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Solano County EMS

Trauma System Plan 2010

County of Solano
Emergency Medical Services Agency
Health and Social Services Department
Public Health Division

SOLANO COUNTY
EMERGENCY MEDICAL SERVICES
AGENCY

TRAUMA SYSTEM PLAN

(June 2010)

**SOLANO COUNTY EMERGENCY MEDICAL SERVICES AGENCY
TRAUMA SYSTEM PLAN
(June 2010)**

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Solano County Emergency Medical Services Agency
Description of Trauma Services

Date: June 2010

I. Summary:

This document describes the status of prehospital trauma care in Solano County and is intended to satisfy the requirements of § 100253 et. Seq., of the California Code of Regulations. Solano County does not have any designated trauma centers. While it is possible that at least one Level III Trauma Center could be supported by the current population and trauma experience rate; at this point none of the system hospitals have decided to seek designation as a level III Trauma Center. Recently, several local hospitals have made inquiries of Solano County EMS regarding becoming a Level III Trauma center. Most importantly, there is an organized methodology (Solano County Trauma Triage Algorithm) for the rapid identification of patients likely to benefit from advanced trauma care available at Level II or Level I Centers and functional processes in place to rapidly deliver these patients to said centers. The current model has been in place, operational and functional, since approximately 1996. Policy 5900 (draft) also describes Solano County's trauma system.

In the past 12 years, originally in 1994 through 1996 and again in 2002 through 2004, the concept of designating local hospitals as a trauma center(s) was explored. In each instance, no hospital was willing to take on the burden of formal designation, even at Level III. Solano County has a Level I and Level II Trauma Center in Sacramento and Contra Costa Counties, respectively within approximately 45 minutes via ground transport from most locations in the county. There is an air ambulance base located in the county so air transport to a trauma center is generally available in less than 15 minutes.

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

II. Organizational Structure:

The organizational structure of the Solano County Trauma System is relatively flat. There are five acute care civilian hospitals and one military acute care hospital serving a resident population of approximately 425,000 persons spread out over approximately 800 square miles, albeit the majority is concentrated in several cities. Functionally, the county is divided into a north and east or south and west configuration. In the “north/east” configuration, patients suffering acute and severe trauma, both adult and pediatric, and burn, are taken, to UC Davis hospital in Sacramento, a Level I Trauma Center. In the “south/west” configuration, adult trauma patients are taken to John Muir Medical Center in Contra Costa County, whereas pediatric patients are taken to Children’s Hospital in Oakland. Burn patients are taken to local hospitals and transferred to the appropriate regional burn center.

CITY	ADULTS	PEDIATRIC
Vallejo	<ul style="list-style-type: none"> Victims of major trauma go to John Muir Medical Center (JMMC) 	<ul style="list-style-type: none"> Victims of major trauma go to Children’s Hospital Oakland (CHO)
Benicia	<ul style="list-style-type: none"> Victims of major trauma go to JMMC 	<ul style="list-style-type: none"> Victims of major trauma go to CHO
Fairfield	<ul style="list-style-type: none"> Victims of major trauma go to JMMC 	<ul style="list-style-type: none"> Victims of major trauma go to CHO
Suisun City	<ul style="list-style-type: none"> Victims of major trauma go to JMMC 	<ul style="list-style-type: none"> Victims of major trauma go to CHO
Rio Vista	<ul style="list-style-type: none"> Victims of major trauma go to University of Davis Medical Center (UCD) 	<ul style="list-style-type: none"> Victims of major trauma go to UCD
Vacaville	<ul style="list-style-type: none"> Victims of major trauma go to UCD 	<ul style="list-style-type: none"> Victims of major trauma go to UCD
Dixon	<ul style="list-style-type: none"> Victims of major trauma go to UCD 	<ul style="list-style-type: none"> Victims of major trauma go to UCD

A portion of trauma patients are transported by air to the closest trauma centers. On rare occasions, some patients may be taken Queen of the Valley in Napa, a Level III Trauma Center.

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

III. Needs Assessment:

The last assessment of trauma system needs was conducted in 2003 by Bishop and Associates. In a process funded partly by the California EMS Authority and involving representatives of the Solano County EMS Agency and all civilian hospitals, the feasibility of one or more Level III Trauma Centers was explored. The findings of Bishop and Associates again reaffirmed Solano County did not have the volume of trauma patients to sustain a trauma center. This information is out of date and will be re-evaluated.

One of the local system hospitals has recently expressed an interest in evaluating the possibility of becoming a Level III trauma center. The EMS Agency will analyze their information and determine a course of action based on available data.

Solano County Emergency Medical Services Agency
Description of Trauma Services

Date: June 2010

IV. Trauma System Design:

Solano County has always been interested in an inclusive trauma system design with the objective of matching patients' medical needs with the facility best able to provide the necessary care. The Trauma Plan submitted to the California EMS Authority in 1996 and subsequently incorporated into the County's EMS Plan reflects this position.

Local hospitals still play a role in major trauma care. Licensed acute care facilities, regardless of trauma designation, must still be able to effectively manage, at least to stabilization, many cases which are brought to them outside of the EMS System. It is recognized that the best trauma care will be consistently rendered not locally, but at out-of-county trauma centers. Therefore, Solano's trauma system focuses on the rapid and accurate identification of patients who would likely require the services of such centers.

- **Policy 5800: Use of EMS Aircraft** (attached) addresses "indications for the use of EMS Aircraft, methods and procedures for dispatch, and assigns responsibility for EMS aircraft destination decisions and for communication with the receiving facility. EMS Aircraft are intended to be used in circumstances when patients with traumatic injuries require rapid transport to an out-of-county trauma center, in accordance with the Solano County Trauma Triage Protocol".
- **Policy 5830: Transfer of EMS Patients to/from EMS Aircraft; 2/1/92** (attached) addresses guidelines for safe transfer of ground EMS patients to air EMS personnel.
- **Policy 5900: (DRAFT) Solano County Trauma System** (attached) describes how trauma is generally dealt with in Solano County and the quality Improvement process utilized.
- **Policy 6105: Solano County Prehospital Trauma Triage Plan 11/1/07** (attached) has as it's stated purpose "to develop a system that allows major trauma patients with a high likelihood of benefitting from a Level I/II Trauma Center to bypass local hospitals and be transported to a Trauma Center primarily."
- **Policy 6700: Destination Protocols for Ambulances, 10/5/09** (attached): Indicates its purpose is to "Ensure that patients are transported to the appropriate facility and to establish the on-line medical control responsibilities of the four base hospitals".

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

V. Inter-county Agreements:

At present there are no formal inter-county agreements between Solano County and any trauma centers located outside of Solano County. There may be agreements between local hospitals and out of county hospitals for the purpose of interfacility transfers; however these would be external to the EMS Agency. While there are no formal agreements, there are also no problems, especially with the transfer of patients directly from the field to trauma hospitals. Issues which may arise from time to time are brought to the Agency's attention and are quickly resolved. Because the system is functioning well the Agency has no intention of pursuing formal agreements with the trauma centers.

- Please see attached letters from Contra Costa County EMS (dated Dec 31, 2009) and from Sacramento County EMS (dated Jan 4, 2010) showing concurrence with utilization of their Trauma Centers.

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

VI. Objectives:

The objectives of the Solano County Trauma System will be divided into sections; this will allow the Solano County EMS Agency to develop stronger more measurable objectives:

- A. The local receiving hospitals will provide data to the EMS Agency for evaluation of over / under trauma triage. The data requirements will be determined by the Physicians' Forum and the data source will be from OSHPD. This goal will be accomplished by December 2010.
- B. The EMS Agency will purchase a software program that converts OSHPD data into the Injury Severity Score (ISS) to allow Solano County EMS Agency to evaluate local hospital ISS. This will be purchased no later than January 1, 2011. This data will be in place by June 1, 2011.
- C. Trauma Protocols and Policies will be reviewed and updated as needed by Physicians' Forum biennially.
- D. Solano County EMS will use the new data to evaluate patients' ISS Scores upon arrival at local hospitals and their ISS Scores upon arrival at trauma center hospitals. This data will be available by Sept 1, 2011.
- E. Physicians' Forum will develop definitions and Quality Improvement Indicators by June 1, 2011 to allow evaluation/measurement by the Pre-hospital Trauma Advisory Committee (Pre-TAC).

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

VII. Implementation Schedule:

The trauma system is operational. Review of current trauma calls occurs bi-monthly at the Pre-TAC meeting where statistical trauma information and specific cases are evaluated to provide input for improvement of the trauma system.

The types of cases reviewed are:

- All trauma related death cases,
- All trauma related transfer cases (under-triage to a trauma center),
- Helicopter usage cases especially when selected skills are used such as RSI,
- Selected cases that have trauma system implications, such as the older trauma patient prescribed antiplatelet drug therapy.

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

VIII. Fiscal Impact:

There is some fiscal impact. The Partnership Health Plan of Solano County is a managed care entity covering all Medi-Cal patients in Solano County. The cost of transport to and treatment at trauma centers has been raised as a concern to the Agency.

Solano County Emergency Medical Services Agency
Description of Trauma Services

Date: June 2010

IX. Policy and Plan Development Process:

Trauma system plan development in Solano County utilized a Trauma Advisory Committee as discussed below. A formal trauma plan which included designation of three Level III centers locally was approved by the Solano County Board of Supervisors in 1996 and subsequently sent to the California EMS Authority. Upon review, the California EMS Authority determined that a waiver from the EMS Commission for population was required and agendaized this item at the EMS Commission's August 1996 meeting in Sacramento. The EMS Commission approved the request and Solano County EMS therefore maintains that with that last requirement satisfied, our plan is approved.

The local hospitals subsequently determined that they were not yet prepared to move forward with formal designation. In the meantime, certain elements of the plan, in particular the use of the Trauma Triage Algorithm were implemented. While another major system review was undertaken in 2002 (see Needs Assessment, above), no formal change in the system was made. This Needs Assessment is now almost a decade old and the local receiving hospitals are again evaluating the possibility of becoming Level III trauma center(s).

Two active committees are involved in the on-going evaluation of Solano County's trauma system, Physicians' Forum and Prehospital-Trauma Advisory Committee (Pre-TAC).

- Physicians' Forum is concerned with the development of policies, procedures, and protocols, including review and modification of the trauma triage algorithm. This committee is comprised of all hospital and provider physician medical directors, the EMS Agency Medical Director, Base Hospital Liaisons, and EMS Agency staff.
- Pre-TAC includes the membership of Physicians' Forum plus representatives of EMS Aircraft services and the CQI Coordinators of all ALS providers. The Pre-TAC committee focuses on the implementation of policies, procedures and protocols and makes recommendations to Physicians' Forum for consideration. They also discuss system utilization and appropriate designation of patients as trauma/non-trauma. Please see attached Pre-TAC Meeting Agenda from Oct 15, 2009).
- Physicians' Forum meets on a monthly basis while Pre-TAC meets every other month, alternating with the PCC/CQI Committee.

The EMS Agency Administrator and the EMS Agency Medical Director sign off on all policies. These are presented as informational items to the Solano EMS Cooperative (SEMSC) Board of Directors as needed at their regular quarterly meetings.

