual defibrillators instead of AED's. Data for first responder paramedic units is not included with AED program data.

Emergency Medical Guidelines for Law Enforcement Agencies:

Emergency Medical Guidelines For Law Enforcement Agencies were first developed and implemented in 1992 following approval by the County Police Chiefs' Association and the Emergency Medical Care Committee. These guidelines provide direction to law enforcement

personnel when they are the first to arrive on the scene of a medical emergency. The guidelines address the medical aspects of the officer's responsibility.

C. Dispatch and Communications

MEDARS:

The **Medical Emergency & Disaster Ambulance Radio System** is the County radio system used for ambulance-to-hospital and for Sheriff's Dispatch-to-ambulance communications. This radio system includes four channels. Med-11 is used for communications between ambulances and Sheriff's Dispatch. Med-12, Med-13, and Med 14 are for ambulance-to-hospital communications.

Message Transmission Network (MTN):

MTN is a computer network designed to interconnect the county's four fire/medical dispatch centers, Sheriff's dispatch, and American Medical Response (AMR) dispatch. Currently, the MTN system is in use at Contra Costa Fire Dispatch and AMR Dispatch and handles about 70% of all EMS dispatches countywide. By establishing a direct data link among the various computer-aided dispatch systems, MTN decreases dispatch time, reduces dispatch errors, and provides system response data. MTN makes use of the All County Criminal Justice Information Network (ACCJIN), which provides an existing linkage among 9-1-1 answering points using similar protocols (TCP/IP) to those used on the Internet.

Priority Dispatching:

Emergency Medical Dispatch (EMD) is a process where EMS dispatchers screen calls to provide appropriate EMS first-responder/ambulance response, and provide simple emergency medical instructions for the caller to initiate prior to the arrival of EMS personnel. In 1993, Medical Priority's ProQA Dispatch System, the only available computerized medical dispatch system at the time, was piloted in the San Ramon Valley Fire Protection District's dispatch center. By 2000, all fire/medical dispatch centers provided fire/ambulance dispatch utilizing the Medical Priority Dispatch System.

The National Academy of Emergency Medical Dispatch accredits dispatch agencies that use the Medical Priority Dispatch System and meet high standards of utilization, evaluation and education as "Centers of Excellence. All three public safety medical dispatch centers within Contra Costa County have achieved the "Center of Excellence" accreditation; San Ramon Valley Fire Protection District in 1996, West County Consolidated Communications Operations Center in 2002, and Contra Costa County Fire Protection District in 2003.

Fire Radios:

Hi-band mobile radios, programmed with existing fire service radio channels, have been installed in all paramedic units to facilitate communication among paramedics, fire dispatch centers, and fire first responders except Richmond, which has an 800-trunking radio system.

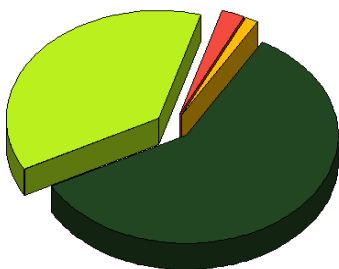
ReddiNet:

The ReddiNet system, implemented locally in 2001, was designed as a microwave communications link between hospitals. Hospitals and the EMS Agencies in Alameda and Contra Costa Counties, and in 2003, Solano County are included in our local ReddiNet system. In Contra Costa, Sheriff's Dispatch is the coordination point, and the dispatch centers for all three emergency ambulance providers are also included. On a day-to-day basis, hospitals can receive alert notices and timely incident updates from EMS and from Sheriff's dispatch, post hospital diversion and "census alert" status, and send any important message to other hospitals individually or as a group. During multicasualty incidents, ReddiNet facilitates the reporting of hospital information and tracking ambulance assignments and patient information. During a major disaster, ReddiNet is designed to provide a reliable communication path between hospitals and the counties' disaster operations centers. Periodic drills with the hospitals using ReddiNet provide practice in using this important communications tool.

D. Helicopter Transport

The Operational Procedures for Patient Transport by Helicopter were originally developed during trauma system planning in 1985/1986. In 2002, policies addressing helicopter transport were implemented. Most local helicopter transports are for trauma patients from distant areas of Contra Costa to the John Muir Trauma Center in Walnut Creek. Doctors' Hospital, San Pablo also has a helipad that may be used as an ambulance/helicopter rendezvous point, or to receive patients with major burns to its Burn Unit. **The County's current standard of care for emergency patients transport by air is by an "air ambulance"** which is staffed with two ALS care providers. Rescue aircraft are also requested for their special resources. As an example, a California Highway patrol helicopter has been used for its hoist capability. Additionally, a formal procedure for access of military aircraft has been adopted.

In **2004** there were **302 transports of local patients by helicopter**, almost exclusively to trauma centers. One hundred and 5 patients (35%) were from West County, 131 (43%) were from East County, 49 (16%) were from South County and 17 (6%) were from Central County.

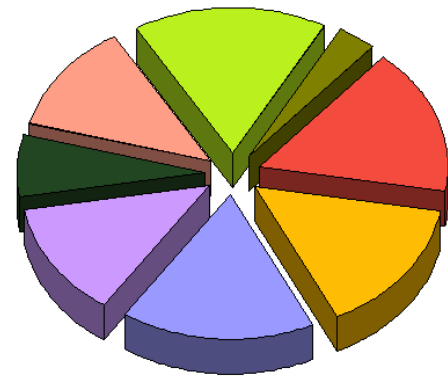


Local authorized air ambulance helicopter providers, CALSTAR and REACH, are dispatched on a daily rotation schedule and perform nearly all helicopter transports in the County. In **2004**, CalStar transported 177 patients (59%); REACH 144 patients (37%); CHP 8 (3%) and other helicopter provider(s) 4 (1%).

In addition to the local helicopter transports, there were 188 patients transported by helicopter from out of county locations to the John Muir Trauma Center.

E. Hospital Emergency Services

The 8 California licensed acute care hospitals located in Contra Costa have emergency departments that provide service 24 hours/day, 7 days/week, and serve as **receiving facilities for patients transported by emergency ambulance**. The staff of these emergency departments includes at least one physician, trained and experienced in emergency medicine, one or more specialized registered nurses, plus clinical and clerical support staff. Specialty physicians are generally available for consultation on patients in the emergency department "on-call", from their offices or home.



Hospital Resource Assessments

Annually EMS Agency staff request that all 8 hospitals perform self-assessments to identify critical care capabilities and other hospital resources available to their patients. Hospital data collected includes information about:

- Special permit services such as emergency services burn unit, cardiovascular surgery service, and/or chronic dialysis unit.
- Intensive care units and surgical services.
- Hospital specialty services such as hemodialysis, trauma, specialized hand surgery and in-hospital pharmacy.
- Physician specialty availability such as orthopedics, neurology, internal medicine, surgery, and anesthesiology.
- Disaster and radiation/hazardous material exposure preparations.

The EMS Agency develops and distributes an annual resource report that includes information collected from all 8 hospitals. It is available upon request or on line at www.cccems.org.

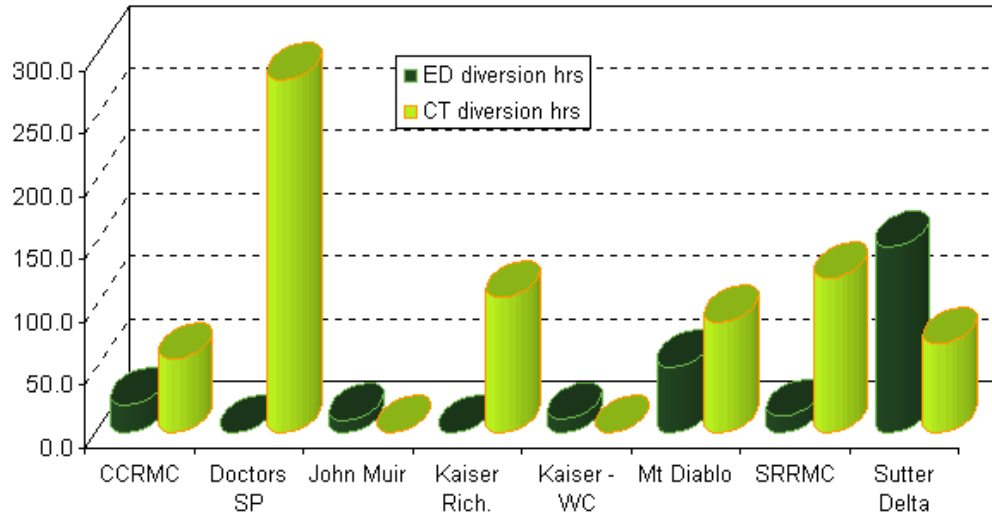
Emergency Department Diversion of Ambulances:

Diversion of ambulances by emergency departments of acute care receiving facilities in the County is permitted by EMS Policy, which was initially developed and implemented in 1985. Under ambulance diversion policy, hospitals whose emergency departments are temporarily overloaded, may direct certain ambulance patients to other nearby hospitals. The purpose of this policy is to assure that patients are transported to a hospital that is able to provide immediate emergency treatment. In 2005, the ED diversion policy was amended to restrict ED diversion to a maximum of 90 minutes with a 2-hour ED open period prior to a second request for ED diversion.

At the end of 1997, and into the first quarter of 1998, Contra Costa experienced an acute shortage of ED and critical care resources. This phenomenon was felt in surrounding counties and throughout much of the State. As a result of this shortage, in 1998 the hospitals in Contra Costa worked in conjunction with the Hospital Council and EMS Agency to develop a framework for hospital response to scarcity in staffing, equipment, and/or bed capacity. Each hospital has internally integrated this Hospital Census Alert System for shortages in their

facility. Starting in 2001, hospitals now report their census alert status on the ReddiNet system.

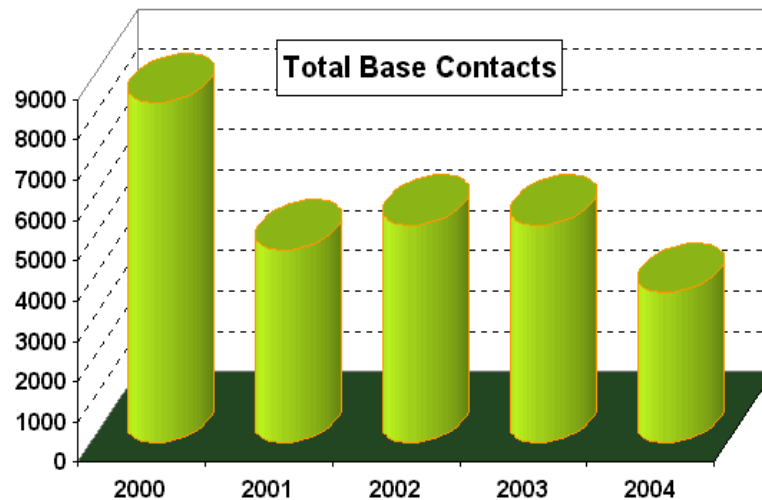
During **2004**, 6 of the 8 acute care hospitals utilized full diversion for a total of **257 hours**. There were no reports of problems in patient care resulting from these diversion incidents. During the same period, 6 hospitals utilized CAT Scan diversion a total of **730 hours**. CAT Scan diversion permits ambulances to divert patients who may require this test to another area hospital when the hospital's CAT Scanner is down for repairs or maintenance.



F. Base Hospital and Paramedic Service Programs

Base Hospital Services:

John Muir Medical Center provides direct (on-line) and indirect (retrospective review) medical oversight services for ambulances countywide. John Muir Base also performs trauma triage for ambulances transporting possible major trauma victims. In **2004 there were 3,701 base hospital contacts by field personnel.**



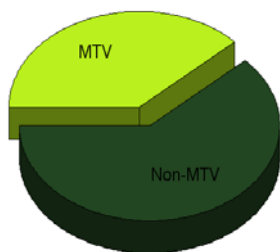
Treatment Protocols:

First responders, paramedics, EMT's, MICN's, and base hospital physicians use EMS Field Treatment Guidelines to provide care to patients in the field. These guidelines are reviewed and endorsed by the Medical Advisory Committee based on current research and medical need in the county and are adopted by the EMS Medical Director. Field treatment protocols are reviewed and revised on an ongoing basis.

Emergency ambulance personnel transport patients from the field to emergency departments in Contra Costa and in surrounding counties based on destination determination protocols.

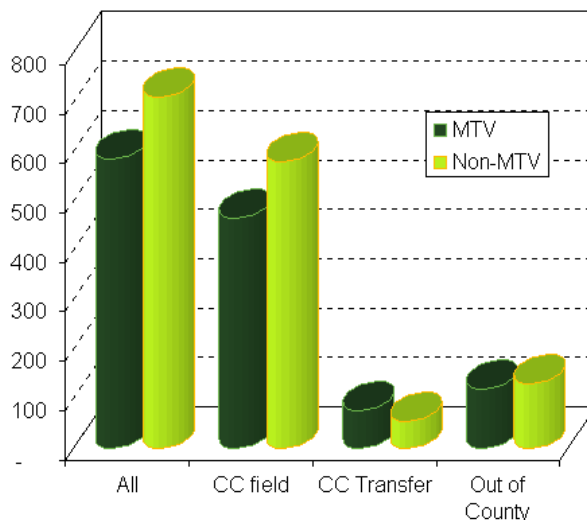
G. Trauma System

In 1986, the Board of Supervisors approved a comprehensive Trauma System Plan for the County and designated John Muir Medical Center as the county's Level II Trauma Center, and in June of that year, ambulance personnel began transporting critical trauma patients directly to John Muir. Ambulance and base hospital personnel use triage protocols, which include evaluation of mechanisms of injury and anatomic factors as well as a physiologic trauma scoring system to identify critical trauma patients. In 2001, a revised trauma system plan was developed to meet new State trauma system planning requirements. John Muir Trauma Service has received "Capitol Program" designation by the American College of Surgeons, the only Level II trauma center receiving this designation in northern California. This designation means that John Muir is designated to care for the President of the United States when he is in the Contra Costa area.