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

X. Data Collection

The EMS Agency collects data as required by Section 100176 of the EMT-P regulations. In addition, the Agency also collects, specific to trauma, the following data elements:

- Glasgow Coma Score (GCS)
- Local hospital unavailable
- Penetrating wound to face, head, neck, chest, or abdomen
- Suspected pelvic fracture
- Mechanism of injury
- Needs neurosurgical intervention
- Major thoracic injury (e.g., flail chest)
- Long bone fracture
- Paramedic impression
- Respiratory rate <10 or >29
- Abdominal pain with rigidity
- Major near or complete amputation
- Neck pain without neurological findings
- Signs of circulatory compromise
- Urological injury
- Major soft tissue injury

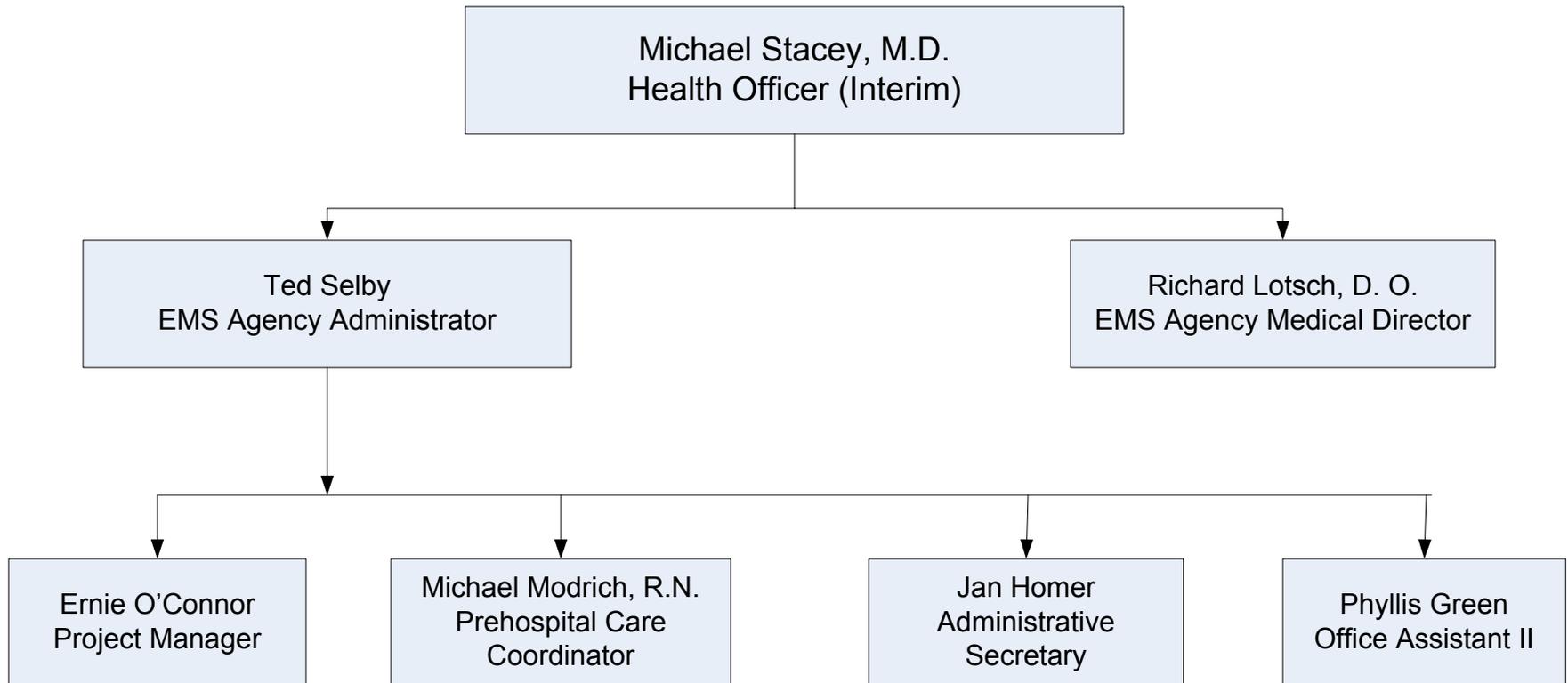
This data is provided by the trauma centers and is summarized and reported at the bi-monthly Pre-TAC Meeting.

**Solano County Emergency Medical Services Agency
Description of Trauma Services**

Date: June 2010

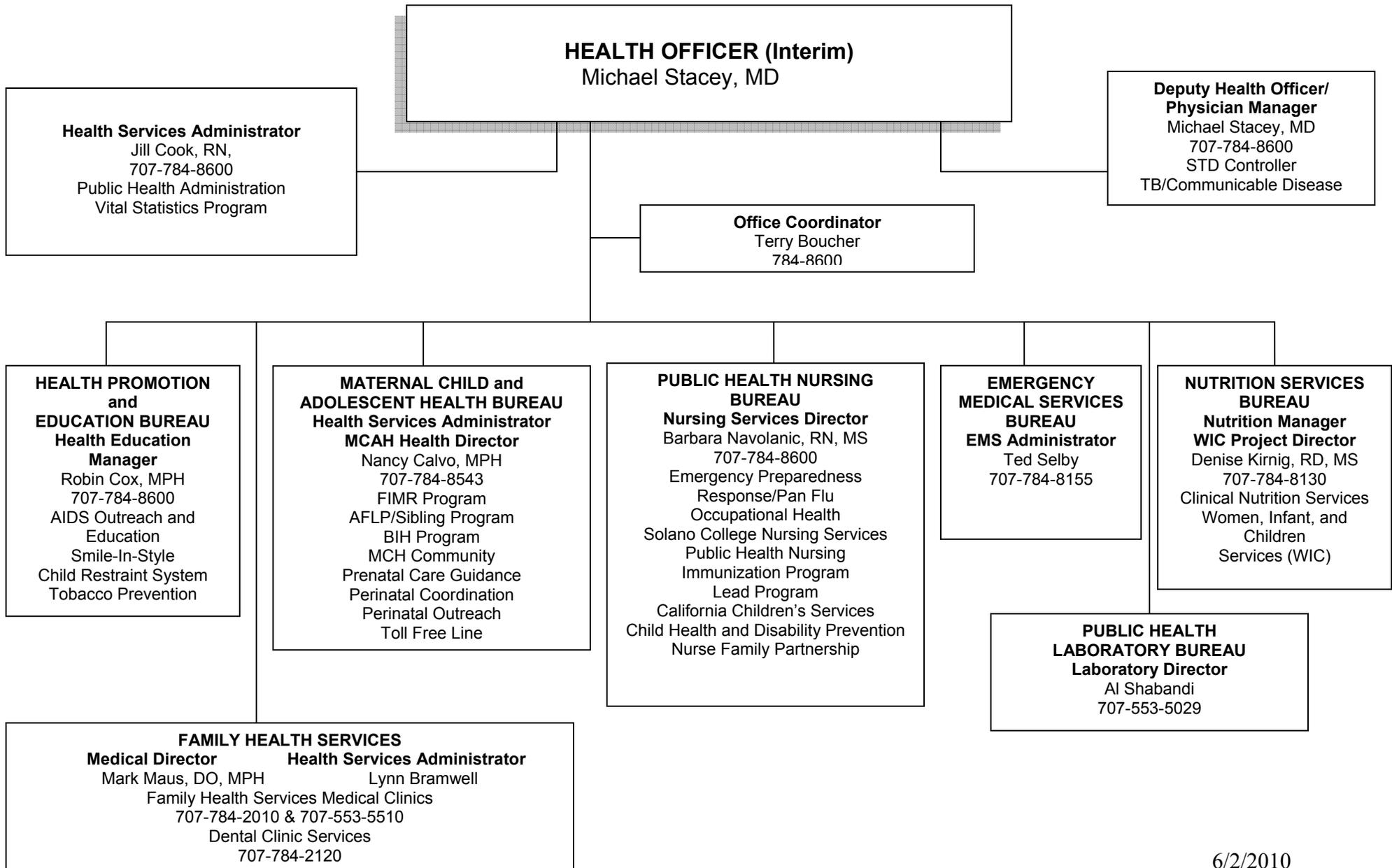
Attachments

1. Solano County EMS Organizational Structure
2. Solano County Public Health Organizational Structure
3. Solano County SEMSC Organizational Structure
4. "Trauma Care Systems Plan Preparation & Implementation (1/31/04)
4. Policy 5800 (Use of EMS Aircraft)
5. Policy 5830 (Transfer of EMS Patients to/fm EMS Aircraft)
6. Policy 5900 (Solano County Trauma System)
7. Policy 6105 (Solano County Prehospital Trauma Triage Plan)
8. Policy 6105 Atch 1 (Trauma Triage Algorithm) Draft 1
9. Policy 6700 (Destination Protocols for Ambulances) latest draft
10. Inter-County Agreements
11. Pre-TAC Committee Agenda (Sample)
12. Solano County "Zone C"
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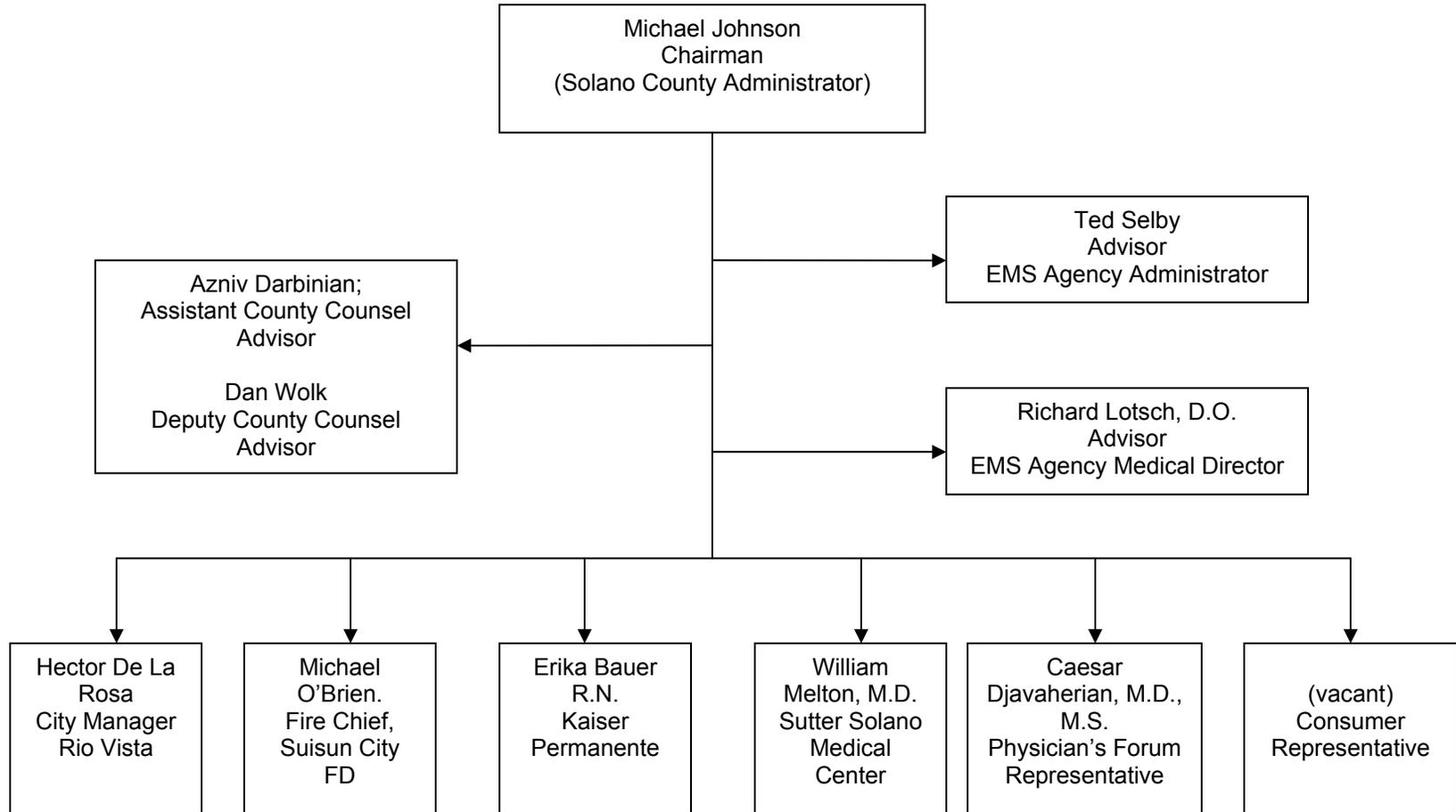


HEALTH and SOCIAL SERVICES DEPARTMENT

Public Health Division



ORGANIZATIONAL CHART
SOLANO COUNTY EMERGENCY MEDICAL SERVICES COOPERATIVE
(SEMSC)
BOARD OF DIRECTORS



Solano County Health & Social Services Department



Mental Health Services
Public Health Services
Substance Abuse Services
Older & Disabled Adult Services

Eligibility Services
Employment Services
Children's Services
Administrative Services

Patrick O. Duterte, Director

EMERGENCY MEDICAL SERVICES AGENCY

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Michael A. Frenn
EMS Agency Administrator

Steven P. Whiteley, M. D.
EMS Agency Medical Director

POLICY MEMORANDUM 5800

DATE: 11/29/2007

REVIEWED/APPROVED BY:


STEVEN P. WHITELEY, M.D., EMS AGENCY MEDICAL DIRECTOR


MICHAEL FRENN, EMS AGENCY ADMINISTRATOR

SUBJECT: USE OF EMS AIRCRAFT

AUTHORITY: CALIFORNIA ADMINISTRATIVE CODE, TITLE 22, CHAPTER 6, SECTIONS 100206 – 100228.

PURPOSE/POLICY:

This policy outlines indications for the use of EMS aircraft, methods and procedures for dispatch, and assigns responsibility for EMS aircraft destination decisions and for communication with the receiving facility. EMS aircraft are intended to be used in circumstances when patients with traumatic injuries require rapid transport to an out-of-county trauma center, in accordance with the Solano County Trauma Triage Protocol.

I. DISPATCH

- A. Dispatch of EMS Aircraft to (911 calls) within Solano County shall be initiated by the County's EMS Aircraft "Designated Dispatch Center" (currently Solano County Sheriff's Dispatch Center). Requests for dispatch of an EMS Aircraft will originate with the incident commander following an assessment which takes into consideration the patient's medical condition along with logistical factors:
1. Scene safety, which requires an LZ which is located within reasonable proximity and is safe for both air and ground crews.
 2. Patient weight within aircraft limits, non-combative, free of hazardous materials or fumes.

3. EMS aircraft availability within a time frame which would be estimated to result in a marginally shorter arrival time at the trauma center E. D. of at least 10 minutes over ground response and transport.
 4. Medical needs which are either particularly time sensitive or requiring the specialized skills of a flight nurse:
 - a. Deteriorating mental status
 - b. Unstable vital signs
 - c. Potential for unstable airway
 - d. Amputations, excluding digits, with potential for reattachment
- B. The Dispatcher's decision regarding which aircraft to send shall be in accordance with the rotational protocol established by the EMS Agency (Attachment B).
- C. EMS aircraft should be requested when the overall response to and transport from the scene to an appropriate hospital facility is estimated to be at least 10 minutes faster when compared to ground response and transport.
- D. Solano County Dispatch will provide the following to the aircraft dispatch:
1. Location
 2. Requesting Agency
 3. Nature of Request
- E. Aircraft dispatch should contact the Requesting Dispatch Agency to obtain additional information which may include:
1. Number of patients, type and extent of injuries or illness, estimated weight;
 2. Landing site information (if possible);
 3. Coordinates
 4. Landmarks identifiable from the air;
 5. Terrain and obstacles (e.g., wires & poles in the immediate area).
 6. On-scene Unit Designator;
 7. Significant on-scene weather conditions.

II. CRITERIA FOR SIMULTANEOUS DISPATCH

A. No ALS Ground Ambulance immediately available

Those areas in Solano County that would directly benefit from simultaneous EMS Aircraft Dispatch include the Thomas Bros. map pages and coordinates (see Attachment A).

B. The Dispatcher at the designated EMS Aircraft Dispatch Center should consider the following criteria in making the decision to simultaneously dispatch EMS aircraft.

INJURY CRITERIA	MVA CRITERIA
<ul style="list-style-type: none"> ➤ ALS Ground ambulance response >20 min. ➤ Victim is unconscious; ➤ Penetrating injury chest/abd/head/neck ➤ Falls of 15 feet; ➤ Explosion or blast injuries; ➤ Partial/full amputation, excluding digits; ➤ Major Electrocution (lightning strike, high voltage) 	<ul style="list-style-type: none"> ➤ ALS Ground ambulance response >20 min. ➤ Unrestrained, crash speed >35mph; ➤ Vehicle rollover; ➤ Victim entrapment; ➤ Victim ejection; ➤ Motorcycle victim ejected speed >20mph; ➤ Pedestrian struck by vehicle speed >20mph ➤ Multiple victims.

III. LANDING SITES

A. There are three (3) types of landing sites to be utilized by EMS aircraft:

1. Sites chosen at or near the scene of an incident;
2. Pre-designated landing sites.
3. Heliports and/or airports.

IV. COMMUNICATIONS

A. Equipment

1. All EMS aircraft will be equipped, at a minimum, with radio equipment approved by the EMS Medical Director upon recommendation of the Director of Solano County Communications Department. At a minimum, EMS Aircraft must have the capability of communicating with Solano County Central Dispatch and ground units using Fire I, CALCORD 1 and CALCORD 2

B. Channels

1. EMS Aircraft Providers shall utilize and maintain medical communications with local EMS first responders, EMS providers and Base Hospitals as specified by the EMS Agency

C. Protocol

1. Requests for EMS Aircraft will be made from responding units to their respective Dispatch Center.
2. Dispatch centers will notify Solano Dispatch of the need for service and include:

- a. Location of call;
 - b. Nature of call;
 - c. On-scene unit designator
3. Once enroute, EMS Aircraft Dispatch will notify the requesting agency dispatch (not Solano Sheriff's Office).
 4. As soon as possible, responding aircraft will utilize the following communications:
 - a. FIRE 1 for radio communications while enroute;
 - b. CALCORD for on-scene communication;
 - c. FIRE 2 if CALCORD is unavailable.

V. CANCELLATION OF RESPONSE

EMS Aircraft Response may be cancelled by the most medically qualified on-scene EMS personnel in conjunction with the scene commander when it is determined that:

- A. The patient does not meet trauma triage criteria and/or their clinical condition doesn't warrant EMS Aircraft transport.
- B. Ground ambulance transportation is more appropriate (i.e. because of delay in air ambulance response, proximity of a receiving hospital, etc.).
- C. A patient refuses to be transported by air ambulance;
- D. A patient refuses medical aid and/or transportation;
- E. Transport of the patient presents a danger to the flight crew.
- F. Pilot determination based on flight operations and/or environmental conditions.

VI. EMS AIRCRAFT OPERATIONAL DISPATCH

- A. Each authorized EMS air ambulance/rescue service shall maintain an operational dispatch center 24 hours/day; 7days/week. The dispatch center shall be able to immediately confirm the provider's ability to respond to an EMS incident upon notification by Solano County Dispatch Center. The EMS aircraft operational dispatch center will monitor the status of area receiving trauma facilities. The dispatch center and the responding aircraft will jointly determine the closest (as measured by flying time) available trauma facility, and will communicate patient information to the destination facility.
- B. Operational Log
The EMS aircraft service shall maintain a log and/or records of all EMS aircraft requests from all requests for EMS aircraft originating in Solano County. The minimum data to be recorded and submitted to the Agency on a monthly basis and shall include:
 1. Date

2. Time of notification by the Solano County Dispatch Center
 3. Time the EMS aircraft is enroute
 4. Time of arrival at scene
 5. Time of departure from scene
 6. Time of arrival at receiving facility
 7. Time available and/or time call was terminated when services were not needed
 8. Who requested the service and/or who cancelled the service
 9. For each request for service that was not responded to, the factors which caused the termination of the request.
- C. EMS Aircraft shall comply with all requirements specified in applicable agreements, contracts, policies or procedures issued by the Agency.

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SUBJECT: USE OF EMS AIRCRAFT

POLICY: 5800
DATE: 11/29/07

ATTACHMENT A

THE THOMAS BROS. MAP PAGES & COORDINATES

Map Page		Map Page	
373		392	
374		939	
375		394	
376		395	Except the incorporated areas of Dixon
412	A & B, 1 thru 7 C & D, 1 thru 5	432	B thru &, 1 & 2
414	Except A thru E, 1 thru 4	434	B thru E, 1 thru 5 F, G, H, J, 1 thru 7 E, F, G, H, J 1 & 2
415			
450		470	A & B, 1 thru 6, and ALL of Glencannon Dr.
451		471	
454			
490	G, 4 thru 7 H & J, 1 thru 7	510	A, 1 thru 3
491	A, B, C, 1 thru 4	511	To include Blue Rock and Hidden Brook Golf Courses.
493	E thru J, 1 thru 7	516	Except the incorporated areas of Rio Vista
		531	

SUBJECT: USE OF EMS AIRCRAFT

POLICY 5800
ATTACHMENT "B"
DATE: 12/3/2009

DATE: 12/1/2009

HELICOPTER ROTATION SCHEDULE

ZONE 1	Fire districts include:
Ryer Island,	Isleton FD Isleton Fire Protection District
AIR AMBULANCE CALL ORDER	
CALSTAR 8 – Vacaville	
CALSTAR 1 – Concord	
REACH 3 – Concord	
REACH 2 – Stockton	
CALSTAR 3 – Auburn	
CHP – H30	

ZONE 2	Fire Districts include:
Dixon Fire District	City of Vacaville Vacaville Fire District
City of Dixon	Fairfield Montezuma
Rio Vista	Suisun District City of Suisun
Cordelia	CDF west of Cordelia
AIR AMBULANCE CALL ORDER	
CALSTAR 8 – Vacaville	
CALSTAR 1 – Concord	
REACH 3 – Concord	
REACH 2 – Stockton	
Reach 1 – Santa Rosa	
CHP – H30	

ZONE 3	Fire districts include:
Vallejo	Benicia Delta
AIR AMBULANCE CALL ORDER	
CALSTAR 1 – Concord	
REACH 3 – Concord	
CALSTAR 8 – Vacaville	
REACH 1 – Santa Rosa	
REACH 2 – Stockton	
CHP – H30	



Health Services Department

Public Health Division

Donald R. Rowe, Director

Thomas L. Charron, M.D., M.
Health Officer
Assistant Director

EMERGENCY MEDICAL SERVICES

POLICY MEMORANDUM #5830

EFFECTIVE DATE: 02/01/92

APPROVED BY:

THOMAS L. CHARRON, M.D., M.P.H., SOLANO COUNTY HEALTH OFFICER, EMS MEDICAL DIRECTOR

REVIEWED BY:

STEVEN G. KAVLINSKI, M.D., F.A.C.E.P., ASSISTANT EMS MEDICAL DIRECTOR

SUBJECT: TRANSFER OF EMS PATIENTS TO/FROM EMS AIRCRAFT

AUTHORITY: CALIFORNIA CODE OF REGULATIONS, TITLE 22, CHAPTER 6, § 100206 – 100228; CALIFORNIA HEALTH & SAFETY CODE 1798.170.

PURPOSE/POLICY:

To establish guidelines for the safe transfer of ground EMS patients to air EMS personnel.

I. GROUND/AIR TRANSFER

Ground EMS crews may transfer a patient to the flight crew of an EMS Rescue Aircraft when it is determined that rapid transport is a prime therapeutic intervention for the patient. It is the primary responsibility of the dispatch center to dispatch the most highly trained and staffed available EMS aircraft when requested.

II. MOST QUALIFIED PERSONNEL

If it is determined that EMS Rescue Aircraft personnel are less medically qualified than ground personnel, the appropriate base hospital will be contacted to determine whether or not the EMS rescue flight crew is capable of transporting the patient.

III. GUIDELINES WITHOUT BASE CONTACT

If base hospital contact is impossible, the following guidelines shall assist in the decision-making process whether or not the patient is transported by air.

- A. EMT-IIs on Air ALS rescue aircraft are capable of monitoring but not initiating field treatment provided by EMT-Ps or MICNs.
- B. EMT-Is on BLS rescue aircraft are capable of monitoring but not initiating field treatment provided by ALS ground crews.
- C. EMS rescue aircraft may allow ground EMS providers to be transported with the patient. The EMS provider going with the aircraft is considered a passenger assisting the patient and is not a member of the flight crew.
- D. Air/Ground Refusal – With Base Hospital contact and direction, an Air Ambulance crew may deem the patient(s) unacceptable for air transport, and may turn care back over to the ground crew.

POLICY MEMORANDUM 5900

DATE: Draft

REVIEWED/APPROVED BY:

RICHARD C. LOTSCH, D.O., EMS AGENCY MEDICAL DIRECTOR

TED SELBY, EMS AGENCY ADMINISTRATOR

SUBJECT: SOLANO COUNTY TRAUMA SYSTEM

AUTHORITY: CALIFORNIA HEALTH & SAFETY CODE, DIVISION 2.5, Section 1797.220 and 1798.163.