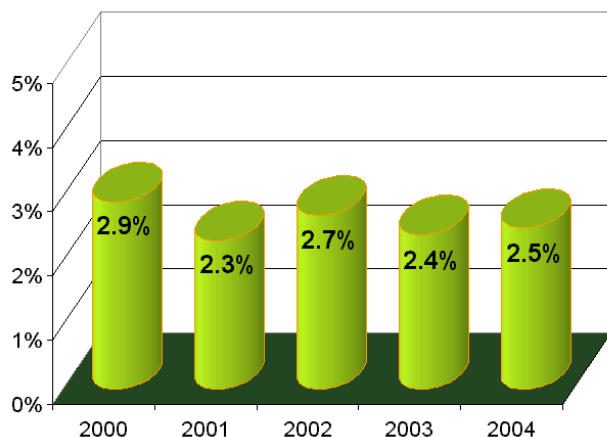


In Contra Costa in **2004**, 2,440 patients were identified as requiring **trauma triage**, 763 of which were transported directly to John Muir Trauma Center. One hundred twenty patients were transported to Children's Hospital, Oakland, and 28 to out-of-county adult trauma centers, primarily Eden Hospital, Castro Valley and Highland Hospital, Oakland. Patients in traumatic full arrest or whose airway cannot be managed are triaged to the closest basic emergency department for resuscitation. During the past 18.5 years of operation, a total of 54,328 patients have been triaged through the County trauma system.

Critically injured patients who arrive at a non-trauma center hospital may be transferred to a trauma center. **Seventy-five of the 130 injured patients transferred to John Muir from within Contra Costa in 2004 were retrospective "major trauma victims"**. John Muir Trauma Center also received **250 trauma patients from surrounding counties**, generally by air transport. In particular, John Muir Trauma Center receives a significant number of trauma victims from neighboring Solano County as triaged by Solano Base Hospitals. The number of patients John Muir receives



from Solano has remained constant at about 12% of their trauma admissions. John Muir has seen an increase in the distance trauma patients are being transported to the Trauma Center, coming from as far away as Ukiah.



If trauma center resources are temporarily overwhelmed the trauma center may consider "Trauma Center Bypass", directing any additional critical trauma patients to out of county trauma centers until resources are again available. In **2004** John Muir Trauma Center bypass rate was 2.5 % and was most often due to operating room overload. Eleven critical trauma patients were triaged to out of county trauma centers during trauma center bypass periods.

Trauma System Evaluation:

A major aspect of the trauma system is an extensive trauma system and trauma center monitoring program. Included in the monitoring program is a unique, bi-county audit system held in conjunction with Alameda County EMS and Alameda County trauma centers. This joint county evaluation system has been in place since the inception of the county trauma system. Trauma surgeons from other California trauma systems also participate in our trauma system evaluation & monitoring process, bringing outside perspectives and the additional expertise from teaching facilities. The EMS Agencies in both counties are working with their trauma centers to develop and test a new process that will take the place of the PreTAC case review process. Trauma surgeon directors will dictate certain cases into their trauma registry system, and another trauma center surgeon, through the trauma registry system, will review this information without having to travel to a distant trauma center to undertake chart review in most cases.

John Muir Trauma Center also has its own internal monitoring and evaluation systems coordinated by an RN Trauma Program Coordinator. The Trauma Program Coordinator meets weekly with nurses, social service, physical therapists, neuropsychology, rehabilitation, nutritional services, pastoral care and patient accounting. These rounds analyze every patient on the trauma services from a multidisciplinary perspective. Current activities include the design and implementation of the Neuroscience Institute, to address the short and long term care of the traumatic brain injured patient.

Trauma Injury Prevention:

John Muir Trauma Center supports an active injury prevention program that includes a prevention program for the elderly (falls and medication use); car seat inspections; school-based presentations; participation in health fairs; and representation on a number of injury prevention organizations, target groups and committees. John Muir Injury Prevention has received National Awards of Recognition for their programs and service to the community including recognition for the development of "Nurses & Cops Caring for Contra Costa Children", which provides free car seat inspections in all areas of Contra Costa throughout the year.

H. Disaster/Multicasualty Planning and Response

Disaster Planning Grant:

Since 1990, the EMS Agency has received a series of disaster planning grants through the State EMS Authority. California Health and Safety Code Division 2.5, Section 1797.152, provides for the designation of Regional Disaster Medical/Health Coordinators (RDMHC) and the Contra Costa County Health Officer has been the designated Region II RDMHC. The granted disaster planning process resulted in the assignment of a Regional Disaster Medical/Health Specialist (RDMHCS) as staff to the project for the northern California coastal area (OES Coastal Region).

In **2004** staff continued work on the medical mutual aid system region-wide including quarterly forums for medical/health emergency planners and others to gather and discuss pertinent issues. Specific objectives for the year included:

- To facilitate Strategic National Stockpile (SNS) planning within the region. The SNS includes substantial repositories of life-saving pharmaceuticals and medical materiel that will be delivered to the site of a chemical or biological terrorism event in order to reduce morbidity and mortality.
- To assist in developing of the Ambulance Strike Team (AST) concept, and then to promote AST program development and implementation throughout California.
- To participate with DHS and EMSA in determining the placement of CHEMPACK Caches within the Region.
- To participate in developing, and promote participation in, the annual Statewide Disaster Med/Health Exercise
- To participate in and promote planning for the care of the medically fragile following a disaster.

Multicasualty Incident Plan (MCI):

The Multicasualty Incident Plan (MCI) is a multi-agency plan setting forth the roles and responsibilities of response and support agencies in the event of a large scale incident involving a large number of casualties. Originally developed and approved by the Board of Supervisors following the 1976 Yuba City/Martinez school bus accident, the plan is updated periodically to incorporate the most current emergency medical response information. There were no activations of the MCI plan in 2004.

Medical Advisory Alert:

The Medical Advisory Alert is a notification procedure that is implemented when an incident has occurred or a condition exists which *might* tax the local medical resources. When an MAA is implemented, Sheriff's Communications alerts those agencies with responsibilities in providing administrative or other support during a multicasualty incident that the potential for such a situation exists.

Community Warning System:

Refineries and other industrial sites which use or store potentially hazardous chemicals use the Community Warning System to issue alerts that incidents have occurred. These alerts range from Level 0 alerts at the low end to Level 3 alerts at the high end. EMS staff is alerted by pager to Level 2 (an incident has occurred resulting in minimal off-site impact) and Level 3 (an incident has occurred resulting in significant off-site impact) events. Both Levels 2 and 3 alerts normally result in Medical Advisory Alerts.

Expanded Medical Emergency:

Operational procedures activated under an Expanded Medical Emergency, provide an on-scene organizational structure for incidents requiring more than one ambulance, but not requiring the outside support services activated with the Multicasualty Plan.

Multi-Casualty Supply Caches:

First aid supplies purchased by the EMS Agency are organized into 25 multi-casualty supply caches that are stored and maintained in fire stations throughout the County. Fire agencies have agreed to rapidly transport caches to incidents. Cache supplies include bandaging equipment, splinting supplies, oxygen administration supplies, and blood pressure equipment.

Health Services Emergency Preparedness Program:

Contra Costa Health Services places a priority on emergency preparedness, and has established an Emergency Preparedness Work Group. This group meets monthly to develop and expand upon plans for the various Health Services divisions to be able to respond together to a wide variety of emergency situations from natural disasters such as earthquakes and floods, to chemical or other toxic releases to health emergencies.

The Contra Costa Health Services Emergency Management Team (EMT) consists of Health Services division directors and administrative staff necessary to provide a health medical response to medical emergencies, public health emergencies and the like within the Standardized Emergency Management System (SEMS). The EMT meets quarterly.

In October 2004 the EMT participated in a large exercise involving multi-casualty and hazardous materials. The exercise was a requirement of the Homeland Security Grant and accomplished the improved integration of Law, Fire and Medical branches in the field and in joint command.

The annual State-wide Medical and Health Disaster Exercise involving all eight acute care hospitals within the County, local ambulance service providers, cities, Contra Costa Public Health, EMS Agency staff, and others was held in November 2004. The threat was an outbreak of food borne botulism. The scenario included managing overwhelming numbers of patients presenting with symptoms. Healthcare providers and governmental agencies managed the influx of large numbers of ill patients.

National Bioterrorism Hospital Preparedness Program

A Health Resources Services Administration (HRSA) cooperative agreement has made available local funding, \$853,242 in 2004, to achieve preparedness in critical benchmarks:

surge capacity; pharmaceutical caches; personal protection; decontamination; communications and information; and education, preparedness training and terrorism preparedness exercises.

Homeland Security (HLS) Programs State and Local Domestic Preparedness Equipment Support Program

Contra Costa EMS continued preparedness activities with various Fire, Law, OES and EMS agencies to implement the Homeland Security grant which provided communications equipment, radiological detection equipment, and personal protective equipment. The funds have been used to enhance the capabilities of first response agencies that may be called upon to respond to acts of terrorism. The equipment is supplementing the existing equipment currently staged in four caches maintained at designated fire stations throughout the county for rapid transport and deployment to any location.

This HLS grant program is administered by a five-person County Approval Authority consisting of the Sheriff, Health Services Director, the Contra Costa County Fire Chief, a municipal fire chief and a municipal police chief.

I. Certification Programs

Paramedics:

Paramedics are licensed by the State of California and are accredited by the local EMS Agency to practice in each county or EMS region in which they are employed. In **2004, 203 paramedics were either accredited or re-accredited** by the Contra Costa County EMS Agency to practice as paramedics within the County.

EMT-I's:

Any local EMS Agency may certify EMT-I's within the State. Once certified, an EMT-I may function as such statewide. In **2004, 276 EMT-I's were either certified or recertified** in Contra Costa County. In 2003, the County adopted the National Registry of Emergency Medical Technicians certification exam as the approved EMT-I certification exam.

MICN's:

In **2004, 30 RN's were either authorized or re-authorized** in Contra Costa to practice in the expanded MICN role within the County.

J. Training Programs

Local EMS Agencies are required to review and approve training programs for prehospital personnel as meeting all requirements established by State regulations.

Paramedic Training Programs:

There is no paramedic program provider currently based within the county.

EMT Training Programs:

The EMS Agency has approved the local EMT courses offered by Los Medanos Community College, Contra Costa County Fire, Moraga-Orinda Fire, Mt. Diablo Adult Education, Contra Costa College and West Contra Costa Adult Education.

- Los Medanos Community College offers EMT training each semester at its Pittsburg campus.
- Contra Costa College offers EMT training each semester at its San Pablo campus.
- Mt. Diablo Adult Education offers EMT training at various times throughout the year at its facility in Concord.
- West Contra Costa Adult Education does not currently have any EMT training programs scheduled at its facility in Richmond.

Contra Costa Fire and Moraga-Orinda Fire Protection Districts offer training and continuing education to in-house personnel only.

MICN Training Programs:

A 3-day MICN training course was offered at John Muir Medical Center in November 2004. Five RN's completed the course.

K. Public Information Education Program

Emphases of the EMS agency public information and education efforts are on EMS system access, recognition of life threatening situations, prevention of injuries, and techniques and first-aid skills that the public can utilize in emergency situations (CPR specifically).



In **2004**, work was begun on a new Public Access Defibrillation (PAD) Program. Forty-two semi-automatic defibrillators were purchased for a program to assist public agencies in establishing PAD programs in their facilities. PAD program information packets and brochures are available through the EMS Agency, or are available on the EMS Agency website at www.cccems.org.

- Local CPR class availability is accessible through the 1-800-GIVE-CPR number maintained by the Contra Costa EMS Agency. This number is advertised in the EMS 9-1-1 Brochure, local newspapers, telephone books and CCC Cable TV. In 2004 there were 73 requests for CPR training information.



- EMS has continued to provide speakers for a number of community and wellness organizations such as Junior Chamber of Commerce, the Rotary Club, acute care receiving and skilled nursing facilities, and school districts.
- Contra Costa EMS 9-1-1 Brochure is available.

L. DNR Program

A Do-Not-Resuscitate (DNR) program for patients with terminal medical problems was implemented in 1993. This program evolved in response to concern from the public over the patient's right to self-determination. The Do-Not-Resuscitate program allows patients, in conjunction with their physicians, to refuse resuscitative measures in the prehospital setting, even if the 9-1-1 system is inadvertently activated.

The DNR form is signed by both the patient and the patient's physician and is recognized by prehospital personnel statewide. The DNR form provides prehospital personnel with a physician order to not resuscitate the patient. Comfort measures and care other than resuscitative measures are still provided by first responders and ambulance personnel. The EMS Agency has distributed thousands of DNR forms to individuals, hospitals, nursing homes, hospices, home health agencies, and private physicians throughout the county.

M. Other Programs and Projects

Interfacility Transfer Paramedic Program (Critical Care Transport-Paramedic or CCT-P)

In 2002 an Interfacility Transfer Paramedic Program was developed to provide an alternative means of transferring stable patients who require, or who may require, care within the CCT-Paramedic Scope of Practice during transfer. CCT-P units were initially used to transfer patients from acute care hospitals, or other medical facilities approved by the EMS Medical Director, to other acute care facilities. In June 2004, policies were enacted that also permitted outpatient clinics to use CCT-P units to transport patients to acute care hospitals. Contra Costa EMS authorizes and contracts with interested ambulance companies that meet the training, staffing, equipment and oversight requirements.

CCT-P units are fully equipped advanced life support ambulances, staffed with a minimum of two qualified staff that includes at least one paramedic. Personnel assigned to a CCT-P unit work under the existing medical control system and follow EMS policies and procedures. CCT-P's have an expanded scope of practice, and the transferring physician specifies standing orders for a patient based on skills and medications included in the County CCT-P scope of practice. CCT-P programs are required to have written quality improvement plans approved by the EMS Medical Director.

In December 2003 Contra Costa and Alameda Counties signed a reciprocal agreement allowing interfacility transfer paramedics to respond and transport patients throughout both Counties. The CCT-P scope of practice was expanded to include transport of patients on ventilators, 12-lead EKG capability, and conscious sedation for ventilator patients.