PURPOSE/POLICY:

This policy shall provide the basic outline of the Trauma System in Solano County including but not limited to, trauma system design, participants, Trauma Center geographic service areas, trauma data collection, analysis and management, coordination of trauma care with neighboring jurisdictions and quality improvement and evaluation.

I. DEFINITIONS:

- A. Trauma Center Level I or Level II:** Designation received by a hospital after under going extensive review from the Local EMS Agency and complying with the appropriate State of California regulations. These hospitals will provide trauma data to Solano County EMS Agency
- B. Pediatric Trauma Center:** Designation received by a hospital after under going extensive review from the Local EMS Agency and complying with the appropriate State of California regulations. These hospitals will provide trauma data to Solano County EMS Agency
- C. Receiving Hospital:** Is a system hospital with a Basic Emergency Department as defined in the appropriate State of California regulations.

II. OVERVIEW OF SOLANO COUNTY TRAUMA SYSTEM:

Is a medium sized county with a population of approximately 420,000 located in the Bay Area region of California. The county has five community hospitals and one military hospital providing care to the residents. There are no adult or pediatric trauma centers within Solano County. Some of the system hospitals have expressed interest in exploring the feasibility of becoming a level III trauma center. The closest Level I and Level II Adult trauma centers are located in adjacent counties of Contra Costa and Sacramento. The closest pediatric trauma centers are located in Sacramento and Alameda Counties. Based on the Solano County Trauma Triage criteria the most severe trauma cases are transported via ground or air ambulance to the trauma centers. Those patients who do not meet the Solano County Trauma Triage criteria are transported to a local hospital for assessment and treatment. Solano Trauma Triage criteria was developed with input from all of the constituents of our EMS system taking in to consideration all of the available research at the time. This document is reviewed periodically by the EMS Agency Medical Director and other groups. The Physician’s Forum (physician advisory group to the Medical Director) and Prehospital Trauma Audit Committee (Pre-TAC) (formally Helicopter Utilization Review Committee (HURC)) provide information on quality improvement, policy and procedure to the Solano County EMS Agency Medical Director.

A. TRAUMA CENTER CATCHMENT BY SOLANO COUNTY CITIES:

Generally trauma patients living in the following cities have this geographic distribution:

CITY	ADULTS	PEDIATRIC
Vallejo	<ul style="list-style-type: none"> Victims of major trauma go to John Muir Medical Center (JMMC) 	<ul style="list-style-type: none"> Victims of major trauma go to Children’s Hospital Oakland (CHO)
Benicia	<ul style="list-style-type: none"> Victims of major trauma go to JMMC 	<ul style="list-style-type: none"> Victims of major trauma go to CHO
Fairfield	<ul style="list-style-type: none"> Victims of major trauma go to JMMC 	<ul style="list-style-type: none"> Victims of major trauma go to CHO
Suisun City	<ul style="list-style-type: none"> Victims of major trauma go to JMMC 	<ul style="list-style-type: none"> Victims of major trauma go to CHO
Rio Vista	<ul style="list-style-type: none"> Victims of major trauma go to University of Davis Medical Center (UCD) 	<ul style="list-style-type: none"> Victims of major trauma go to UCD
Vacaville	<ul style="list-style-type: none"> Victims of major trauma go to UCD 	<ul style="list-style-type: none"> Victims of major trauma go to UCD
Dixon	<ul style="list-style-type: none"> Victims of major trauma go to UCD 	<ul style="list-style-type: none"> Victims of major trauma go to UCD

B. PHYSICIAN’S FORUM:

This is an advisory group of emergency physician and system Medical Directors who provide feedback on trauma care and policies and protocols dealing with trauma to the EMS Agency Medical Director. See Policy 1790

- C. **PRE-TAC**
See committee description in Section V-A-1.
- D. **TRAUMA DATA COLLECTION**
Solano County EMS Agency works with our trauma center partners to collect trauma data elements pursuant section 100257 and 100176.

III. COORDINATION WITH NEIGHBORING TRAUMA CARE SYSTEMS FOR QUALITY IMPROVEMENT:

- A. Trauma centers located in neighboring jurisdictions are responsible for conducting quality improvement activities in accordance with the requirements of their designating local EMS agency.
- B. Representatives from trauma centers located in neighboring jurisdictions are invited to:
 - 1. Participate in the Solano County EMS Agency Pre-TAC;
 - 2. Submit trauma reports and analysis regarding patients received from Solano County to the Solano County EMS Agency as appropriate; and
 - 3. Notify the Solano County EMS Agency of unusual occurrences or other significant matters.
- C. The Solano County EMS Agency shall endeavor to develop inter-county trauma system agreements which allow Trauma Review Committee members to actively participate in the trauma QA-QI activities of neighboring trauma care systems.

IV. GENERAL TRAUMA FIELD OPERATIONAL CONCEPTS:

- A. Solano County Paramedic will follow the Solano County Trauma Triage Protocol to when determining a trauma patient's destination. Mode of transportation will be base on the following factors, but is not an inclusive list of considerations: time of the day, day of the week, traffic, scene location, distance to the trauma center, and resources availability.
- B. After the destination and mode of transportation decision have been made transport will be to the geographically close hospital or trauma center.

V. TRAUMA SYSTEM QUALITY IMPROVEMENT AND EVALUATION:

Quality Improvement and evaluation of the Trauma Plan must be focused on directed to focus on two primary objectives of the system: providing optimal care for trauma patients and reducing injuries through education and prevention. The trauma system quality improvement and evaluation will be done by a multi-disciplinary approach involving: the local BLS and ALS providers, local receiving hospitals, and receiving trauma centers with their feed back directed to the appropriate individual, agency or committee.

The EMS Agency has developed several committees to provide input into the trauma care of patients in Solano County. They are Pre-TAC and Physicians' Forum. Pre-TAC will be described late in this policy; Physicians' Forum is described in Policy 1790. Subcommittees or Ad Hoc committees may be formed at the discretion of the main committee to evaluate and make recommendations on specific issues.

Evaluation parameters will be developed by the EMS Agency, with input from various EMS Advisory committees. These parameters will include, at a minimum, measurements of trauma on-scene time and transport times, evaluation of helicopter transports, determination of over triage and under triage rates, common mechanism of injury, determination of preventable deaths, complications, average patient ages, lengths of stay, ICU days and discharge status.

The groups which provide quality improvement over site and evaluate will produce new or up date specific policy as data is collected to support the change or new policy. Education information will be shared by the attendees to their respective agency in keeping with the signed confidentially statement.

A. PREHOSPITAL – TRAUMA AUDIT COMMITTEE (PRE-TAC)

The Pre-TAC will be the one of the committees to evaluate the trauma system in Solano County. The committee will evaluate the cumulative trauma data the EMS Agency collects and selected case which will have some benefit for the various providers in our system.

1. PRE-TAC COMPOSITION: The Pre-TAC shall be chaired by the Solano County EMS Agency Medical Director.

- The Pre-TAC membership shall include but is not limited to:
- Solano County EMS Agency Staff
 - EMS Medical Director
 - EMS Administrator
 - Prehospital Care Coordinator
 - EMS Project Manager
 - Other EMS Staff as directed
- Other Local EMS Agencies Staff in contiguous counties
 - EMS Medical Director
 - EMS Administrator
 - Prehospital Care Coordinator
- Solano County Base Hospital Staff:
 - Base Hospital Medical Director
 - Base Hospital Liaison Nurse
- Trauma Centers Located outside Solano County
 - Trauma Program Medical Director
 - Trauma Program Nurse Coordinator
- Solano County ALS Providers and Air Ambulance Providers
 - Operations Manager or EMS Battalion Chief
 - CQI Coordinators
 - Paramedics or other care providers on selected cases
- Other Invited Guests as approved by the Committee chair person.

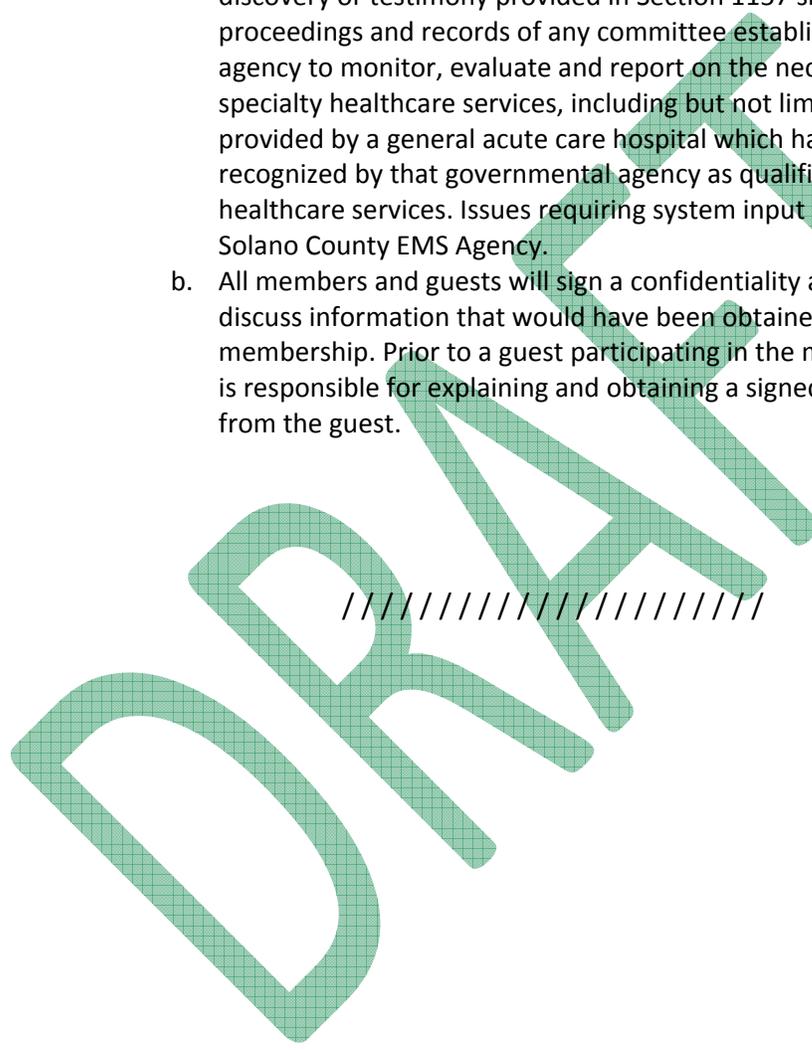
2. PRE-TAC CASE SELECTION:

Case presented at the Pre-TAC meeting will be selected by the prehospital care coordinator in conjunction with the EMS Medical Director. In general and based on the allotted time for the Pre-TAC meeting the following types of cases but not limited to

will selected: trauma death cases, patients transported to local hospital and subsequently transferred to a trauma center, patients with ISS scores of ≤ 10 and LOS of ≤ 3 , patients discharged from the trauma center in less than 24 hours.

3. PRE-TAC CONFIDENTIALITY:

- a. All proceedings, documents and discussions of the Pre-TAC, and its subcommittees are confidential and protected under Sections 1040 and 1157.7 of the Evidence Code of the State of California. The prohibition relating to discovery or testimony provided in Section 1157 shall be applicable to proceedings and records of any committee established by a local governmental agency to monitor, evaluate and report on the necessity, quality and level of specialty healthcare services, including but not limited to trauma care service, provided by a general acute care hospital which has been designated or recognized by that governmental agency as qualified to render specialty healthcare services. Issues requiring system input may be sent in total to the Solano County EMS Agency.
- b. All members and guests will sign a confidentiality agreement not to divulge or discuss information that would have been obtained solely through Committee membership. Prior to a guest participating in the meeting, the Committee Chair is responsible for explaining and obtaining a signed confidentiality agreement from the guest.



Solano County Health & Social Services Department



Mental Health Services
Public Health Services
Substance Abuse Services
Older & Disabled Adult Services

Eligibility Services
Employment Services
Children's Services
Administrative Services

Patrick O. Duterte, Director

EMERGENCY MEDICAL SERVICES AGENCY

275 Beck Ave., MS 5-240
Fairfield, CA 94533

(707) 784-8155 FAX (707) 421-6682
www.solanocounty.com

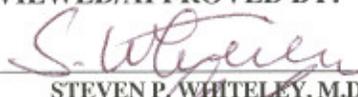
Michael A. Frenn
EMS Agency Administrator

Steven P. Whiteley, M. D.
EMS Agency Medical Director

POLICY MEMORANDUM 6105

EFFECTIVE DATE: 11/01/2007

REVIEWED/APPROVED BY:

 <hr/> STEVEN P. WHITELEY, M.D., EMS AGENCY MEDICAL DIRECTOR	9/26/07 <hr/> DATE
 <hr/> MICHAEL A. FRENN, EMS AGENCY ADMINISTRATOR	9/26/7 <hr/> DATE

SUBJECT: SOLANO COUNTY PREHOSPITAL TRAUMA TRIAGE PLAN

AUTHORITY: CALIFORNIA HEALTH & SAFETY CODE, DIVISION 2.5, 1797.220 & 1798.

PURPOSE/POLICY:

To develop a system that allows major trauma patients with a high likelihood of benefiting from a Level I/II Trauma Center to bypass local hospitals and be transported to a Trauma Center primarily.

I. GENERAL CONCEPTS

- A. Trauma Centers improve the outcomes of patients with significant traumatic injuries, i.e., major trauma patients.
- B. Patients with significant traumatic injuries that need to go to the operating room in the first four (4) hours benefit from bypassing local hospitals and being transported to a Trauma Center primarily.
- C. EMT-Ps are trained to apply protocols and judgment to direct appropriate patients to Trauma Centers independently.
- D. Inappropriately high over-triage rates of patients to Level I/II Trauma Centers can impact patient care as much as under-triage by limiting access of this limited resource to other trauma patients.

- E. In order to reduce over-triage and thereby improving access of Level I/II Trauma Centers to major trauma patients, a staged triage system will be utilized.
- F. Mechanism of Injury is a poor predictor of patients benefiting from Level I/II Trauma Center services and generally increase over-triage.
- G. The use of air ambulances is considered separately from the trauma triage decision. Air ambulances may benefit patients injured in locations distant from regional trauma centers, and/or in need of immediate procedures available to flight nurses but outside the scope of practice of EMT-Ps. The use of air ambulances is not the default method of transport of major trauma patients to Level I/II Trauma Centers. Aircraft should only be used when they supply a measurable advantage to ground transport. Use of air ambulances is covered in Policy 5800.
- H. Major Trauma Patients are an exception to the Destination Policy requiring local Base Hospital contact prior to transporting a Solano County EMS patient out of Solano County.
- I. This policy does not apply to Multi-Casualty Incidents (MCIs).

II. PATIENTS LIKELY TO BENEFIT FROM LEVEL I/II TRAUMA CENTER SERVICES

- A. Major trauma patients exhibiting abnormal vital signs.
 - 1. Hypotension with a systolic blood pressure less than 90 mmHg.
 - 2. Tachycardia of greater than 120 beats per minute.
 - 3. Respiratory rate less than 10 or greater than 30 beats per minute.
 - 4. Pediatric trauma patients with vital signs that are abnormal for their age.
- B. Major trauma patients with high likelihood of benefiting from neurosurgical services.
 - 1. Glasgow Coma Scale of 12 or less.
 - 2. Pediatric trauma patients less than 2 years old with any decrease in mental status.
- C. Major trauma patients with anatomic injuries.
 - 1. Focal neurological deficit.
 - 2. Rigid abdomen.
 - 3. Pelvic fracture demonstrated by instability or crepitus.
 - 4. Two or more long bone fractures;
 - 5. Amputation of limb proximal to wrist or ankle.
 - 6. Penetrating injury to head, neck, torso or extremities proximal to elbow or knee.
- D. Major trauma patients with Mechanism of Injury highly suggestive of significant injury.

1. Ejection from car or motorcycle found more than 10 feet from vehicle;
2. Fall greater than 15 feet;
3. Steering wheel with more than 6 inches of deformity.

III. PARAMEDIC IMPRESSION

If the primary paramedic feels that a patient not meeting criteria as a major trauma patient has injuries which may exceed the capabilities of the usual receiving hospital, and might therefore benefit from immediate transport to a trauma center, then the case should be discussed with the base hospital physician at either NorthBay Medical Center (north county patients) or Kaiser Hospital Vallejo (south county patients). Based on that discussion, the patient will either be transported to a trauma center or brought to NorthBay Medical Center (north county patients) or Kaiser Hospital Vallejo (south county patients).

IV. PATIENTS UNLIKELY TO BENEFIT FROM DIRECT LEVEL I/II TRAUMA CENTER TRANSPORTATION

- A. Major trauma patients in cardiac arrest;
- B. Major trauma patients without a controlled airway;
- C. Rapidly deteriorating major trauma patients with a transport time to a Level I/II Trauma Center greater than 30 minutes.

V. MAJOR TRAUMA PROCEDURES

- A. The primary EMT-P will determine whether a patient meets criteria for transporting directly to a Level I/II Trauma Center and bypass local hospitals.
 1. The primary EMT-P will determine the most appropriate mode of transportation to the Trauma Center.
 - a. If transportation is to be by ground, the Transporting Unit's Dispatching Agency will confirm that the appropriate Trauma Center is open to trauma patients.
 - b. If transporting by air ambulance, the Air Ambulance Dispatch will determine the Trauma Center destination.
 2. The Transporting Unit will contact the designated Trauma Center and advise them of their impending arrival. Non-Solano County hospitals are not authorized to give online medical instructions/orders.
- B. Trauma patients not assessed as a major trauma patient shall be treated using standard EMS Treatment Protocols and transported to a local receiving facility within Solano County.

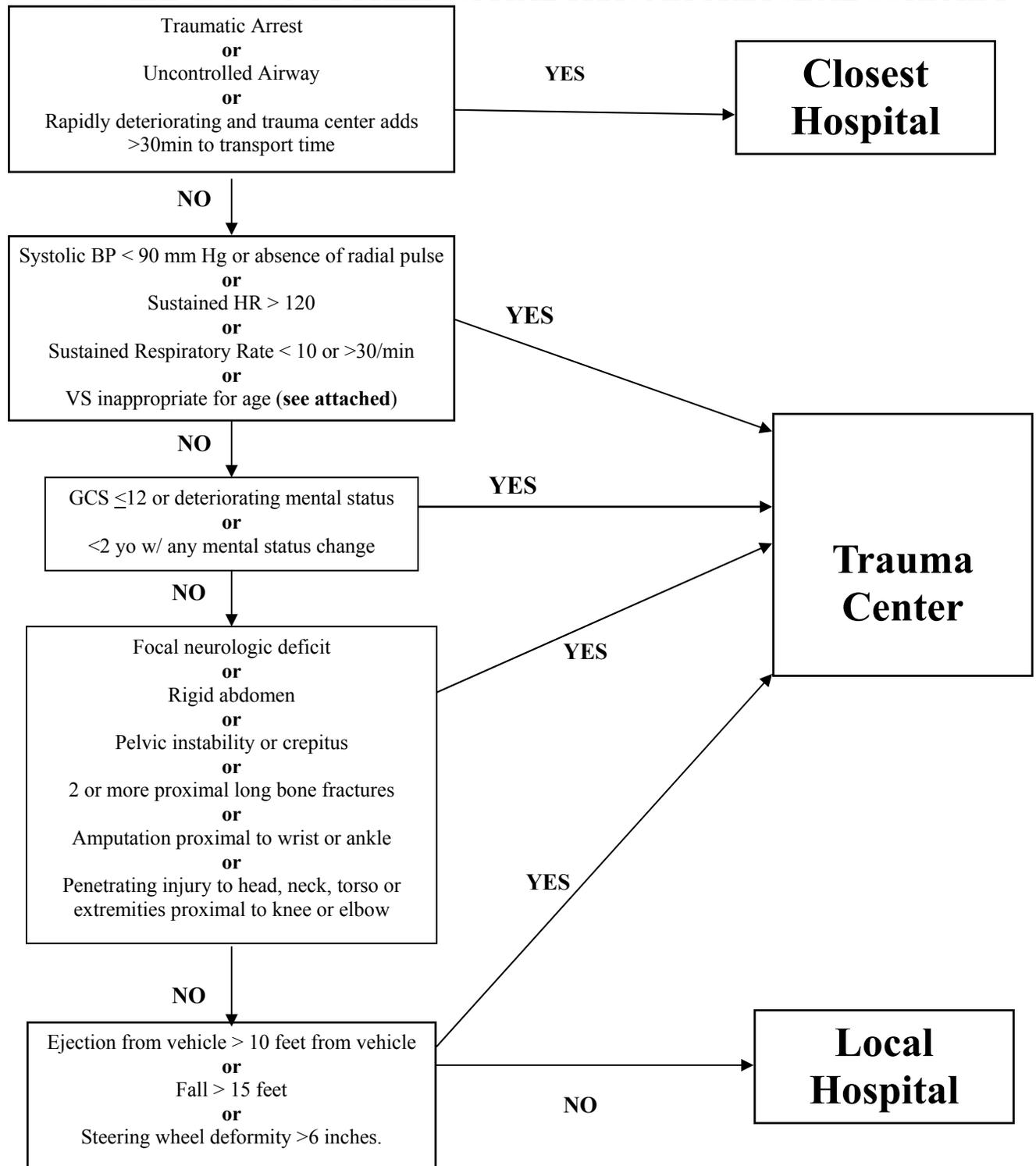
VI. QUALITY IMPROVEMENT MONITORING AND STANDARDS

All EMS cases classified as Major Trauma Cases will be audited by the EMS System. EMS Audit Criteria will include compliance with the following standards 95% of the time:

- A. All patients who are assessed as benefiting by direct transport to a Level I/II Trauma Center shall be charted a major trauma patient on the Pre-hospital Patient Care Report Form.
- B. The maximum on-scene time interval should not exceed fifteen (15) minutes, excluding cases requiring extrication.
- C. The time between contacting the receiving Trauma Center and arrival at that hospital shall be a minimum of five (5) minutes.

////////////////////////////////////

SOLANO COUNTY PREHOSPITAL TRAUMA TRIAGE ALGORITHM



Patients meeting these criteria are considered major trauma patients that should be transported to the nearest available Level I/II Trauma Center by the most appropriate, safe, and expeditious method of transport. Patients who do not meet these criteria may be transported to the facility of their choice in accordance with Solano County EMS Policy #6700.

If the primary paramedic feels that a patient not meeting criteria as a major trauma patient has injuries which may exceed the capabilities of the patient choice or closest hospital, and would likely benefit from direct transport to a Level I/II Trauma Center, then the case should be discussed with the base hospital physician at either North Bay Medical Center (north county patients) or Kaiser Hospital Vallejo (south county patients). Based on that discussion, the patient will either be transported to a Trauma Center, or brought to North Bay Medical Center (north county patients) or Kaiser Hospital Vallejo (south county patients). **NOTE: The base station physician does not need to be contacted for trauma destination but is always available to assist.**

Pediatric Vitals: threshold for transfer to trauma center

AGE	HR	RR	BP
0 – 6mo	>150	>50	
7 – 11 mo	>140	>40	
1 – 2 yrs	>130	>40	<75/50
2 – 6 yrs	>120	>30	<80/55
6 – 12 yrs	>110	>20	<90/60
12 – 16 yrs	>100	>16	<90/60

A patient over 16 years old may be treated as an adult

Solano County Health & Social Services Department



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Patrick O. Duterte, Director

EMERGENCY MEDICAL SERVICES AGENCY

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www.solanocounty.com

Richard C. Lotsch, D.O.
EMS Agency Medical Director

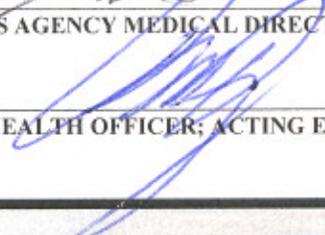
Michael A. Frenn,
Agency Administrator

POLICY MEMORANDUM 6700

EFFECTIVE DATE: 5 Oct. 2009

REVIEWED/APPROVED BY:


RICHARD C. LOTSCH, D.O., EMS AGENCY MEDICAL DIRECTOR


RONALD W. CHAPMAN, M.D., HEALTH OFFICER; ACTING EMS ADMINISTRATOR

SUBJECT: DESTINATION PROTOCOLS FOR AMBULANCES

AUTHORITY: CALIFORNIA HEALTH & SAFETY CODE, DIVISION 2.5, 1797.222

I. PURPOSE/POLICY:

To ensure that patients are transported to the appropriate facility and to establish the on-line medical control responsibilities of the four base hospitals.