EMS for Children Program:



In 1999, the EMS Agency obtained a two-year grant to develop and implement an EMS for Children (EMSC) program for Contra Costa. During 2001, an EMSC Plan was adopted which has been integrated into the County EMS System Plan. Hospital related EMSC issues and plan updates are addressed through the EMS Facilities and Critical Care Committee.

Prehospital Conference:

A Contra Costa Prehospital Conference sponsored by John Muir Medical Center, American Medical Response, Contra Costa County Fire Protection District and the EMS Agency was held at John Muir Medical Center in 2004. The emphasis of this first conference was trauma care. The conference will be an annual event, with the second conference scheduled for fall, 2005.

EMS Clinical Newsletter:

An EMS Clinical Newsletter for prehospital personnel was first published in early 2005, and will be distributed on a regular basis.

Disaster Medical Assistance Team (DMAT):

Contra Costa EMS is the sponsor of the Bay Area Disaster Medical Assistance Team - D-MAT CA6. Disaster Medical Assistance Teams are comprised of trained, and prepared volunteer physicians, nurses, paramedics, and other medical and support personnel organized to provide medical and health care to disaster victims including patient reception from overseas conflict. DMAT's are established under the National Disaster Medical System (NDMS), through the U.S. Public Health Service to serve as the operational response to a disaster.



The Bay Area DMAT was formed in 1997 with the support of Contra Costa, San Mateo, Alameda and San Francisco Counties. Since then, over 100 individuals have volunteered. DMAT CA-6 is the only DMAT based in central California. There are 28 teams considered operational nationwide, with six in California plus a mental health specialty team.

Following is the chronology of DMAT CA6:

- 1997** ➤ **Bay Area Disaster Medical Assistance Team (DMAT)** formed/sponsored by Contra Costa Health Services.
- 1998** ➤ **Bay Area DMAT CA6** attained Level II designation.
- 1999** ➤ Bay Area DMAT attained **Level I designation.**
 - Members deployed to Ft. Dix for Operation Refugees and to Washington State for World Trade Council Meetings.
 - Members traveled to Ukraine for joint training mission.
- 2000** ➤ DMAT CA-6 incorporated as a nonprofit organization with 501(c)(3) status.
 - Members provided medical coverage for firefighters participating in Wildland 2000 and at Fleet Week in San Francisco.
- 2001** ➤ California Department of Forestry (CDF) contracts with **DMAT CA-6** to pilot medical response to National Fire Service events when requested. CA-6 was the first team to undertake this type of response, and is the prototype for a nationwide collaborative between DMAT's and U.S. Dept of Forestry.
 - Members deployed to provide medical coverage at the Presidential Inauguration in Washington D.C., in Texas for tropical storm Allison, for firefighters participating in Wildland 2001, in Salt Lake City for the 2001 Olympics.
 - Members deployed to Ground Zero, NYC/World Trade Center and to the US Postal Service Annex for employee anthrax screening.
- 2002** ➤ Members deployed to provide medical coverage for firefighters participating in Wildland 2002, and to 4 major California wildfires as part of the CDF agreement.
 - Members staged for response at the 2002 World Series and Fleet Week in San Francisco.
- 2003** ➤ Members staged to provide care for the Sunnyvale Anti-War Protests.
 - Members deployed to 5 major Southern California fires as part of the CDF agreement.
 - Members provide medical care at Moffett Field Air Show and San Francisco Fleet Week.
- 2004** ➤ On Alert and/or members deployed for Hurricanes Charley, Ivan, Frances and Isabel
 - Members deployed for major California wildfires as part of CDF agreement
 - Members participated in Contra Costa Flu Vaccine Clinics
 - Members deployed to provide medical coverage at Moffett Air Expo, San Francisco Fleet Week and Republican National Convention
 - Members traveled to Ukraine for Joint Training Exercise, and to Haiti to provide care in the Relief Mission, and to Guam for care of neonates in local emergency situation.

VI. 2004 Statistical Report

A. Ambulance Dispatch Report

Ambulance Dispatch Report

Year 2004

Number of Dispatches, Response Code, and Response Level by Ambulance Provider

American Medical Response, San Ramon Valley Fire District, Moraga-Orinda Fire District

Response Code & Level	All Providers		American Medical Response		San Ramon Valley Fire*		Moraga/Orinda Fire	
	#	%	#	%	#	%	#	%
Total Dispatches	67,966	100.0	62,350	100.0	4,100	100.0	1,516	100.0
Code 3 Dispatches	52,106	76.7	46,854	75.1	4,100	100.0	1,152	76.0
Code 2 Dispatches	15,860	23.3	15,496	24.9	0	0.0	364	24.0
Total Code 3 Dispatches	52,106	100.0	46,854	100.0	4,100	100.0	1,152	100.0
ALS Response	51,475	98.8	46,261	98.7	4,062	99.1	1,152	100.0
BLS Response	631	1.2	593	1.3	38	0.9	0	0.0
Total Code 2 Dispatches	15,860	100.0	15,496	100.0	0	0.0	364	100.0
ALS Response	10,801	68.1	10,437	67.4	0	98.0	364	100.0
BLS Response	5,059	31.9	5,059	32.6	0	0.0	0	0.0

Ambulance Dispatch Report (cont.)

Year 2004

Patient Transport by Ambulance Provider American Medical Response, San Ramon Valley Fire District, Moraga-Orinda Fire District

Response Code and Level	All Providers		American Medical Response		San Ramon Valley Fire		Moraga/Orinda Fire	
	#	%	#	%	#	%	#	%
Total Dispatches	67,966	100	62,350	100	4,100	100	1,516	100
Transported	49,314	72.6	45,486	73	2,930	71.5	898	59.2
Cancelled	18,652	27.4	16,864	27	1,170	28.5	618	40.8
Total Patient Transports	49,314	100	45,486	100	2,930	100	898	100
Transported Code 3	3,089	6.3	2,833	6.2	201	6.9	55	6.1
Transported Code 2	46,010	93.3	42,441	93.3	2,726	93	843	93.9
Helicopter	302 ¹	0.4	212	0.5	3	0.1	0	0
Total Cancelled	18,652	100	16,864	100	1,170	100	618	100
Enroute	3,967	21.3	3,438	20.4	360	30.8	169	27.3
On Scene	14,685	78.7	13,426	79.6	810	69.2	459	72.7

¹ 215 helicopter transports reported by ambulance provider; 302 reported by helicopter provider.

Ambulance Dispatch Report (cont.)

Year 2004

Responses by Community, Response Code, Average Code 3 Response Time, and BLS Response on Code 3

American Medical Response West, San Ramon Valley Fire District, and Moraga-Orinda Fire District

Community	All Responses		Code Two		Code Three				
	#	%	#	%	#	%	Avg. Response Time*	BLS Unit Only on Response	
Totals	67,966	100	15,860	23.3	52,106	76.7	8.01	631	1.2
Richmond	10,492	15.4	1,330	12.7	9,162	87.3	7.68	97	1.1
San Pablo	2,641	3.9	735	27.8	1,906	72.2	6.95	16	0.8
El Cerrito	1,711	2.5	246	14.4	1,465	85.6	8.11	11	0.8
El Sobrante	624	0.9	126	20.2	498	79.8	9.32	5	1.0
North Richmond	36	0.1	5	13.9	31	86.1	10.83	0	0.0
Kensington	216	0.3	27	12.5	189	87.5	11.43	1	0.5
Pinole	1,594	2.3	377	23.7	1,217	76.3	6.93	17	1.4
Hercules	1,178	1.7	313	26.6	865	73.4	8.85	12	1.4
Rodeo	545	0.8	173	31.7	372	68.3	8.67	5	1.3
Crockett	292	0.4	70	24.0	222	76.0	11.44	0	0.0
Port Costa	9	0.0	0	0.0	9	100.0	13.29	0	0.0
Concord	9,921	14.6	3,004	30.3	6,917	69.7	7.41	130	1.9
Martinez	3,077	4.5	786	25.5	2,291	74.5	8.65	57	2.5
Pleasant Hill	2,337	3.4	714	30.6	1,632	69.4	7.03	22	1.4
Pacheco	245	0.4	64	26.1	181	73.9	7.78	3	1.7
Clayton*	507	0.7	144	28.4	363	71.6	9.90	2	0.6
Clyde	15	0.0	4	26.7	11	73.3	18.00	0	0.0
Walnut Creek	6,414	9.4	1,565	24.4	4,849	75.6	8.04	61	1.3
Lafayette	1,117	1.6	323	28.9	794	71.1	9.90	9	1.1
Orinda	734	1.1	192	26.2	542	73.8	4.02	0	0.0
Moraga	814	1.2	193	23.7	621	76.3	3.92	1	0.2
Alamo	518	0.8	30	5.8	488	94.2	8.87	2	0.4
Danville	1,654	2.4	19	1.1	1,635	98.9	9.86	13	0.8
San Ramon	1,835	2.7	36	2.0	1,799	98.0	9.99	22	1.2
Diablo	58	0.1	0	0.0	58	100.0	12.19	1	1.7
Blackhawk	188	0.3	0	0.0	188	100.0	10.13	1	0.5
Antioch	6,847	10.1	1,875	27.4	4,972	72.6	7.41	49	1.0
Pittsburg	5,529	8.1	1,723	31.2	3,806	68.8	7.91	50	1.3
Bay Point	1,243	1.8	321	25.8	922	74.2	8.02	15	1.6
Oakley	997	1.5	223	22.4	774	77.6	8.82	7	0.9
Bethel Island	463	0.7	133	28.7	330	71.3	10.05	6	1.8
Knightsen	16	0.0	6	37.5	10	62.5	9.80	0	0.0
Brentwood*	2,381	3.5	641	26.9	1,740	73.1	9.04	13	0.7
Discovery Bay*	505	0.7	141	27.9	364	72.1	12.42	0	0.0
Byron*	346	0.5	80	23.1	266	76.9	11.28	2	0.8
Out Of County	753		173	23.0	580	77.0	8.06	0	0.0
Other/Unknown	114	1.1	68	59.6	46	40.4	12.38	1	2.2

* QRV and calls cancelled enroute not included in average response times. Response time criteria changed 9/1/04

Ambulance Dispatch Report (cont.)

Year 2004

Transports by Hospital Destination, Transport Code, and Major Trauma Victim Status

American Medical Response West, San Ramon Valley Fire District, and Moraga-Orinda Fire District

Local Hospitals	All Transports		Code Three Transports		Code Two Transports	
	#	%	#	%	#	%
Totals	49,314	100.0	3,271	100.0	46,043	100.0
Contra Costa Reg.	7,046	14.3	98	3.0	6,948	15.1
Doctors, San Pablo	7,858	15.9	499	15.3	7,359	16.0
John Muir	6,063	12.3	723	22.1	5,340	11.6
Kaiser, Richmond	3,276	6.6	148	4.5	3,128	6.8
Kaiser, Walnut Creek	5,728	11.6	241	7.4	5,487	11.9
Mt. Diablo	7,906	16.0	603	18.4	7,303	15.9
San Ramon Regional	1,568	3.2	149	4.6	1,419	3.1
Sutter/Delta	7,765	15.7	513	15.7	7,252	15.8

Out-of-County Hospitals	All Transports		Code Three Transports		Code Two Transports	
	#	%	#	%	#	%
Valley Care	48	0.1	0	0.0	48	0.1
Alta Bates	653	1.3	17	0.5	636	1.4
Kaiser/Oakland	120	0.2	2	0.1	118	0.3
Eden	7	0.0	2	0.1	5	0.0
Children's	201	0.4	58	1.8	143	0.3
Highland	27	0.1	8	0.2	19	0.0
Kaiser, Vallejo	28	0.1	0	0.0	28	0.1
Summit	307	0.6	14	0.4	293	0.6
Helicopter Transport	215	0.4	182	5.6	33	0.1
Other/Unknown	498	1.0	14	0.4	484	1.1

B. Helicopter Utilization Report

Helicopter Utilization Report

Year 2004

Contra Costa Patients Transported by Helicopter -

Origin	2000		2001		2002		2003		2004	
	Pts	%	Pts	%	Pts	%	Pts	%	Pts	%
TOTAL	380	100.0	428	100.0	389	100.0	330	100.0	302	100.0
West County	163	42.9	173	40.4	135	34.7	141	42.7	105	34.8
East County	136	35.8	191	45.1	179	46.0	142	43.0	131	43.4
South County	33	8.7	40	9.4	37	9.5	28	8.5	49	16.2
Central County	43	11.3	22	5.1	38	9.8	19	5.8	17	5.6
Unknown	5	1.3	0	0.0	0	0.0	0	0.0	0	0.0

*Information provided by air ambulance providers. None of these flights originated from outside of Contra Costa County.

Helicopter Transports Originating Within Contra Costa by Provider Agency

Provider	2000		2001		2002		2003		2004	
	Pts	%	Pts	%	Pts	%	Pts	%	Pts	%
TOTAL	380	100.0	428	100.0	389	100.0	330	100.0	302	100.0
CALSTAR	197	51.8	213	49.8	197	50.6	177	53.6	178	58.9
REACH	174	45.8	204	47.7	186	47.8	144	43.6	112	37.1
CHP	2	<1	5	1.2	4	1.0	9	2.7	8	2.6
Other	4	1.1	6	1.4	2	0.5	0	0.0	4	1.3
Unknown	5	1.3	0	0.0	0	0.0	0	0.0	0	0.0

*Information provided by air ambulance providers. None of these flights originated from out side of Contra Costa County.

C. Base Hospital Contact Report

Base Hospital Contact Report

Year 2004

Base Hospital Activity Summary

	2000		2001		2002		2003		2004	
	#	%	#	%	#	%	#	%	#	%
Total Base Contacts	8,401	100.0	4,763	100.0	5,380	100.0	4,185	100.0	3,701	100.0
EMT-P Contacts	7,661	91.2	4,021	84.4	4,284	79.6	3,993	95.4	2,989	80.8
EMT-I Contacts	149	1.8	129	2.7	173	3.2	86	2.1	39	1.1
EMT Not Identified	591	7.0	613	12.9	923	17.2	106	2.5	673	18.1
Adult Patients	7,946	94.6	4,107	86.2	4,943	91.9	3,833	91.6	3,461	93.5
Pediatric Patients (age < or = 14)	290	3.5	502	10.5	262	4.9	208	5.0	187	5.1
Age Not Identified	165	2.0	154	3.3	175	3.3	144	3.4	53	1.4

D. Trauma System Report

Trauma System Report

Year 2004

On-scene Triage of Patients Within Contra Costa Meeting Field Trauma Criteria - 2004

	2000	2001	2002	2003	2004
Total Patients Meeting One or More Field Trauma Triage Criteria	2,885	2,828	2,729	2,695	2,439
Triaged in field as major trauma	983	984	923	890	929
Transported to a trauma center	953	965	914	879	911
John Muir Medical Center	776	811	773	765	763
Children's Hospital, Oakland	129	122	119	83	120
Other trauma center	48	32	22	31	28
Transported to the closest receiving hospital	34	19	9	11	18
CPR/Unstable airway	29	15	7	7	18
Otherwise unstable	0	0	0	4	0
Trauma center on bypass	5	4	2	0	0
Triaged in the field as not having major trauma	1,903	1,844	1,806	1,805	1,511

Field Triage Errors (errors per 100 patients triaged with major trauma) - 2004

Undertriage error rate	=	$\frac{\text{Patients field-triaged as not having major trauma, but subsequently found to have major trauma}}{\text{Total number of patients triaged in the field as having major trauma}}$	=	$\frac{52}{929}$	=	5.6*
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Definitions:

Field triaged major trauma - All patients meeting County EMS criteria based on CRAMS score or anatomic factors for automatic consideration as major trauma patients plus all patients meeting trauma base hospital call-in criteria for whom a trauma center destination is given.

Retrospective major trauma determination - All patients whose hospital Injury Severity Score (ISS) is over 15 or who have an ISS between 10 and 14 with at least three-day hospital stay are considered to be major trauma patients. All patients not meeting these criteria are considered non-major trauma patients.

Undertriage and Overtriage Rates by Year

Type of Triage Error	2000	2001	2002	2003	2004
Undertriage	1.1	2.7	2.9	2.4	5.6*
Overtriage	43.7	47.9	**	58.5	57.3

*Undertriage error rate calculation has not changed over the course of years shown in this table, however improved data systems implemented in late 2003 (tracking patients via computerized ambulance patient care records) have facilitated better identification of undertriage cases. For that reason, undertriage error rates prior to 2004 may be underestimated.

**EMS data not available.

Trauma Center Discharge Report

John Muir Medical Center (JMMC) - 2004¹

	2002		2003		2004	
	#	%	#	%	#	%
All JMMC Trauma Patients						
Total	1,259	100.0	1,227	100.0	1,296	100.0
Major Trauma Victims (Retrospective Review)	575	45.7	543	44.3	585	45.1
Not Major Trauma Victims (Retrospective Review)	684	54.3	684	55.7	711	54.9
Contra Costa Field Transports						
Total	905	100.0	881	100.0	1,046	100.0
Major Trauma Victims (Retrospective Review)	391	43.2	364	41.3	466	44.6
Not Major Trauma Victims (Retrospective Review)	514	56.8	515	58.7	580	55.4
Patients Transferred from Contra Costa Hospitals						
Total	132	100.0	109	100.0	130	100.0
Major Trauma Victims (Retrospective Review)	84	63.6	62	56.9	75	57.7
Not Major Trauma Victims (Retrospective Review)	48	36.4	47	43.1	55	42.3
Patients from Outside Contra Costa County						
Total	222	100.0	235	100.0	250	100.0
Major Trauma Victims (Retrospective Review)	100	45.0	115	48.9	119	47.6
Not Major Trauma Victims (Retrospective Review)	122	55.0	120	51.1	131	52.4

¹ Based on data from the John Muir Trauma Registry.

E. Hospital Census and Diversion Reports

Emergency Department Diversion

All Contra Costa Hospitals - 2004

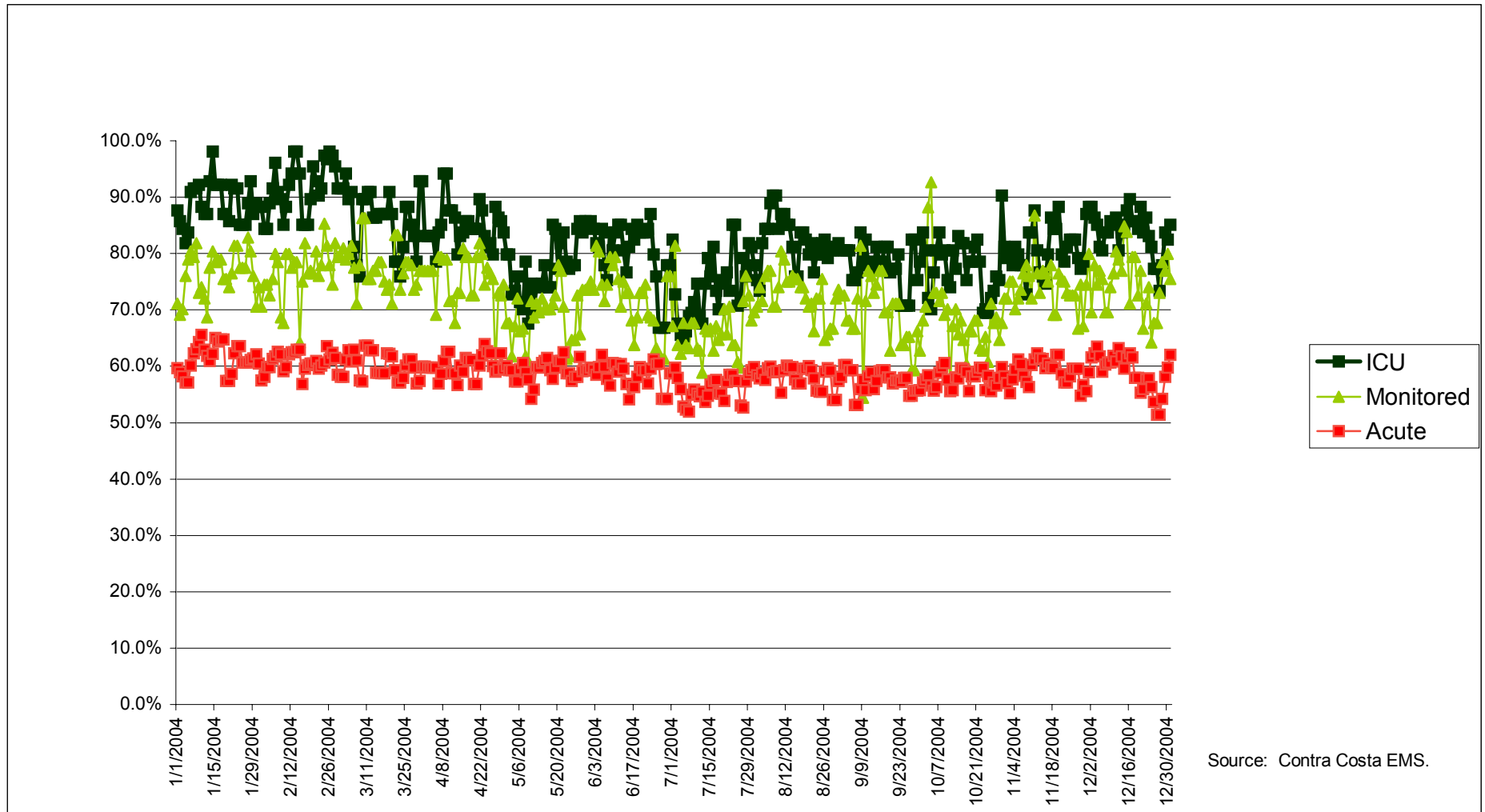
	2000	2001	2002	2003	2004
All Hospitals					
# of events	23	34	13	170	160
Total time (hours)	46.0	70.1	31.8	380.5	256.7
Avg hrs per event	2.0	2.1	2.4	2.2	1.6
Contra Costa Regional					
# of events	0	3	1	19	10
Total time	0.0	7.6	1.0	31.1	22.4
Avg hrs per event	0.0	2.5	1.0	1.6	2.2
Doctors San Pablo					
# of events	0	0	0	0	0
Total time (hours)	0.0	0.0	0.0	0.0	0.0
Avg hrs per event	0.0	0.0	0.0	0.0	0.0
John Muir					
# of events	1	7	3	7	5
Total time (hours)	1.5	12.8	10.9	16.3	10.0
Avg hrs per event	1.5	1.8	3.6	2.3	2.0
Kaiser Richmond					
# of events	0	0	0	0	0
Total time (hours)	0.0	0.0	0.0	0.0	0.0
Avg hrs per event	0.0	0.0	0.0	0.0	0.0
Kaiser Walnut Creek					
# of events	1	0	1	3	4
Total time (hours)	2.2	0.0	4.7	15.6	10.6
Avg hrs per event	2.2	0.0	4.7	5.2	2.7
Mt Diablo					
# of events	0	2	0	27	33
Total time (hours)	0.0	4.3	0.0	48.9	52.4
Avg hrs per event	0.0	2.2	0.0	1.8	1.6
San Ramon Regional					
# of events	4	6	1	5	3
Total time (hours)	22.6	15.8	3.1	13.8	13.0
Avg hrs per event	5.7	2.6	3.1	2.8	4.3
Sutter Delta					
# of events	17	16	7	109	105
Total time (hours)	19.7	29.6	12.1	254.8	148.3
Avg hrs per event	1.2	1.9	1.7	2.3	1.4

CT Scan Diversion
All Contra Costa Hospitals - 2004

	2000	2001	2002	2003	2004
All Hospitals					
# of events	5	44	30	44	76
Total time (hours)	26.9	1,042.9	502.6	527.8	729.8
Avg hrs per event	5.4	23.7	16.8	12.0	9.6
Contra Costa Regional					
# of events	0	6	4	3	7
Total time (hours)	0.0	422.8	109.4	129.4	58.3
Avg hrs per event	0.0	77.8	27.4	43.1	8.3
Doctors San Pablo					
# of events	2	6	3	8	13
Total time (hours)	15.3	26.8	24.2	138.3	281.9
Avg hrs per event	7.7	4.5	8.1	17.3	21.7
John Muir					
# of events	0	3	0	0	0
Total time (hours)	0.0	1.6	0.0	0.0	0.0
Avg hrs per event	0.0	0.5	0.0	0.0	0.0
Kaiser Richmond					
# of events	0	7	3	1	1
Total time (hours)	0.0	203.8	139.6	34.2	107.9
Avg hrs per event	0.0	29.1	46.5	34.2	107.9
Kaiser Walnut Creek					
# of events	0	0	0	0	0
Total time (hours)	0.0	0.0	0.0	0.0	0.0
Avg hrs per event	0.0	0.0	0.0	0.0	0.0
Mt Diablo					
# of events	0	0	5	6	16
Total time (hours)	0.0	0.0	64.5	24.2	87.9
Avg hrs per event	0.0	0.0	12.9	4.0	5.5
San Ramon Regional					
# of events	2	15	5	22	25
Total time (hours)	8.3	283.0	16.7	159.6	123.1
Avg hrs per event	4.2	18.9	3.3	7.3	4.9
Sutter Delta					
# of events	1	7	10	4	14
Total time (hours)	3.3	104.9	148.2	42.1	70.7
Avg hrs per event	3.3	15.0	14.8	10.5	5.1

Daily Hospital Bed Utilization (Midnight Census)

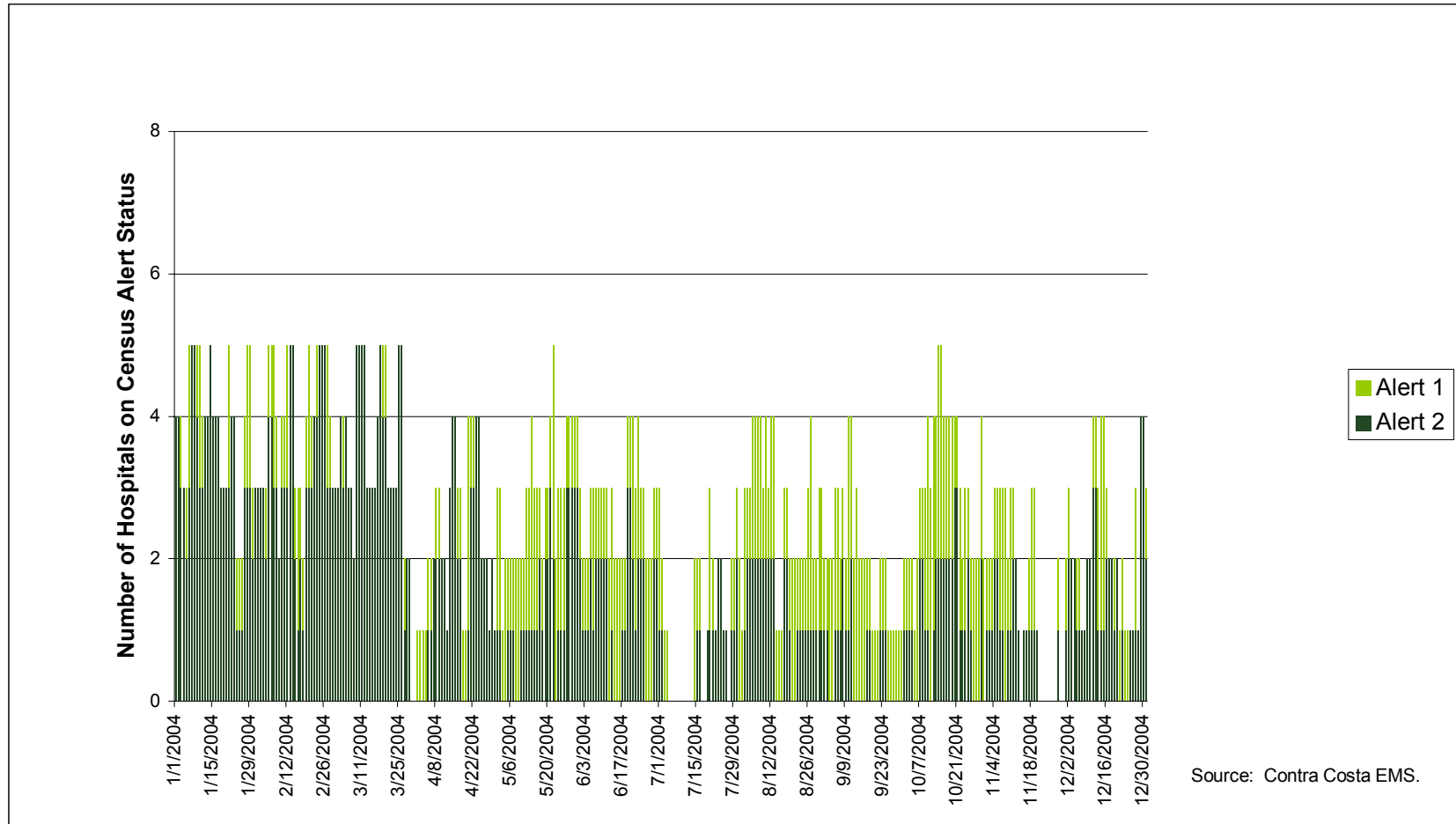
All Contra Costa Hospitals - 2004



Source: Contra Costa EMS.