II. DEFINITIONS

- A. **Emergency Patient** is defined, for the purpose of this policy, to mean a person who experiences an injury and who is subsequently transported by ambulance on an unscheduled basis.
- B. **Critical Patient** is defined as an emergency patient who is at immediate risk to life or limb as evidenced by one or more of the following circumstances:
1. Cardiogenic, hypovolemic, septic or anaphylactic shock.
 2. Severe respiratory distress and/or need for assisted ventilation.
 3. Coma or severe alteration of mental status.

4. Airway problems when measures available to the prehospital personnel are insufficient to establish and/or maintain a patent airway.
 5. Major trauma patients as defined by Solano County Trauma Triage Guidelines, Policy #6145, if not transported to an out-of-county Trauma Center.
 6. Active labor when delivery is imminent.
 7. Any patient who has a 12-lead EKG which is interpreted to show an acute myocardial infarction.
 8. Any patient with the new onset of CVA symptoms, duration of symptoms must be less than two hours old.
- C. **Non-Critical Patient** is an emergency patient who does not meet the criteria for "critical patient".
- D. **Patient Choice** as used in this section means the chosen destination facility as stated by the patient or surrogate decision maker. If a patient is unable to communicate a choice the prehospital personnel shall use whatever other sources of information that might be available to indicate a pre-existing relationship. In the absence of a stated choice or indications of a usual provider, the patient is considered an undesignated patient.
- E. **Undesignated Patient** is defined to mean a patient (or surrogate decision maker) who does not or cannot choose a destination facility (see item D above).
- F. **Base Hospital** is defined as those receiving hospitals in Solano County which have contracted with the Solano County EMS Agency to provide on-line medical direction to ALS ambulances. The base hospitals in Solano County are:
1. North Bay Medical Center
 2. Kaiser Medical Center-Vallejo
 3. Sutter-Solano Medical Center
 4. VacaValley Hospital
 5. Kaiser Medical Center-Vacaville
- G. **Ambulance Zone A** is defined as the cities of Vallejo and Benicia plus both directions of Interstate 80 west of the American Canyon Road overcrossing, including the overcrossing. Zone A also includes the westbound lanes of I-80 between Red Top Road and the American Canyon Road overcrossing, and both directions of Interstate 680 from Lake Herman Road up to but not including the Parish Road overcrossing.

III. GENERAL

- A. No ambulance shall transport an emergency patient to any facility other than one licensed pursuant to Title 22, California Code of Regulations as having a Basic or Comprehensive Emergency Medical Service.
- B. Patients are entitled to choose the hospital where their care is to be given. With all of the community hospitals participating in giving on-line medical control, in most cases the base hospital guiding their prehospital care will be their chosen facility. With the

exception of situations when the patient requests David Grant Medical Center, the base hospital will also be the receiving hospital.

- C. All patient advisories and requests for physician orders or destination decisions shall be made to the base hospital using the established pre-recorded phone lines. In event of communication failure or inability to contact a physician at the receiving facility, prehospital personnel may contact another base hospital to obtain orders.
- D. In “Ambulance Zone A”, Sutter Solano Medical Center and Kaiser Hospital Vallejo are considered equidistant and will alternate in receiving undesignated patients by date. Kaiser Hospital Vallejo will receive undesignated patients on the odd days of the month; Sutter-Solano Medical Center will receive undesignated patients on even days of the month. The day of the call is determined by the time the call is dispatched. In the event of multiple undesignated patients during a single call, the patients will be divided equally among receiving facilities.
- E. Solano County EMS policy does not allow for ambulance diversion except in cases when a facility is incapacitated or temporarily unable to provide a vital service such as CT scanning. These will be rare events and such redirection should be documented by the Base Hospital using the Unusual Occurrence Form. Hospitals may not divert patients due to problems with staffing or due to problems with hospital or ED bed availability.
- F. In ambulance Zone A, use of out of county trauma centers, mode of transportation and Mass Casualty Incidents will be managed by the Sutter-Solano Medical Center base. In the northeast area of the county outside of ambulance Zone A, use of out of county trauma centers, mode of transportation and Mass Casualty Incidents will be managed by North Bay Medical Center.

IV. DESTINATION PROTOCOLS

- A. Critical patients will be transported to the closest facility regardless of patient preference. Prehospital personnel will contact that hospital for any requested orders and for a patient advisory. If David Grant Medical Center is the closest facility, prehospital personnel will contact North Bay Medical Center or VacaValley Hospital if necessary for physician orders. When transporting a critical patient to David Grant Medical Center the “MedNet” may be used for patient advisory.
- B. Non-critical patients may be transported to the receiving facility of the patient’s choice. In the event that a non-critical patient going to David Grant Medical Center requires additional physician orders (additional morphine, for example), paramedics will utilize North Bay Medical Center or VacaValley Hospital as a base hospital for physician orders. Non-critical patients who do not voice a preference for a receiving hospital, will be taken to the closest non-Kaiser hospital by drive time, unless the scene of the emergency is in Ambulance Zone A, in which case they will be transported to Sutter Solano Medical Center on even numbered days, and to Kaiser-Vallejo Hospital on the odd numbered days of the month (see Section III. D. above).
- C. In the event that a patient does not meet the definition of a critical patient but the evaluating paramedic is concerned that the patient may be unstable for transport to a more distant facility, the paramedic is advised to discuss the case with the base

physician at the facility of the patient's choice. The base hospital physician may then, if appropriate, override the patient's choice destination and direct the ambulance to the nearest receiving facility. In these cases, the base hospital will be responsible for communicating with the receiving facility.

D. Elective Transport Out-of-County

1. Patients requesting transport to receiving facilities in counties adjacent to Solano County which are not the closest receiving facility may be accommodated only if **all** the following circumstances are met:
 - a. Patient is identified as non-critical.
 - b. The patient's chosen facility is open to receive ambulances and is licensed as having Basic or Comprehensive Emergency Services.
 - c. The ambulance provider agency has the capability to provide the requested transport without adversely impacting any of their other responsibilities regarding the 911 response.

#####

WILLIAM B. WALKER, M.D.
HEALTH SERVICES DIRECTOR

ART LATHROP
EMS DIRECTOR

JOSEPH BARGER, M.D.
MEDICAL DIRECTOR



Attachment 10a
CONTRA COSTA
EMERGENCY
MEDICAL SERVICES

1340 Arnold Drive, Suite 126
Martinez, California
94553-1631
Ph (925) 646-4690
Fax (925) 646-4379

December 31, 2009

Mr. Richard Watson, Interim Administrator
Solano Emergency Medical Services Cooperative
275 Beck Avenue, MS 5-240
Fairfield, CA 94544

Dear Richard:

This is to confirm the informal relationship that has existed for some years between Solano County and the Contra Costa County Trauma System in which trauma patients from those areas of Solano for which John Muir Medical Center is the closest trauma center are transported to that facility. Pertinent patient information for all trauma patients received at John Muir is entered into the trauma registry by John Muir staff. Contra Costa EMS maintains access to the John Muir trauma registry and has been providing Solano EMS with a monthly report on Solano patient outcomes. I understand that this process has been working well for both counties and for John Muir. It is our intent to continue providing you this data.

Sincerely,



Art Lathrop

cc: Joseph B. Barger, MD, Medical Director, Contra Costa EMS
Judy Smith, RN, Trauma Coordinator, Contra Costa EMS
Kacey Hansen, RN, Trauma Coordinator, John Muir Medical Center





Countywide Services Agency
Department of
Health and Human Services
Emergency Medical Services
Bruce A. Wagner, Chief

County of Sacramento

Steven C. Szalay,
Interim County Executive
Bruce Wagstaff,
Interim CSA Administrator
Ann Edwards-Buckley, Director

January 4, 2010

Richard E. Watson, Interim Administrator
Solano EMS Cooperative
275 Beck Avenue, MS 5-240
Fairfield CA 94533

Dear Richard,

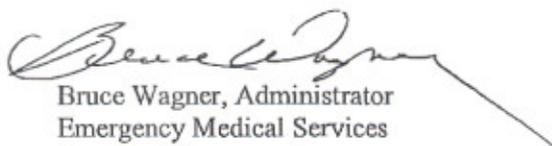
This responds to your recent letter in which you request "a letter from you agreeing to accept our trauma patients, and if at the same time you were to keep track of the patients we send to you and the data on how they were treated."

As you know, since the mid-1980s, the University of California Davis Medical Center (UCDMC) has routinely provided care to major trauma victims from multiple communities in Northern California, including Solano County. Trauma registry data is maintained on all major trauma victims admitted to the UCDMC trauma service. UCDMC routinely reports trauma registry data to Solano County, and attends its bi-monthly Pre-hospital Trauma Advisory Committee meetings. Cheryl Wraa, Trauma Program Manager at UCDMC, has advised me that UCDMC plans to continue these activities.

As an additional note, representative(s) from Solano County EMS have, and continue to be invited to attend our Quarterly Regional Trauma Review Committee (TRC) Meetings here in Sacramento. The next meeting of the TRC is at 1300 hours on February 18th at the M.I.N.D. Institute near UCDMC. Meetings are closed to the public, so please let Cheryl or myself know if someone from Solano County will be attending.

In closing, Solano County may want to consider establishing a more formal trauma relationship with UCDMC in the future. As an example, attached is a copy of a trauma agreement between Sacramento County and Sutter Roseville Medical Center. It's also my understanding that UCDMC has trauma agreements with counties other than Sacramento.

Best Regards,


Bruce Wagner, Administrator
Emergency Medical Services
County of Sacramento

cc: Cheryl Wraa

Attachment (1)