Hospital Census Alerts

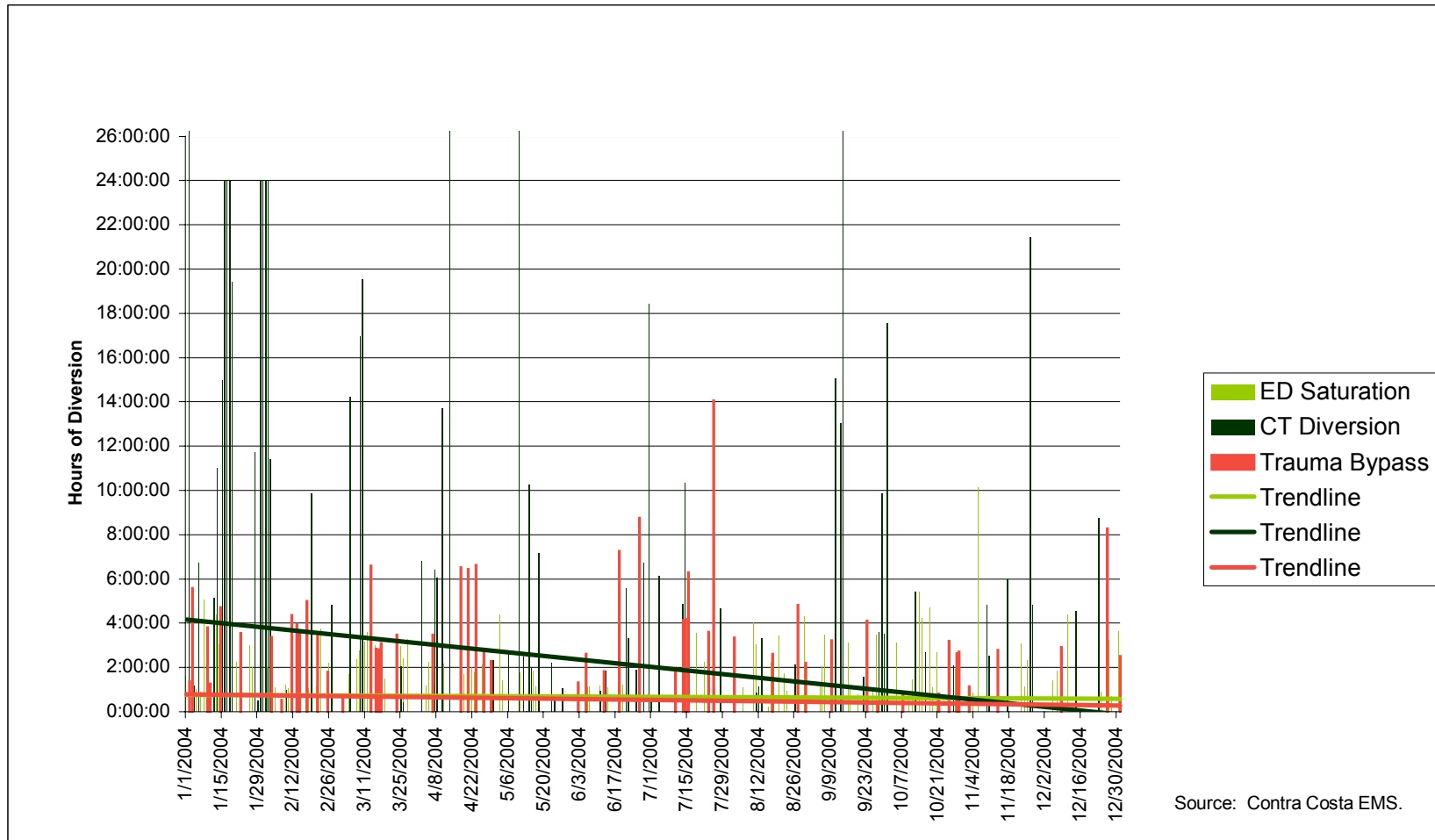
All Contra Costa Hospitals - 2004



Source: Contra Costa EMS.

Hospital Diversion

All Contra Costa Hospitals - 2004



Hospital Bed Availability, Midnight Census, and Diversion Report by Hospital, January 1 - December 31, 2004

	Total	CCRMC	Doctors	John Muir	Kaiser-Rch	Kaiser-WC	Mt. Diablo	San Ramon	Sutter Delta
Licensed available beds:									
Acute care	1,484	164	232	321	50	229	254	123	111
Monitored	204	10	32	35	16	28	60	15	8
Intensive care	153	8	29	35	8	24	25	12	12
Average daily patient census:									
Acute care	880	157	83	184	31	146	114	58	107
Monitored	148	9	17	26	16	23	43	10	5
Intensive care	126	6	20	31	6	25	20	7	11
Average percent capacity:									
Acute care	59.3%	95.6%	35.8%	57.5%	62.0%	63.9%	44.8%	47.4%	96.0%
Monitored	72.8%	91.3%	53.7%	74.3%	98.5%	80.5%	72.2%	65.4%	58.8%
Intensive care	82.6%	76.0%	69.8%	88.4%	75.6%	105.4%	80.8%	55.8%	91.1%
Average unoccupied available beds:									
Acute care	604	7	149	137	19	83	140	65	4
Monitored	56	1	15	9	0	5	17	5	3
Intensive care	27	2	9	4	2	-1	5	5	1
Emergency department:									
ED treatment spaces	149	19	24	15	15	23	22	9	22
Ave. admits waiting (midnight census)	13	1	1	3	1	6	0	0	1
Hospital diversion:									
ED saturation									
Number of days	140	9	0	4	0	4	33	4	86
Total hours	250:19:00	15:12:00	0:00:00	7:58:00	0:00:00	10:37:00	53:29:00	14:29:00	148:34:00
Average hours/day on diversion	1:47:17	1:41:20		1:59:30		2:39:15	1:37:15	3:37:15	1:43:39
CAT inoperative									
Number of days	82	8	17	0	6	0	14	26	11
Total hours	736:06:00	109:34:00	230:38:00	0:00:00	107:54:00	0:00:00	87:34:00	129:52:00	70:34:00
Average hours/episode	8:58:37	13:41:45	13:34:00		17:59:00		6:15:17	4:59:42	6:24:55
Trauma diversion (John Muir only)									
Number of days	54			54					
Total hours	197:18:00			197:18:00					
Average hours/day on diversion	3:39:13			3:39:13					
Physical plant casualty									
Number of days	3	1	0	0	0	0	1	1	0
Total hours	11:39:00	9:26:00	0:00:00	0:00:00	0:00:00	0:00:00	0:01:00	2:12:00	0:00:00
Average hours/day on diversion	3:53:00	9:26:00					0:01:00	2:12:00	
Hospital census alerts:									
All hospital census alert days reported	729	50	93	65	0	166	159	4	192
Level 2 census alert days reported	612	92	0	150	0	86	155	0	129

Source: Contra Costa EMS Agency, ReddiNet data.

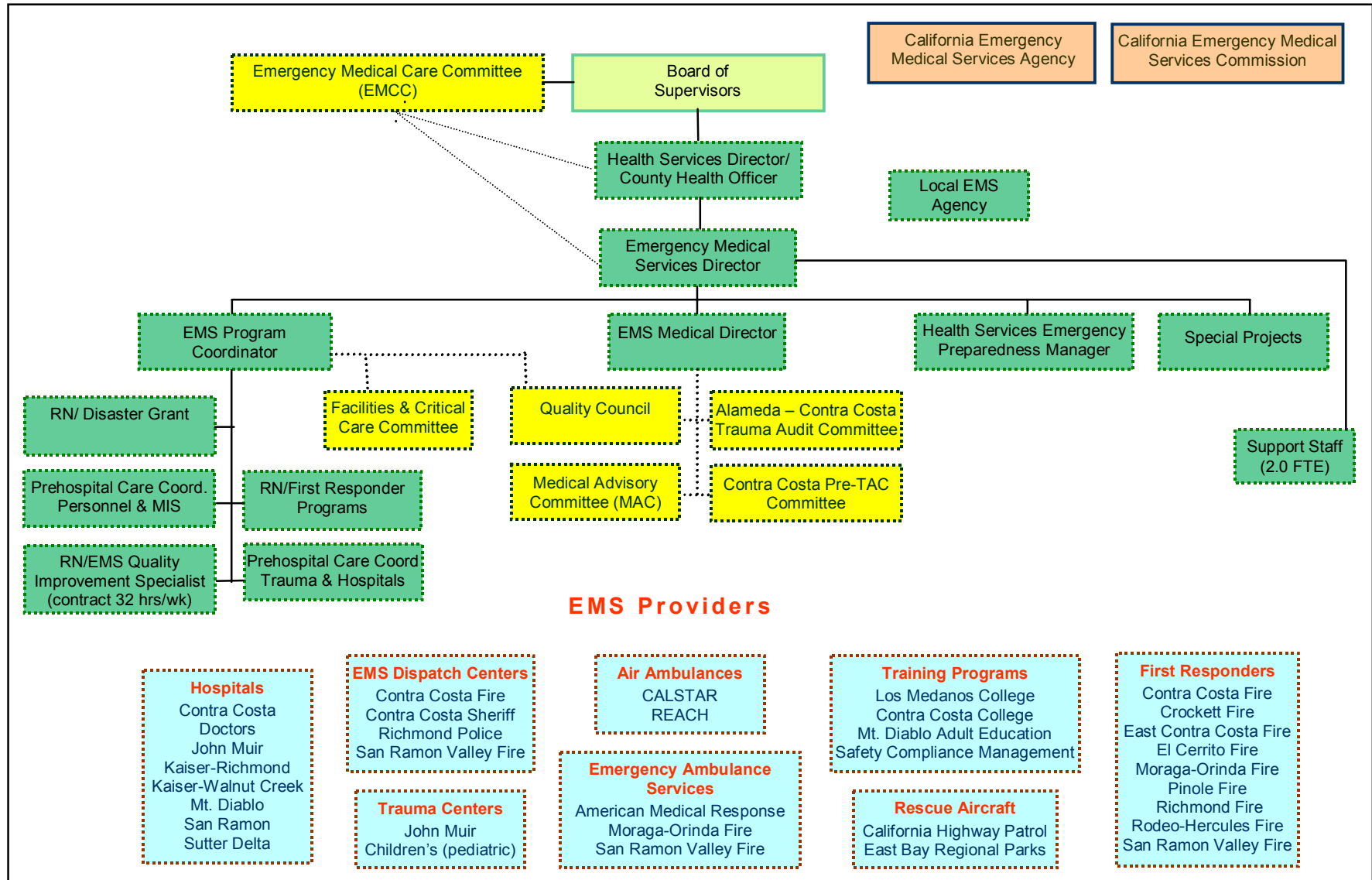
Hospital Bed Availability, Midnight Census, and Diversion Summary Report, 2000-2004

	2000	2001	2002	2003	2004
Licensed available beds:					
Acute care beds			1,471	1,490	1,484
Monitored beds			204	204	204
Intensive care beds			154	154	153
Average daily patient census:					
Acute care			855	912	880
Monitored			142	152	148
Intensive care			122	132	126
Average percent capacity:					
Acute care			58.2%	61.2%	59.3%
Monitored			69.6%	74.5%	72.8%
Intensive care			79.0%	85.7%	82.6%
Average unoccupied available beds:					
Acute care			616	578	604
Monitored			62	52	56
Intensive care			32	22	27
Emergency department:					
ED treatment spaces			149	149	149
Average number of admits waiting (midnight census)			9	12	13
Hospital diversion:					
ED saturation					
Number of days (episodes)*	23	34	111	152	140
Total hours	46	70.1	401.8	383.2	250.3
Average hours/diversion day (episode)	2	2.1	3.5	2.5	1.8
CAT inoperative					
Number of days (episodes)*	5	44	86	60	82
Total hours	26.9	1,042.9	836.3	545.2	736.1
Average hours/diversion day (episode)	5.5	23.7	9.7	14.0	9.0
Trauma diversion (John Muir only)					
Number of days (episodes)*			84	56	54
Total hours			244.1	217.2	197.3
Average hours/diversion day (episode)			2.9	2.9	3.7
Physical plant casualty					
Number of days (episodes)*			3	2	3
Total hours			21.5	19.6	11.7
Average hours/diversion day (episode)			7.2	9.8	3.9
Hospital census alerts:					
All hospital census alert days reported			490	979	729
Level 2 census alert days reported			351	772	612

*Data element was changed from "episode" to "diversion day" beginning 2004.

VII. EMS Agency Organizational Chart

EMS Agency Organizational Chart



VIII. EMS Expenditures

EMS Expenditures by Year
Fiscal Years Ending 2001 – 2004

	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
County Service Area EM-1 (Measure H)				
Zone A (San Ramon Valley)				
Beginning fund balance	\$212,171.61	\$228,640.85	\$238,947.49	\$311,221.25
Revenue	\$183,014.05	\$184,083.04	\$186,479.59	\$191,465.56
Expenditures	\$166,544.81	\$173,776.40	\$114,205.83	\$277,397.08
Surplus (deficit)	\$16,469.24	\$10,306.64	\$72,273.76	(\$85,931.52)
Year end fund balance	\$228,640.85	\$238,947.49	\$311,221.25	\$225,289.73
Zone B (Balance of County)				
Beginning fund balance	\$837,743.49	\$897,392.46	\$1,048,524.12	\$2,313,423.94
Revenue	\$4,206,155.81	\$4,334,861.46	\$4,246,114.70	\$4,353,030.61
Expenditures	\$4,146,506.84	\$4,183,729.80	\$2,981,214.88	\$4,473,779.09
Surplus (deficit)	\$59,648.97	\$151,131.66	\$1,264,899.82	(\$120,748.48)
Year end fund balance	\$897,392.46	\$1,048,524.12	\$2,313,423.94	\$2,192,675.46
Other EMS Programs				
Revenue	\$1,016,299.48	\$1,428,125.68	\$944,853.30	\$1,540,685.92
EMS Fund (SB 12)	\$377,561.90	\$240,520.57	\$213,586.86	\$468,209.61
Grants	\$201,310.90	\$815,770.67	\$601,887.61	\$222,913.31
CSA EM-1 (Measure H)	\$421,213.00	\$369,687.00	\$0.00	\$812,275.00
Other	\$16,213.68	\$2,147.44	\$129,378.83	\$37,288.00
Expenditures	\$931,744.73	\$1,514,037.65	\$1,331,808.15	\$1,041,773.85
Grant activities	\$201,310.90	\$815,770.67	\$601,887.61	\$222,913.31
Other EMS activities	\$730,433.83	\$698,266.98	\$729,920.54	\$818,860.54
Surplus (deficit)	\$84,554.75	(\$85,911.97)	(\$386,954.85)	\$498,912.07

IX. Development of EMS in Contra Costa County.

Chronology

The emergency medical services system approach and the use of paramedic personnel to provide advanced life support care under the supervision of a base hospital physician or mobile intensive care nurse began evolving as a new model for health care delivery in the late 1960's. Contra Costa as well as a number of other progressive counties throughout California began developing their emergency medical services systems during this time. Following are milestones in the development of the EMS system in Contra Costa County:

- 1968** ➤ **Emergency Medical Care Committee (EMCC)** appointed by County Board of Supervisors to provide oversight of emergency medical services within the county.
- 1970** ➤ State **Wedworth-Townsend Act** enabled counties to conduct pilot projects using paramedics and mobile intensive care nurses (MICN's) to provide advanced life support services to patients in the field.
 - **Ambulance Regulations** added to the County Ordinance Code which included permit and ambulance registration processes.
- 1972** ➤ Ten **ambulance zones** established for provision of emergency ambulance service within the county.
- 1975** ➤ In response to EMCC's recommendation and with county approval, Health Department agreed to develop an **advanced life support program** and to provide coordination of emergency medical services countywide. Initial EMS Program developed with Federal funding under auspices of Comprehensive Health Planning.
- 1976** ➤ Los Medanos Community College, in conjunction with Stanford University, developed first **training programs** for paramedics and MICN's.
- 1977** ➤ **First paramedics and MICN's graduated** from Los Medanos Community College training programs and were certified by County Health Officer.
 - John Muir Medical Center and Mt. Diablo Medical Center designated **Base Hospitals** for medical control of paramedic units throughout the county. (Initial base hospital services were provided on a monthly rotation schedule.)
 - **Joint Exercise of Powers Agreement** between Alameda and Contra Costa Counties established an East Bay EMS Region for the development of a Regional EMS program.
 - **First paramedic-staffed ambulances** responded in Walnut Creek (Pomeroy Ambulance in May 1977); in Moraga (Moraga Fire Protection District in June 1977); in Concord (Michael's Ambulance in January 1978); and in Richmond (Cadillac Ambulance February 1978 - Labor issues delayed active participation in program until 1979).
- 1980** ➤ Joint Powers Agreement for Regional emergency medical services disbanded following recommendations from Alameda and Contra Costa Counties' EMCC's
 - Comprehensive **California Emergency Medical Services System and Prehospital Emergency Medical Care Personnel Act** passed. This legislation set EMS system standards, prehospital personnel training/certification standards, and provided basic standardized structure for EMS systems.
 - Provision added to the County Ambulance Ordinance, which established **exclusive ambulance zones** for emergency and non-emergency transport.
 - Brookside Hospital, San Pablo designated by county as third base hospital to provide medical direction for west county paramedic units.
- 1982** ➤ **Multicasualty Incident Plan** approved by County Board of Supervisors providing for on-scene coordination, resource notification, and patient distribution in multicasualty situations.

- 1983** ➤ County Health Services designated as **Local EMS Agency** and County Health Officer designated as **EMS Medical Director** by Board of Supervisors pursuant to State EMS Act.
- Competitive bid process for **emergency ambulance service contracts** established pursuant to revised County Ambulance Ordinance. A Request for Proposal process that sought highest level of service possible without County subsidy resulted in exclusive contracts with Cadillac Ambulance, Regional Ambulance, Moraga Fire District, San Ramon Valley Fire District, and East County Ambulance.
- 1984** ➤ Paramedic level ambulance transport services implemented by San Ramon Valley Fire District in a joint program with John Muir Medical Center.
- Ten ambulance zones consolidated into 5 **Emergency Response Areas (ERA's)**. Exclusive ambulance service contracts awarded to Cadillac Ambulance, Regional Ambulance, Moraga Fire and San Ramon Valley Fire following competitive bid.
- 1985** ➤ **EMS System Plan** developed according to standards set by EMS Authority.
- First RFP process for paramedic **base hospital designation** developed and administered for 4 base hospital zones countywide.
- Small **plan crashed** into the Sun Valley Mall injuring some 80 victims.
- **Emergency Medical Dispatch (EMD)** standards/criteria developed; endorsed by EMCC.
- Procedure for **Emergency Department (ED) diversion** implemented allowing diversion of an emergency ambulance away from an ED if number of critical patients in ED was such that any more critical patients could not be cared for adequately.
- Brookside Hospital emergency department downgraded licensure to "Standby Emergency Services" and relinquished paramedic base hospital designation.
- 1986** ➤ Comprehensive **Trauma System Plan** approved by Board of Supervisors providing for designation of a single Level II Trauma Center. Trauma system **treatment and triage protocols** adopted. Ambulance personnel and first responders trained in specialized critical trauma patient management.
- John Muir Medical Center designated as County's **Level II Trauma Center**.
- Bay Area **Trauma Registry Project** initially funded by State EMSA.
- Operational Procedures for **Patient Transport by Helicopter** implemented.
- Cadillac Ambulance purchased by Regional Medical Systems making RMS the single private emergency ambulance provider in county.
- **Competitive bidding process** for emergency ambulance providers in 5 ERA's. Service contracts awarded to Regional Ambulance, Moraga Fire and San Ramon Valley Fire.
- Base Hospital contracts established with John Muir Medical Center, Mt. Diablo Medical Center and Los Medanos Community Hospital.
- Emergency medical dispatch program including pre-arrival instructions implemented by Contra Costa County Fire Dispatch Center.
- 1987** ➤ Formal **Patient Transfer Guidelines**, including a multi-disciplinary quality assurance process administered by the EMS Agency, adopted by Board of Supervisors, and by all hospitals within county.
- Health Services Department **Emergency Management Team**, consisting of key Health Services personnel, designated to respond to County EOC or Medical/Health Operations Center in a disaster.
- Program for reporting **communicable disease exposure** developed and available to fire, police and ambulance agencies countywide.
- Brookside Hospital restored to basic emergency licensure status.
- 1988** ➤ **"Measure H"**, a general election ballot advisory measure calling for the establishment of a benefit assessment for enhanced EMS services, approved by 71.6% of voters countywide.
- Joint Solano/Contra Costa County EMS Hazardous Materials Training Project supported by 5-year

funding under consent agreement between IT Corporation and State Department of Health Services; administered by EMS Agency.

- Pilot "**first responder paramedic engine**" program undertaken by Moraga Fire.
- 1989** ➤ Countywide **Benefit Assessment District for Enhanced Emergency Medical Services**, County Service Area EM-1, approved by all city councils and established by Board of Supervisors under the administration of Health Services.
- 1990** ➤ **County Service Area EM-1** became operational.
 - **EMS Disaster Planning Project** funded by State EMSA and administered by local EMS Agency. The County Health Officer designated **Regional Disaster Medical Health Coordinator** (RDMHC) for "OES Region 2" counties.
 - San Ramon Regional Medical Center, licensed for Basic Emergency Services, opened in the City of San Ramon.
- 1991** ➤ **High-performance ambulance contracts** initiated with Regional Ambulance, San Ramon Valley Fire, and Moraga Fire. Standards set for paramedic-staffed ambulance response to emergency calls at 95% 10-minute maximum for county urban areas. Number of paramedic staffed ambulances increased from 12 to 19 to meet standard, with Measure H funded ambulance service subsidies.
 - **First Responder Defibrillation** Program planned. RFP competitive bid process to select equipment. PhysioControl semi-automatic defibrillators were purchased.
 - Countywide system of **Multicasualty Medical Caches** established; includes supplies to be used in multicasualty or disaster situations.
 - Specialized **Hazardous Materials Response Protocols** and training program developed and implemented for ambulance personnel.
 - **Paramedic training program** provided at Los Medanos Community College.
 - Veterans Administration Hospital closed.
- 1992** ➤ **Fire First Responder Defibrillation Program** implemented countywide.
 - "**Emergency Medical Guidelines for Law Enforcement Agencies**" endorsed by the EMCC and the County Police Chiefs' Association.
 - "EMS Operational Procedures For Response to an **Expanded Medical Emergency**" (EME) developed and implemented.
 - "**Do Not Resuscitate**" program instituted, which provides patients with option of predetermining levels of resuscitation to be performed by field personnel.
 - **EMS treatment protocols for children** developed and implemented.
 - Two new **radio channels** for ambulance-hospital communications available.
 - John Muir Trauma Center permanently (20 years) designated as **Level II trauma center** following request-for-proposal review process.
 - **In Fire Service EMS Models Assessment** completed.
 - **Base Hospital** agreements renegotiated with Mt. Diablo, John Muir and Los Medanos hospitals.
 - Started fire/medical dispatch computer linkage project "**Medical Transmission Network**".
 - **First responder paramedic** program funded by Measure H and provided by American Medical Response implemented in Byron/Discovery Bay area. 5/1/92
 - **MEDARS** radio system upgraded from two channels to four channels.
- 1993** ➤ Base hospital services no longer provided by Los Medanos Hospital.
 - General Chemical Company **chemical release** in Richmond area triggered large-scale fire, police and EMS response. Thousands of patients requested evaluation at local medical facilities in following weeks.
 - Poison control public hotline terminated by San Francisco Poison Control Center due to funding issues. EMS Agency maintained PCC access via local 911 system.

- San Ramon Valley Fire's Dispatch Center piloted Medical Priority's computerized ProQA Dispatch System for **prehospital EMS dispatch**.
- Functional integration of 5 County fire districts (Contra Costa County, Riverview, Orinda, Moraga and West County).
- "**Quality Action Team**" formed to improve EMS incident review.
- Mobile radios programmed with **fire service radio channels**, installed in paramedic units.
- EMS Agency obtained funding for Highway Injury Record Linkage Software and Firearm Injury Reporting, Surveillance and Tracking System; programs administered by Health Services Injury Prevention.
- Board of Supervisors approved AMR contract through 7/2/95 and then through 5/2/96.
- 1994**
 - Continuing education activities approved for EMT-I's to maintain State certification.
 - Los Medanos Community **Hospital closed 4/23/94**.
 - Responsibility for paramedic certification transferred from individual counties/regions to State EMSA.
 - **Hospital Emergency Incident Command System** (HEICS) adopted by hospitals to provide an organized approach to hospital disaster management.
 - **Medical/health mutual aid response** to Northridge earthquake in southern California coordinated among northern California coastal counties (Region II).
 - **EMT-I training program for firefighters** established by EMS Agency.
 - EMS Agency obtained State EMSA grant to study **poison control center alternatives**
 - **Emergency Medical Care Committee** restructured to report to Health Services Director.
 - **1-800-GIVE CPR** number continued under auspices of the EMS Agency.
- 1995**
 - The Oakland and Richmond Kaiser hospitals merged. Richmond facility received only non-critical ambulance patients due to lack of ICU capabilities.
 - Paramedic certification changed to State licensure.
 - **Revised EMS System Plan** approved by EMCC and County Board.
 - EMS Agency gained part-time Assistant EMS Medical Director.
 - San Ramon Valley Fire successfully piloted **computerized medical dispatch program**.
 - EMS started the **1-800-GIVE-CPR** public information program locally.
 - **BLS standards** added to EMS Prehospital Care Manual.
- 1996**
 - Asst. EMS Medical Director position became **EMS Medical Director**.
 - Standards for **EMS Enhanced First Responder Programs** developed.
 - **Request for Proposal process** for emergency ambulance service (11/1/96). Contracts awarded to San Ramon Fire and American Medical Response (10/28/97). Moraga Fire exempt from competitive bid process.
 - Bethel Island Fire's **First Responder Paramedic program** started. 10/7/96
 - Emergency Medical Care Committee performed EMS System evaluation.
 - "**Hospital Shelter-in-Place Project**" funded by local Emergency Planning Committee and State OES.
 - San Ramon Valley Fire Dispatch Center recognized as **Center of Excellence** by National Academy of Emergency Medical Dispatch.
- 1997**
 - **Bay Area Disaster Medical Assistance Team** (DMAT) formed/sponsored by County Health Services.
 - Contra Costa Fire Protection District's First Responder Paramedic Program implemented. 8/1/97 "**Partners**" course used to train EMT-Is to assist paramedics.
 - **Multicasualty response** to victims of Concord Water World slide collapse. One death and 32

injured were triaged to area hospitals.