Pre - TAC

Trauma Advisory Committee

October 15, 2009

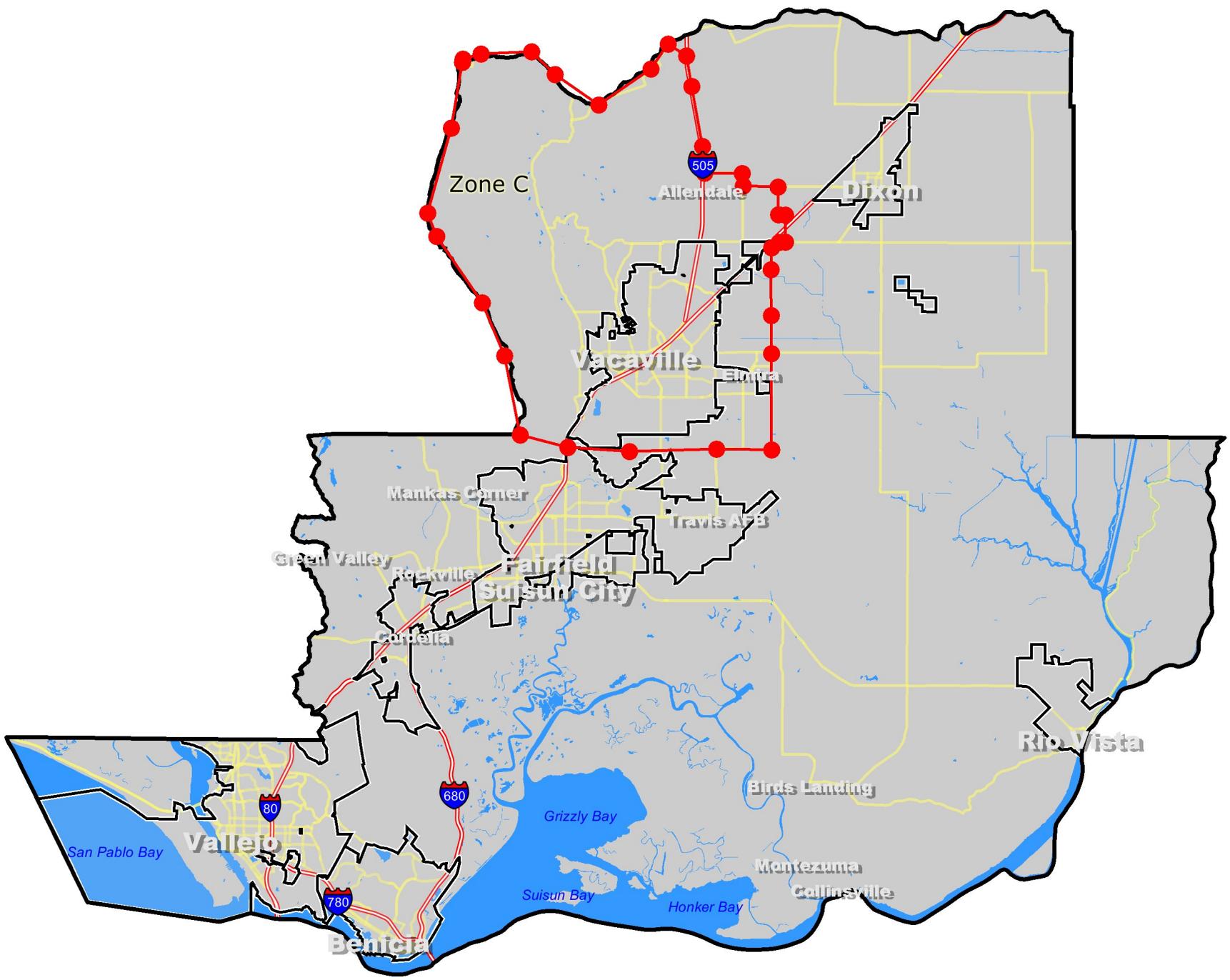
12:00 – 2:00

275 Beck Ave

Conference Room 1

AGENDA

1. Introductions
2. Trauma Center Statistics
3. Trauma Death Review
4. Selected Trauma Case Review
5. Interfacility Trauma Transfers
5. Helicopter Utilization Review
6. Round Table
7. Meeting adjourned; next meeting: December 17, 2009; 12 –2:00pm, Conference Room #1.



SOLANO COUNTY OCT 2008 - SEPT 2009 EMS REPORT

MEDIC COMPLIANCE	EOA Totals
C-3 Subject to Standard (including failed calls)	20600
C-3 Meeting Standard	20333
C-3 Response Failures	267

VACAVILLE FIRE*	TOTAL
911 Requests	5,224

* - Solano County EMS does NOT track Vacaville calls as they provide their own 911 transport in Vacaville

MEDIC ACTIVITY	EOA Total
Code-3 Requests (all)	22913
Code-2 Requests (all)	2527
Total 911 Requests	25440
Cancel En Route	3192
Ambulance Arrive On Scene	22234
Transported	18576

All Solano County 911 Requests	
Medic Ambulance	25,440
Vacaville Fire	5,224
Total 911 Requests	30,664

MEDIC TRANSFER COMPLIANCE	Subject to Standard
Pri 3 ALS	1729
Pri 3 BLS	399
Pri 4 ALS	116
Pri 5 ALS	607
Pri 5 BLS	402
Pri 6 ALS	163
Pri 6 BLS	162
Totals	3578

MEDIC OCT 2008 - SEPT 2009 EMS REPORT

Attachment 13a

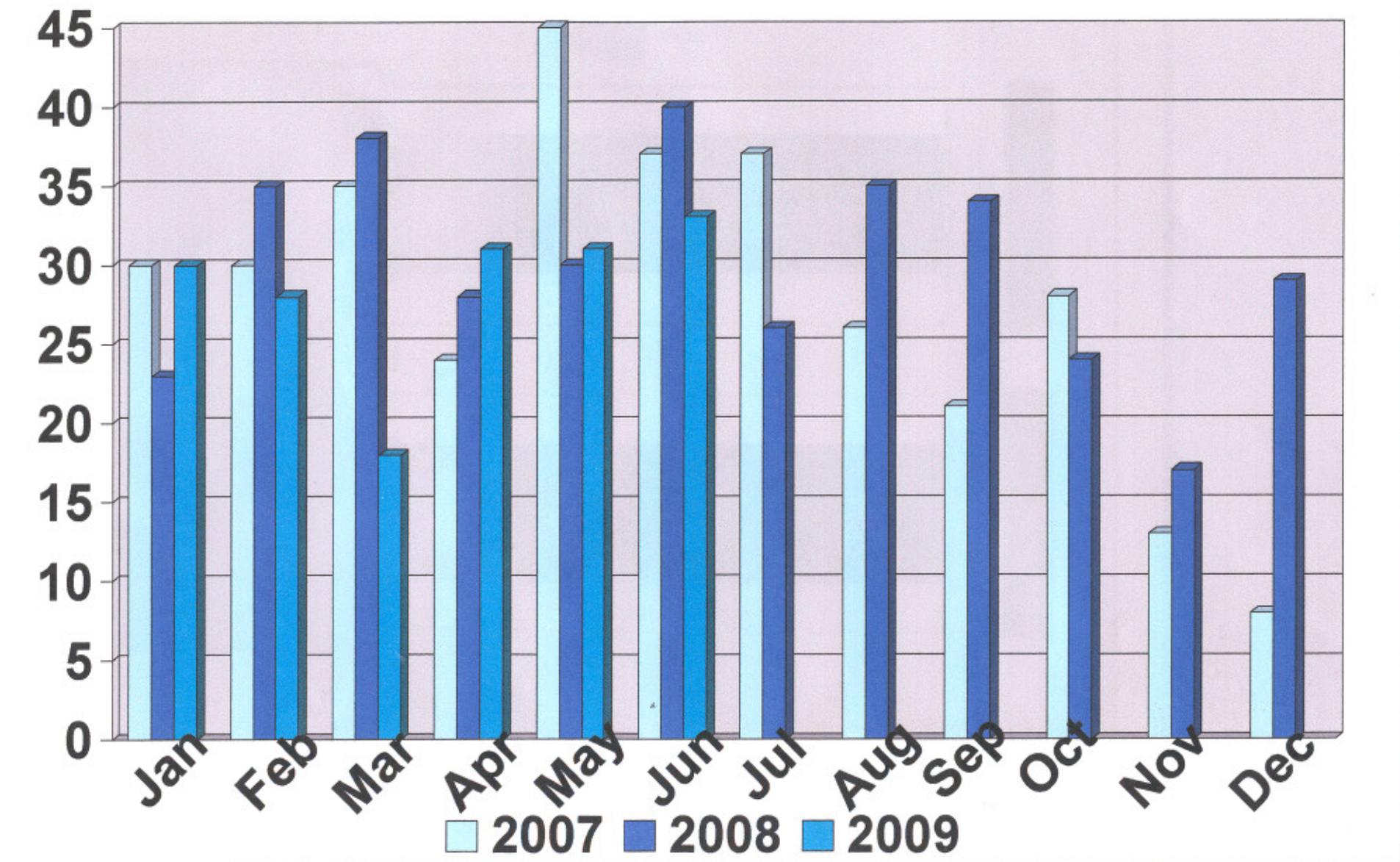
MEDIC COMPLIANCE	Benicia	Dixon	Fairfield	Vallejo	Rio Vista	Suisun City	Urban Totals	Rural @ 15 Min.	Remote @ 90 Min.	EOA Totals
C-3 Subject to Standard (including failed calls)	1280	808	6790	9471	606	1434	20389	103	108	20600
C-3 Meeting Standard	1265	802	6652	9403	600	1405	20127	98	108	20333
C-3 Response Failures	15	6	138	68	6	29	262	5	0	267
Response Time Compliance @ 12 minutes (PPP Cities highlighted)	98.83%	99.26%	97.97%	99.28%	N/A	N/A	98.71%	95.15%	100.00%	98.70%
Response Time Compliance @ 9 Min.(non-PPP Cities highlighted)	85.95%	90.70%	87.80%	91.78%	99.01%	97.98%				
Average Response Time Min/Sec	6:00	5:10	5:45	5:26	4:38	4:29	5:15	12:26	15:00	10:53

MEDIC ACTIVITY	Benicia	Dixon	Fairfield	Vallejo	Rio Vista	Suisun City	Urban	Rural	Remote	EOA Total
Code-3 Requests (all)	1469	913	7672	10369	680	1572	22675	136	102	22913
Code-2 Requests (all)	212	61	1023	1097	53	77	2523	3	1	2527
Total 911 Requests	1681	974	8695	11466	733	1649	25198	139	103	25440
Cancel En Route	165	94	1334	1420	55	116	3184	8	0	3192
Ambulance Arrive On Scene	1395	869	7361	10161	678	1532	21996	130	108	22234
Transported	1028	605	6269	8715	491	1289	18397	104	75	18576

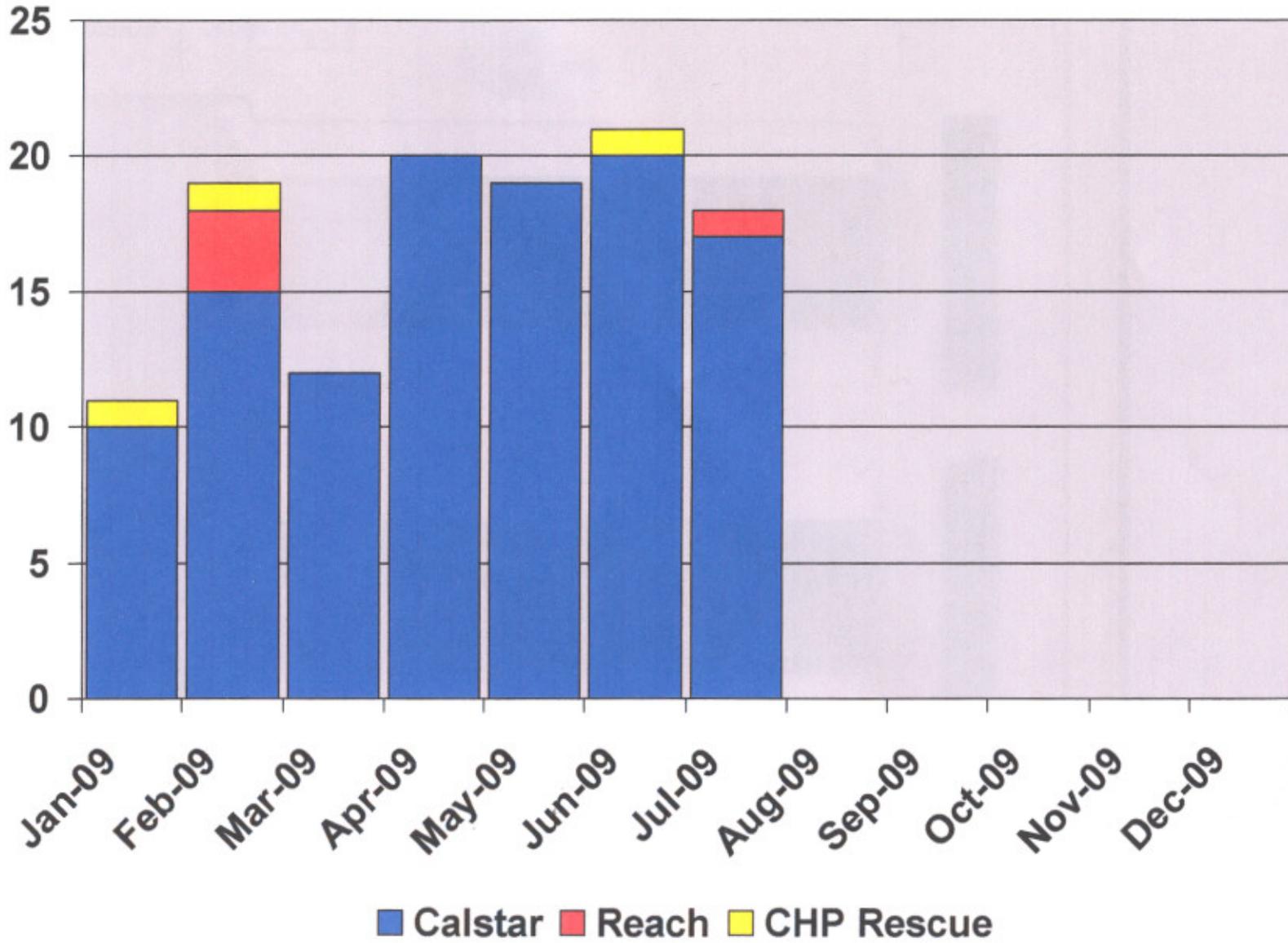
MEDIC OCT 2008 - SEPT 2009 EMS REPORT

MEDIC TRANSFER COMPLIANCE	Subject to Standard	Meet Standard	Fail Standard	Compliance %
Pri 3 ALS	1729	1690	39	97.74%
Pri 3 BLS	399	399	0	100.00%
Pri 4 ALS	116	115	1	99.14%
Pri 5 ALS	607	607	0	100.00%
Pri 5 BLS	402	402	0	100.00%
Pri 6 ALS	163	163	0	100.00%
Pri 6 BLS	162	162	0	100.00%
Totals	3578	3538	40	98.88%