- Regional Disaster Medical Health Coordinator provided **public health nurse mutual aid** during 1996-97 No. California winter storms.
- **Computerized pen-based patient care reporting** implemented Countywide.
- Board of Supervisors appointed the EMCC as an advisory committee.
- **Statewide Poison Control Center** system implemented.
- John Muir and Mt. Diablo Medical Centers merged to form John Muir/Mt. Diablo Health System.
- Brookside Hospital acquired by Tenet Corp. and renamed Doctor's Hospital, San Pablo Campus. Doctor's, Pinole became Doctor's Hospital, Pinole Campus.
- Kaisers Richmond and Martinez downgraded services. Not designated to receive ambulance patients.
- Orinda Fire and Moraga Fire merged to form Moraga-Orinda Fire Protection District.
- Laidlaw purchased American Medical Response. Merged its ambulance services under the AMR name.
- **Interfacility Transfer Review** process revised.

1998

- Board of Supervisors declared local emergency due to shortage of hospital emergency and critical care resources.
- Contra Costa Regional Medical Center's **new county hospital**, opened.
- First load of **spent nuclear fuel rods** transported by train through county.
- Antioch Ambulance Service bought by Golden Empire Ambulance.
- American Medical Response accepted subsidy reduction to fund expansion of Contra Costa Fire First Responder Paramedic Program.
- West County Consolidated Communications Operations and Contra Costa Fire District Dispatch Center personnel trained in **Emergency Medical Dispatch**.
- **Multicasualty Incident (MCI) Plan** revised.
- **Resource Information Management System** (RIMS) installed to link OES Region II counties to Statewide disaster information management system.
- First **Hospital resource assessment** completed.
- **Bay Area DMAT** attained Level II designation.
- Department-wide Contra Costa Health Services **Emergency Plan** completed.

1999

- Kaiser Richmond opened inpatient critical care services.
- Oakley Fire organized as a fire protection district.
- Contra Costa Fire expanded central county pilot First Responder Paramedic Program.
- **Multicasualty response** to a fire at Tosco's Avon Refinery.
- **Multicasualty response** to a fire at Chevron Refinery, North Richmond.
- **Multicasualty response** to Richmond Health Center for noxious odor assessment.
- Pilot **Bi-phasic AED project** implemented.
- Health Services Department Operations Center (DOC) activated for **Y2K transition**.
- Year 1 of a 2-year State grant for a Data Linkage and Outcome Project.
- Bay Area DMAT attained **Level I designation**.
- Moraga and Orinda Police Depts. began 1st responder defibrillation programs.
- Antioch Ambulance Company ceased all operations 7/99.
- Contra Costa Fire began fire/medical dispatch for Pinole, Rodeo, Hercules, and Crockett-Carquinez Fire.

2000

- All Moraga-Orinda Fire EMS response vehicles staffed with paramedics.

- **Impact Evaluation Study** conducted including two public hearings prior to the March closing of Doctor's Medical Center, Pinole Campus emergency department.
 - All fire/medical dispatch centers provide fire/ambulance dispatch using Medical Priority Dispatch System.
 - Year 1 of a 2-year State grant to develop an **EMS for Children** program.
 - Additional Contra Costa Fire **ALS engines** in Concord (1) and Baypoint (1).
- 2001**
- **EMS for Children Plan** developed for Contra Costa through 2-year grant funding.
 - Mt. Diablo Medical Center ceased providing EMS base hospital services in 2/01.
 - Mt. Diablo Medical Center no longer providing obstetric and neonatal services.
 - El Cerrito **paramedic engine program** implemented to serve Kensington and areas in the El Cerrito hills with long ambulance response times.
 - Kensington and Brentwood Police implemented **first responder defibrillation programs**.
 - County Trauma System Plan updated to reflect changes in California Trauma regulations and requirements.
 - Mt. Diablo Medical Center closed its in-patient obstetrics/neonatal services in July.
 - **Office of Justice Planning grant** (\$300,000) used to purchase mass decontamination, communications, and personal protective equipment for use by fire and other agencies responding to a major hazardous materials incident.
 - Purchased computer equipment for Health Services Operations Center using funds provided through two State Health Department grants (\$27,000).
 - **Bioterrorism Workgroup** appointed by Health Services to plan/train for response to terrorist events.
 - Regional Disaster Medical Health Response staff funded full-time by State EMSA.
 - ReddiNet system implemented that provides a **communications link among hospitals and EMS Agencies** in Alameda and Contra Costa Counties.
 - Opened **EMS website** providing online access to EMS policies, protocols and other EMS-related information.
- 2002**
- Implemented Department of Justice **fingerprint background checks** on all EMT-I certification and recertification applicants.
 - East Diablo, Oakley, and Bethel Island Fire Protection Districts combined to form East Contra Costa County Fire Protection District.
 - Second AMR first responder paramedic unit established in Bethel Island as replacement for Bethel Island Fire paramedic engine.
 - Fitch and Associates retained to conduct **paramedic engine feasibility assessment**.
 - West County Dispatch Center (Richmond Police) accredited as EMD **Center of Excellence** by National Academy of Emergency Medical Dispatch.
 - Initial work with the American Heart Association on it's **Operation Heartbeat** and a local Public Access Defibrillation (PAD) program
 - Year 1 of State grant "**Medical Education for Drug Safety**" carried out by John Muir Medical Center Injury Prevention staff through the EMS Agency.
 - Developed and implemented a **Paramedic Interfacility Transfer (CCT-P)** Program that allows specially trained paramedics to transport critical, but stable patients from hospital to hospital for specialized procedures or higher level of care.
 - Implemented a countywide post market evaluation of Medtronic-Physio-Control CR Plus defibrillator.
 - Revised **EMS Aircraft policies and procedures** for classification, authorization, request for, transport criteria and field operations.

- 2003**
- Contra Costa County Fire Dispatch Center accredited EMD **Center of Excellence** by National Academy of Emergency Medical Dispatch.
 - Fitch report available describing how fire paramedic engines can be more fully integrated into the EMS response system including possible steps that could make funding available.
 - Tenet announces that it will terminate its Doctors San Pablo management contract with the West Contra Costa Health Care District.
 - County Mental Health makes policy changes that restrict ED physicians from writing 72-hour psychiatric holds (5150's). Based on EMCC recommendation, a mental health committee convened to address education, data collection and review necessary for ED physicians to resume this responsibility.
 - Reciprocal agreement with Alameda County for **Paramedic Interfacility Transfer** Programs.
 - Year 2 of State grant "**Medical Education for Drug Safety**" carried out by John Muir Medical Center Injury Prevention staff through the EMS Agency.
- 2004**
- Implemented **National Registry of Emergency Medical Technician's exam** as the approved EMT-I certification exam
 - West County citizens voted to provide tax money for the West Contra Costa County Health Care District to help keep Doctors San Pablo open.
 - Rodeo Hercules Fire Protection District implemented a **first responder paramedic program**.
 - Implemented a comprehensive countywide **quality improvement plan**.
 - Entered into a reciprocal agreement with Alameda County for **interfacility transfer paramedics**.
 - Developed a comprehensive plan for integration of paramedic first responder and ambulance services in those areas of the county covered by private ambulance services.
 - Coordinated a competitive **Request for Proposal process** for emergency ambulance service in areas of the County served by a private provider American Medical Response. Proposals submitted by AMR and StarWest ambulance. AMR recommended by Health Services to the Board of Supervisors.
 - Conducted an EMS related **cultural disparity project** along with American Medical Response
 - Began a **public access defibrillation (PAD)** project. Set up a PAD program within the EMS office.
 - Participated in **mass flu immunization clinics** through out the county with public health personnel.
 - Initiated a revised trauma system and center review process.
 - First annual Contra Costa EMS educational conference
 - Conducted an impact analysis for possible closure of Doctors San Pablo.
- 2005**
- Pinole Fire Department implemented a **first responder paramedic program**.
 - American Medical Response awarded a 5 to 9 year contract for emergency ambulance services.

X. EMS & Related Abbreviations

Abbreviations

AIS	Abbreviated Injury Score
ACLS	Advanced Cardiac Life Support
ALS	Advanced Life Support
AED	Automatic Electronic Defibrillator
BLS	Basic Life Support
BTLS	Basic Trauma Life Support
CCT	Critical Care Transport
CPR	Cardiopulmonary Resuscitation
CDC	Center for Disease Control and Prevention
CAD	Computer Aided Dispatch
D-MAT	Disaster Management Assistance Team
EMSA	Emergency Medical Services Authority
EMS	Emergency Medical Services
EMT-I	Emergency Medical Technician-I
EMT-P	Emergency Medical Technician-Paramedic or Paramedic
EOC	Emergency Operating Center
ERA	Emergency Response Area
HRSA	Health Resources and Services Administration
HEICS	Hospital Emergency Incident Command System
ICS	Incident Command System
LEMSA	Local EMS Agency
MTV	Major Trauma Patient
MICN	Mobile Intensive Care Nurse
MCI	Multicasualty Incident
NDMS	National Disaster Medical System
NREMT	National Registry of Emergency Medical Technicians
OES	Office of Emergency Services
PAD	Public Access Defibrillation
PEPP	Pediatric Education for Prehospital Providers
PIE	Public Information and Education
PSAP	Public Safety Answering Point
RDMHC	Regional Disaster Medical/Health Coordinator
RDMHS	Regional Disaster Medical/Health Specialist
SARS	Severe Acute Respiratory Disease ()
SEMS	Standardized Emergency Management System
WMD	Weapons of Mass Destruction

XI. Glossary of EMS Terms

EMS Terms

- **Abbreviated Injury Score (AIS):** A scale created to describe anatomical injuries resulting from trauma. For each body region, a severity code is assigned which describes injuries as minor, moderate, serious severe, critical, maximum injury with little chance of survival, and unknown. The AIS is universally accepted and is the foundation for the Injury Severity Score.
- **Advanced Cardiac Life Support (ACLS):** An advanced level certification provided by the American Heart Association generally required for paramedics, emergency nurses and emergency physicians.
- **Advanced Life Support (ALS):** Special services designed to provide prehospital emergency medical care, including, cardiopulmonary resuscitation, cardiac monitoring, cardiac defibrillation, advanced airway management, intravenous therapy, specified drug administration, and other specified techniques and procedures administered by paramedics as part of a local EMS system. Patient care is provided according to EMS Field Treatment Protocols.
- **Air Ambulance:** An aircraft specifically constructed, modified or equipped, and used primarily for responding to emergency calls and transporting critically ill or injured patients. The medical flight crew has at a minimum two attendants certified or licensed in advanced life support.
- **Automatic Electronic Defibrillator (AED):** Automatic or semi-automatic defibrillators assess the patient's cardiac status and provide a shock (or instruct the machine to shock) if needed. AED's, used for several years by first responders, are now being made available in public places by many communities for use by laypersons under Public Access Defibrillations Programs (PAD's). AED's may also be used in hospital and clinical settings where their simple operation may result in a more rapid emergency response.
- **Base Hospital:** One of a limited number of hospitals which, upon designation by the local EMS agency, is responsible for directing the advanced life support (ALS) system and prehospital care system assigned to it by the local EMS agency.
- **Base Hospital Physician:** A physician who is currently licensed in California, who is assigned to a base hospital emergency department, and who is familiar with County EMS system medical protocols, radio procedure and general operating policies, and who may provide medical consultation to ambulance personnel by radio or telephone.
- **Basic Life Support (BLS):** Emergency first aid and cardiopulmonary resuscitation procedures, which as a minimum, include recognizing respiratory and cardiac arrest and starting cardiopulmonary resuscitation (CPR) to maintain life without invasive techniques until the victim is transported or until advanced life support is available.
- **Basic Trauma Life Support (BTLS):** A trauma care course developed by the American College of Emergency Physicians, and required for local paramedics.
- **Blunt trauma:** Injuries that occurs without penetration of the body (e.g. motor vehicle injuries, falls, assaults with blunt instruments).
- **Cardiac Arrest:** A condition where the heart stops beating (asystole) or where it quivers (ventricular fibrillation) and does not pump blood to the rest of the body resulting in death if not corrected. Resuscitation, such as defibrillation, if provided soon enough may save the patient's life in some situations.
- **Cardiopulmonary Resuscitation (CPR):** The procedure of performing artificial respiration and artificial circulation to a non-breathing, pulseless patient.
- **Center for Disease Control and Prevention (CDC):** The Center for Disease Control and Prevention (CDC) is recognized as the lead federal agency for public health.
- **Child Death Review Team:** A confidential forum consisting of representatives of criminal justice, health & social service organizations. Child deaths are discussed to improve the multi-

- agency response to child homicides. The ultimate goal is to reduce child abuse and child death.
- **Code 2:** Used by EMS systems to refer to immediate ambulance responses to potentially urgent but non-life threatening incidents without using red lights and sirens and adhering to all Vehicle Code requirements (speed limits and rights-of-ways).
 - **Code 3:** Ambulance response with red lights/siren to an emergency incident. When responding Code 3, the emergency unit may exceed the posted speed limit within certain constraints and may proceed through red lights without making a complete stop, although the ambulance driver is held responsible for assuring safety for his/her unit and other drivers while doing so.
 - **Computer Aided Dispatch (CAD):** A computer system consisting of associated hardware and software to facilitate call taking; unit selection; resource dispatch and deployment; event time stamping; and real time maintenance of incident database.
 - **County Service Area (CSA) EM-1:** A Special benefit assessment district established by the Board of Supervisors to fund local EMS enhancements.
 - **CRAMS:** A 10-point scale, designed as a prehospital triage tool to be used to identify Critical Trauma Patients. The acronym CRAMS represents five weighted component measures: **C**irculation, **R**espiration, **A**bdomen/Thorax, **M**otor and **S**peech. The scale ranges from 0 (most severe) to 10 (least severe).
 - **Critical Trauma Patient (CTP):** Any patient who meets established field trauma triage criteria and is triaged to a trauma center or is triaged to a closer facility due to trauma center bypass or due to trauma full arrest or unmanageable airway.
 - **Defibrillator:** A piece of equipment which can momentarily arrest all non-coordinated contractions of heart muscle fibers with the use of electric current in order that a spontaneous beat may resume. Hospitals and paramedics (ALS providers) use manually operated defibrillators that require judgment on the part of the rescuer. First responders use automatic or semi-automatic defibrillators that automatically assess the patient's cardiac status and provide a shock if necessary.
 - **Dispatch Center:** Coordinating center for efficient management of all participating emergency resources within a designated area of responsibility. Centers dispatch rescue personnel/equipment, and manage these resources to ensure maximum effectiveness.
 - **Emergency (medical):** A condition or situation in which an individual has a need for immediate medical attention.
 - **Emergency Ambulance Unit:** A vehicle specially constructed, equipped with appropriate medical equipment/supplies, and staffed with qualified personnel for transporting sick or injured patients.
 - **Emergency Department:** The area of a licensed general acute care hospital that receives patients in need of emergency medical evaluation and or care.
 - **Emergency Medical Services Aircraft:** Aircraft used for prehospital emergency patient response and transport. EMS aircraft include air ambulances and all categories of rescue aircraft.
 - **Emergency Medical Services Authority (EMSA):** The State EMS organization that develops standards for local EMS systems and provides coordination and leadership.
 - **Emergency Medical Services Commission:** A State multidisciplinary committee established by State legislation to review and approve regulations, standards, and guidelines, as well as to advise the EMS authority on a variety of issues.
 - **Emergency Medical Services Medical Director:** Licensed physician appointed as local EMS Agency medical director to provide medical control and to assure medical accountability through planning, implementation and evaluation of the EMS system.
 - **Emergency Medical Services System:** A specially organized and coordinated arrangement that provides for the personnel, facilities, and equipment for the effective and coordinated

delivery of medical care services under emergency conditions.

- **Emergency Medical Services System Plan:** A plan for the delivery of emergency medical services consistent with state guidelines addressing components listed in Health and Safety Code Section 1797.103.
- **Emergency Medical Technician-I (EMT-I):** An individual trained in all facets of basic life support and certified by a local EMS Agency within California. In the Contra Costa County EMS system, EMT-I staffed ambulances generally provide back-up to paramedic staffed ambulances, although they may be dispatched to respond to certain requests which have been determined to require only basic life support services.
- **Emergency Medical Technician-Paramedic, EMT-P or Paramedic:** Individual whose scope of practice includes skills and procedures to provide advanced life support as part of an EMS system and who is licensed by the State of California and accredited by the local EMS agency has having met established criteria. In the Contra Costa County EMS system, paramedics are dispatched to all emergency medical requests unless it has been established by the fire/medical dispatch center that a basic life support ambulance is a sufficient level of response.
- **Emergency Nursing Pediatric Course (ENPC):** An educational program developed and sponsored by the Emergency Nurses Association for Emergency Department nurses.
- **Emergency Operating Center (EOC):** Facility designed and equipped for use by city, county or other governmental agency leadership to manage disaster response within area of responsibility.
- **Emergency Response Area (ERA):** An ambulance zone designated by the county for issuing ambulance permits and identifying exclusive operating areas for emergency ambulance service agreements. Contra Costa consists of 5 emergency response areas.
- **Fire/Medical Dispatch Center:** A public Safety Dispatch Center that receives requests to respond to medical emergencies, dispatches medical first responders and initiates ground and air ambulance response.
- **First Responder:** The first EMS rescuer to arrive on the scene of a medical emergency; generally a fire non-transport unit.
- **Health & Safety Code:** State legislation that includes Division 2.5 EMS Statutes.
- **Health Resources and Services Administration (HRSA):** A branch of the U.S. Department of Health and Human Services whose mission is to improve and expand access to quality health care. Grants to assist hospitals prepare for response to bioterrorism and other terrorist threats are available through HRSA.
- **Health Services:** The department of County government responsible for health related issues. The local Board of Supervisors has designated Contra Costa Health Services, which includes the Emergency Medical Services Agency, as the "Local EMS Agency".
- **Hospital Emergency Incident Command System (HEICS):** A crisis management plan, developed expressly for comprehensive medical facilities, that is modeled closely after the Fire Service Incident Command System.
- **Incident Command System (ICS):** A flexible organizational structure that provides a basic expandable system developed by Fire Services to mitigate any size emergency situation. In 1992 California law mandated that emergency responders and emergency planning officials within public service use this system.
- **Injury Severity Score (ISS):** The sum of the squares of the highest AIS codes in each of the three most severely injured body regions. The ISS is one component used in calculating the patient's probability of survival.
- **Local EMS Agency (LEMSA):** The local agency, usually a county health department or office, that has primary responsibility for administration of emergency medical services in a county or

multi-county area.

- **Major Trauma Patient (MTV):** A retrospective determination made by assessing and scoring a patient's injuries using the Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS). In Contra Costa, an ISS of greater than 15 or an ISS of 10 to 14 with a greater than 3 day length of hospitalization is classified as an MTV.
- **Measure H:** The Contra Costa County advisory ballot measure in the Fall of 1988, which, when passed overwhelmingly in each city and in the unincorporated area of the County, advised a special assessment be collected to support EMS programs. It specifically added paramedic ambulances, EMS communications system enhancements, disaster supplies, and enhanced medical training and equipment for fire first-responders.
- **Medical Control:** Medical management of the emergency medical services system. This is done prospectively, e.g., policies and procedures; on-line, e.g., base hospital direction; and retrospectively, e.g., continuing education, case review, and quality improvement activities.
- **Mobile Intensive Care Nurse (MICN) or Authorized Registered Nurse (ARN):** A registered nurse who has been authorized by the medical director of the local EMS agency as qualified to issue instructions to prehospital emergency medical care personnel within an EMS system according to standardized procedures developed by the local EMS agency.
- **Morbidity:** Disability or abnormality resulting from an illness or injury.
- **Mortality:** Any death resulting from injury or illness.
- **Multicasualty Incident (MCI):** Emergency incident involving any number of injured persons that over-taxes rescue and medical resources of responsible agencies within an area of the County.
- **Mutual Aid:** The furnishing of resources from one individual/agency to another, including but not limited to facilities, personnel, equipment and/or services when requested during time of need pursuant to an agreement between individuals/agencies
- **National Disaster Medical System (NDMS):** a cooperative asset sharing partnership created in the mid-1980s between the Department of Health and Human Services, the Department of Defense, the Department of Veterans Affairs and the Federal Emergency Management Agency (FEMA). The system provides medical response to a disaster site of a disaster; patient evacuation, and hospitalization in a national network of hospitals.
- **Office of Emergency Services (OES):** Contra Costa OES is the Sheriff's Emergency Services Division responsible for County's disaster preparedness program and for staffing the County Emergency Operating Center (EOC) during an emergency. State OES, located within the California Department of Homeland Security, performs a similar function at the state level.
- **Operational Area:** A term used in State Standard Emergency Management System (SEMS) to refer to a county and all the local governmental jurisdictions within the county. For example, the Contra Costa operational area includes the County jurisdiction, all of the cities, and all of the special districts within the county.
- **Pediatric Critical Care Center (PCCC):** Licensed acute care hospital that offers specialized pediatric critical care services and acts as regional referral center for critically ill/injured children.
- **Pediatric Education for Prehospital Providers (PEPP):** Course developed by the American Academy of Pediatrics to better prepare prehospital personnel in caring for children.
- **Penetrating:** Any injury that penetrates the skin (e.g. gunshot wounds or stabbings).
- **Probability of Survival:** Statistically defines the patient's chance of surviving sustained injuries. The range of possible values for this probability (referred to as Ps) is from 0.0 to 1.0. A Ps of 0.0 indicates no chance of survival and a 1.0 means predictable survival. The components of Ps are RTS, age ISS and type of injury (blunt or penetrating).
- **Public Access Defibrillation (PAD):** A program sponsored by the American Heart Association

and supported by EMS to make automatic electronic defibrillators (AED's) available in public places for use by laypersons.

- **Public Safety Agency:** A functional division of a public agency that provides fire fighting, police, medical or other emergency services.
- **Public Safety Answering Point (PSAP):** The location where 9-1-1 calls are answered and either appropriate resources are dispatched or the request is relayed to the responding agency.
- **RACES:** Radio Amateur Civil Emergencies Service
- **ReddiNet:** Proprietary system of networking hospitals and county central points for the purpose of sharing information of hospital status and other important information related to the EMS system, multicasualty incidents, and disasters. The ReddiNet system in Contra Costa links hospitals, EMS agencies, and ambulance dispatch centers in both Contra Costa and Alameda Counties. ReddiNet is distributed through the Healthcare Association of Southern California and is in use by a number of other California counties.
- **Regional Disaster Medical/Health Coordinator (RDMHC):** An individual within each OES Region whose principle function is to coordinate the acquisition of medical and health mutual aid in response to a request from the State EMS Authority, Department of Health Services, or Governor's OES in support of state medical/health response to a major disaster.
- **Regional Disaster Medical/Health Specialist (RDMHS):** An individual whose principle function is to assist a regional RDMHC in planning for and coordinating the acquisition of medical and health mutual aid in response to a request from the State EMS Authority, Department of Health Services, or Governor's OES in support of a state medical/health response to a major disaster.
- **Rescue Aircraft:** An aircraft whose usual function is for rescue, but which may be used, in compliance with local EMS policy, for prehospital emergency patient transport when use of an air or ground ambulance is inappropriate or unavailable.
- **Response Time:** The actual elapsed time between receipt of a request for service and the arrival of the ambulance at the requested location.
- **Response Information Reporting System (RIMS):** A statewide, computerized disaster information reporting system.
- **Severe Acute Respiratory Disease (SARS):** A new, highly infectious disease caused by a form of corona virus. The virus is related to one of the common cold causing viruses, but is much more virulent with a death rate estimate by some experts to be around 15 percent. SARS emerged in southern China in late 2002 and rapidly spread to over 30 nations and territories by May 2003. The rapid spread of this virulent disease prompted the World Health Organization to issue travel advisories for China, Hong Kong, Vietnam, Canada, and Taiwan. Public health officials' concern is that SARS may become a pandemic rivaling that of the 1918 influenza.
- **Standardized Emergency Management System (SEMS):** A system required by Government Code for managing response to multi-agency and multi-jurisdictional emergencies in California. SEMS consists of five organizational levels that are activated as necessary: Field Response, Local Government, Operational Area, Region, and State.
- **START:** Acronym for Simple Triage and Rapid Treatment, a procedure adopted by the California Fire Chief's Association.
- **Trauma Care System:** A formally organized arrangement of health care resources, defined by the local EMS Agency, by which severely injured patients are triaged, transported to and treated at designated trauma center(s).
- **Trauma Center:** A licensed general acute care hospital designated by the local EMS Agency as a Level I, II or III Trauma Center. Trauma centers provide staffing and equipment for immediate evaluation and intervention for severely injured patients. John Muir Medical Center is the

designated Level II Trauma Center for Contra Costa County.

- **Trauma System Plan:** A formal plan for the transport and care of critically injured patients. Trauma system plans must be submitted to and approved by the EMS Authority. Contra Costa's Trauma System Plan includes the designation of one level II trauma center within the county.
- **Trauma Triage Criteria:** Method used by ambulance personnel to determine whether an injured patient needs the specialized services of a trauma center. The method considers the mechanism of injury, obvious injuries and other information obtained in a brief patient exam.
- **Triage:** Continuous process of sorting accident victims according to severity of their injuries. Necessary when the number of victims exceeds the number of rescuers or resources available.
- **Weapons of Mass Destruction (WMD):** Include nuclear, biological or chemical weapons, which may be used in terrorist attacks.

XII. Documents Available from the EMS Agency

DOCUMENTS, PLANS AND OTHER EMS INFORMATION

9-1-1 Brochures

County Service Area EM-1 Proposal and Service Plan

Contra Costa Health Services Emergency Plan

Disaster Medical Assistance Team, DMAT CA-6 information

Domestic Violence Assessment Information Sheet (2002)

EMCC By-laws

Emergency Medical Guidelines for Law Enforcement Agencies, 2002

EMS Agency Annual Program Reports

EMS Emergency Operations Procedures

EMS System Plan, Annual Update – Dec 2003

Expanded Medical Emergency Response Procedure

Facilities Assessment, 2002

Message Transmission Network Specification

Multicasualty Cache Supplies and Locations (in MCI Plan)

Multicasualty Incident (MCI) Plan, 1/98

Paramedic Interfacility Transfer Program application packet (2002)

Partners Course

Patient Transfer Guidelines, 1998

Prehospital Care Manual, (December 2004)

Public Access Defibrillation (PAD) packets

Regional Disaster Medical/Health Coordinator Emergency Plan

Request for Proposal for Emergency Ambulance Services, 2004

Request for Proposal for First Responder Defibrillation Equipment, 1991

Request for Proposal for Trauma Center Designation, 1992

Trauma System Plan, 2001

EMS POLICIES

Abuse/assault Reporting
Base Hospital Communications/Disrupted Communications
Communicable Disease Exposure
Contra Costa County Emergency Medical Services Fee Structure
County Paramedic Evaluator
Declining Emergency Care and/or Transport
Determination of Death in the Prehospital Setting
Do Not Resuscitate (DNR) Orders in the Prehospital Setting
Emergency Department Diversion and Unusual Event Notification
EMS Aircraft Policies and Procedures (2002)
EMS System Medical Direction and Oversight
EMT-1 Certification
First Responder Defibrillation
First Responder Paramedic Programs
Hospital Guidelines for Interfacility Transfers via Ambulance
Management of Intravenous Lines and Other Pre-existing Patient Equipment
Managing Assaultive Behavior/Patient Restraint
MICN Authorization and Re-authorization
Paramedic Accreditation
Paramedic Interfacility Transfer (CCT-P) Program Standards (2002)
Paramedic Student Preceptor Program
Patient Destination Determination
Physician on Scene
Prehospital Continuing Education Provider
Prehospital Credential Review Process Guidelines
Prehospital Patient Care Record (PCR)
Search For Donor Card
Transfer of Care in the Field
Transfer of Critical or Possibly Critical Trauma Patients to Trauma Center
Trauma Patients
Unusual Occurrence Reporting