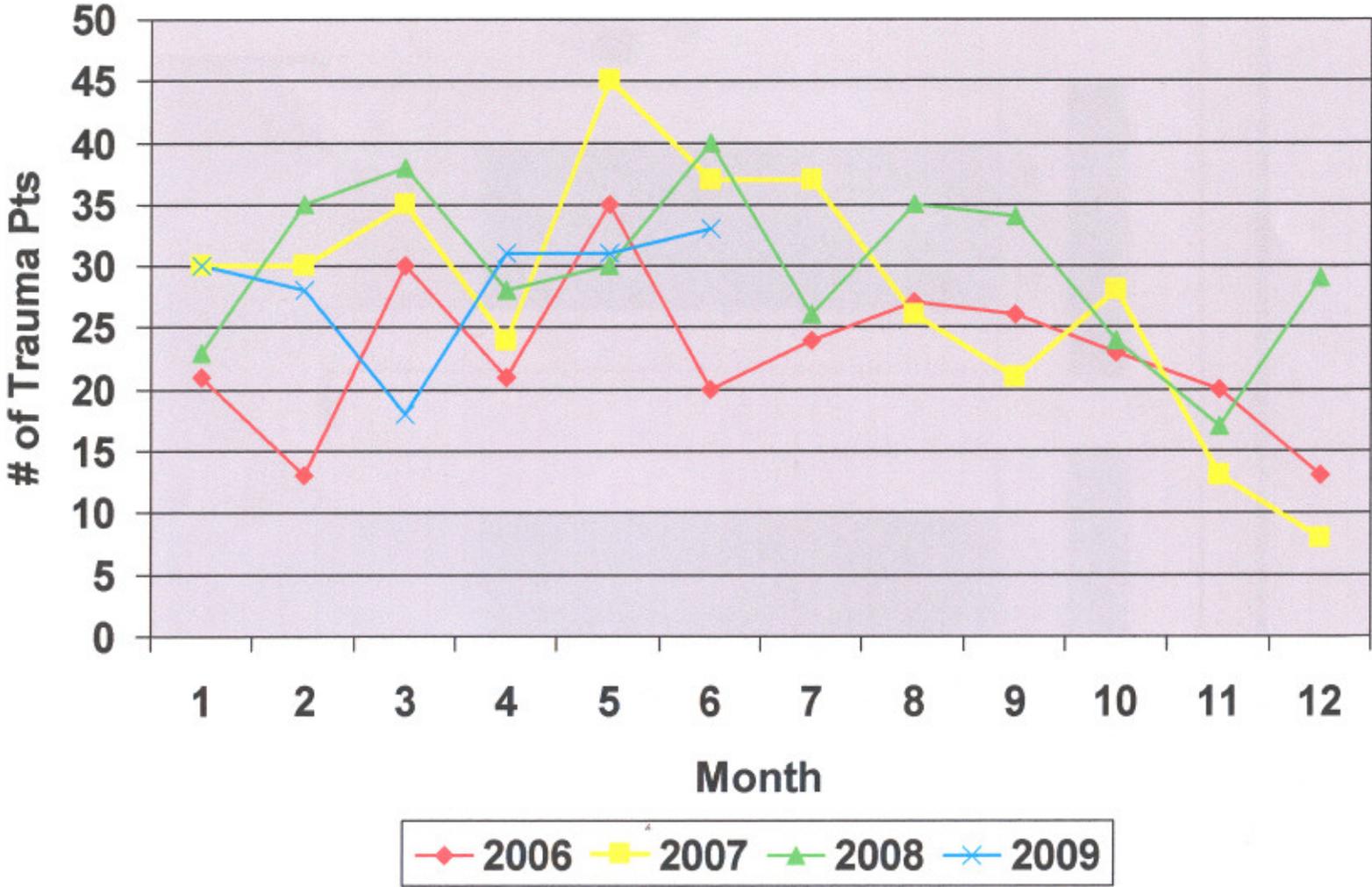
All Trauma Center Usage



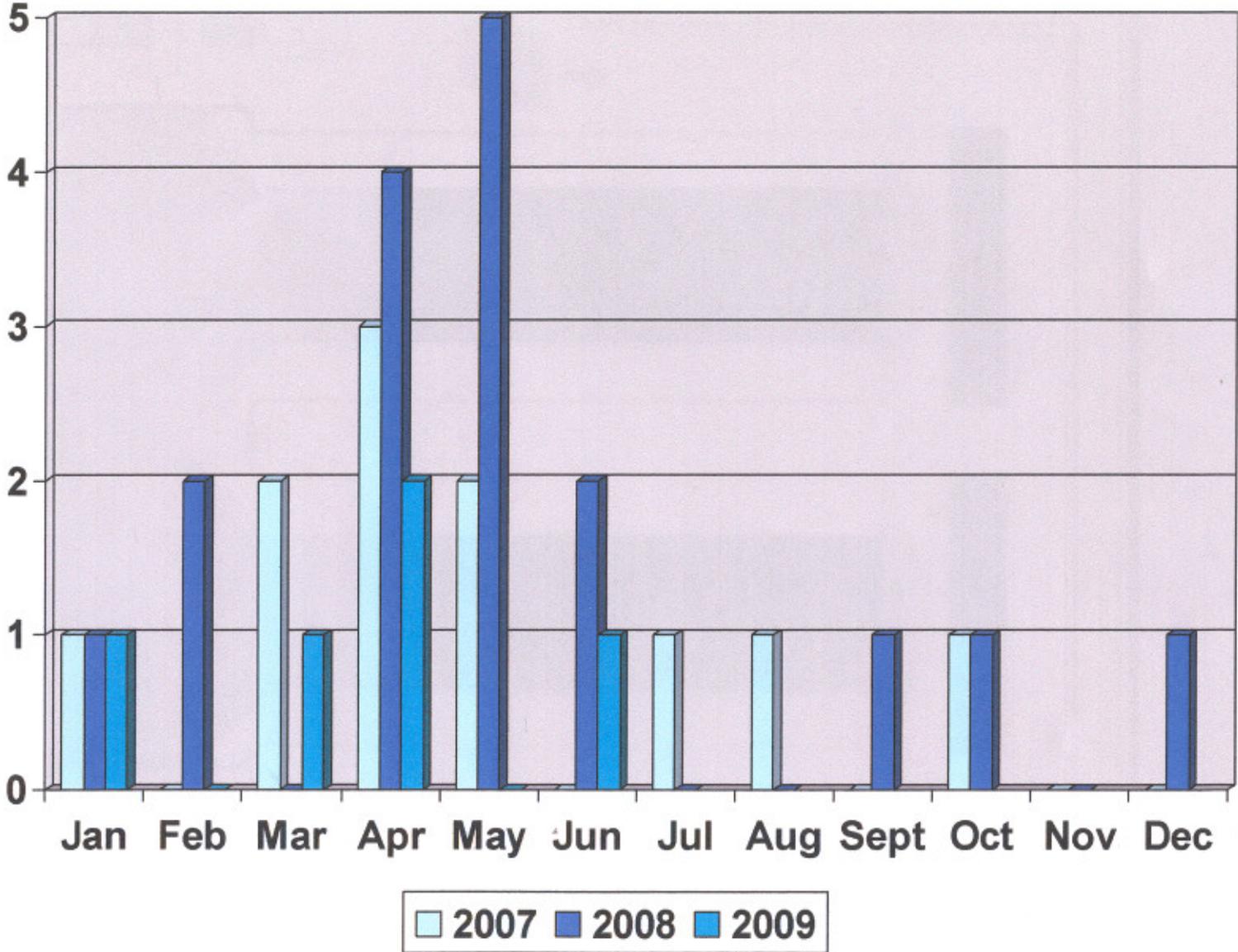
Air Ambulance Vendor



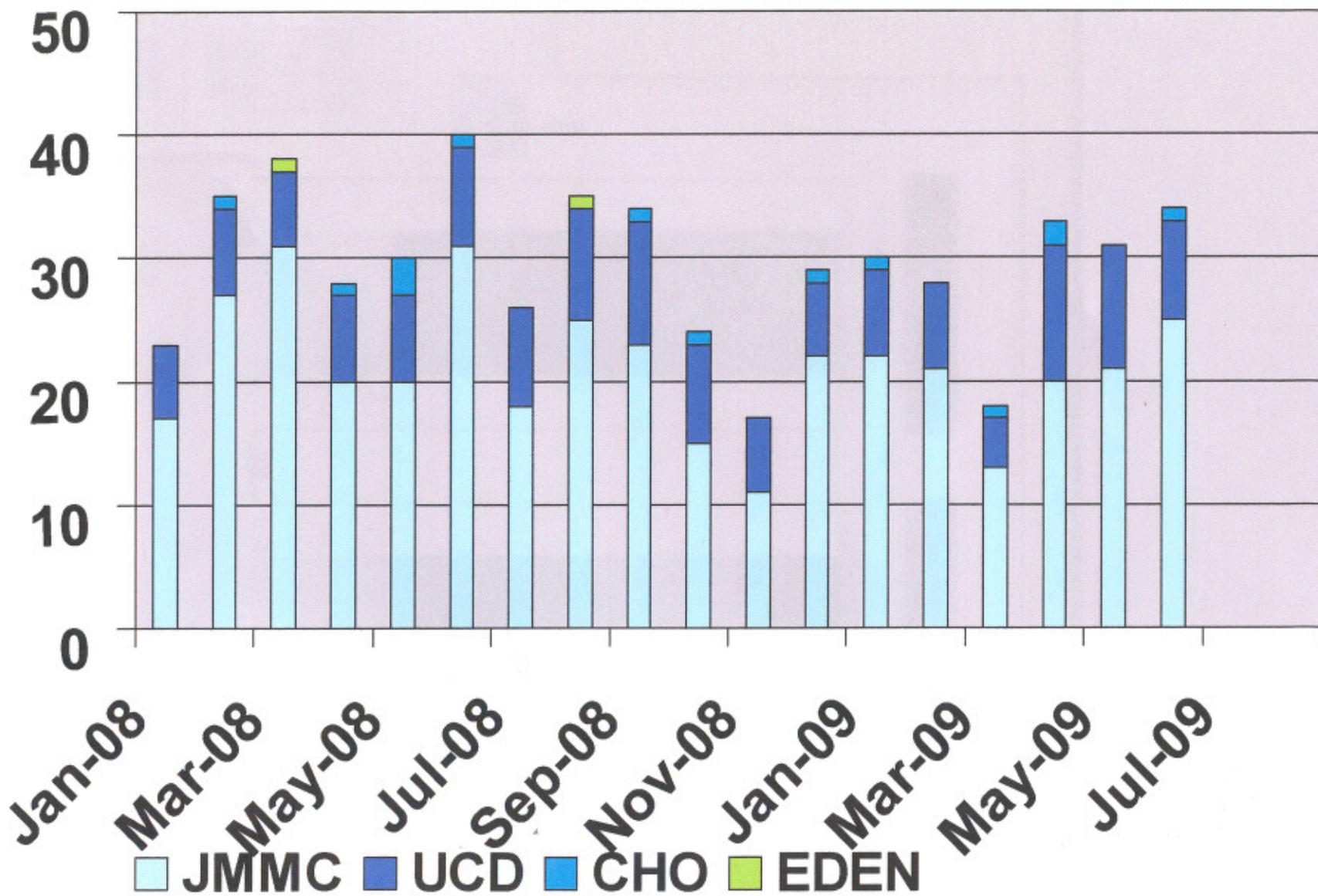
Solano County Trauma Center Usage by Year



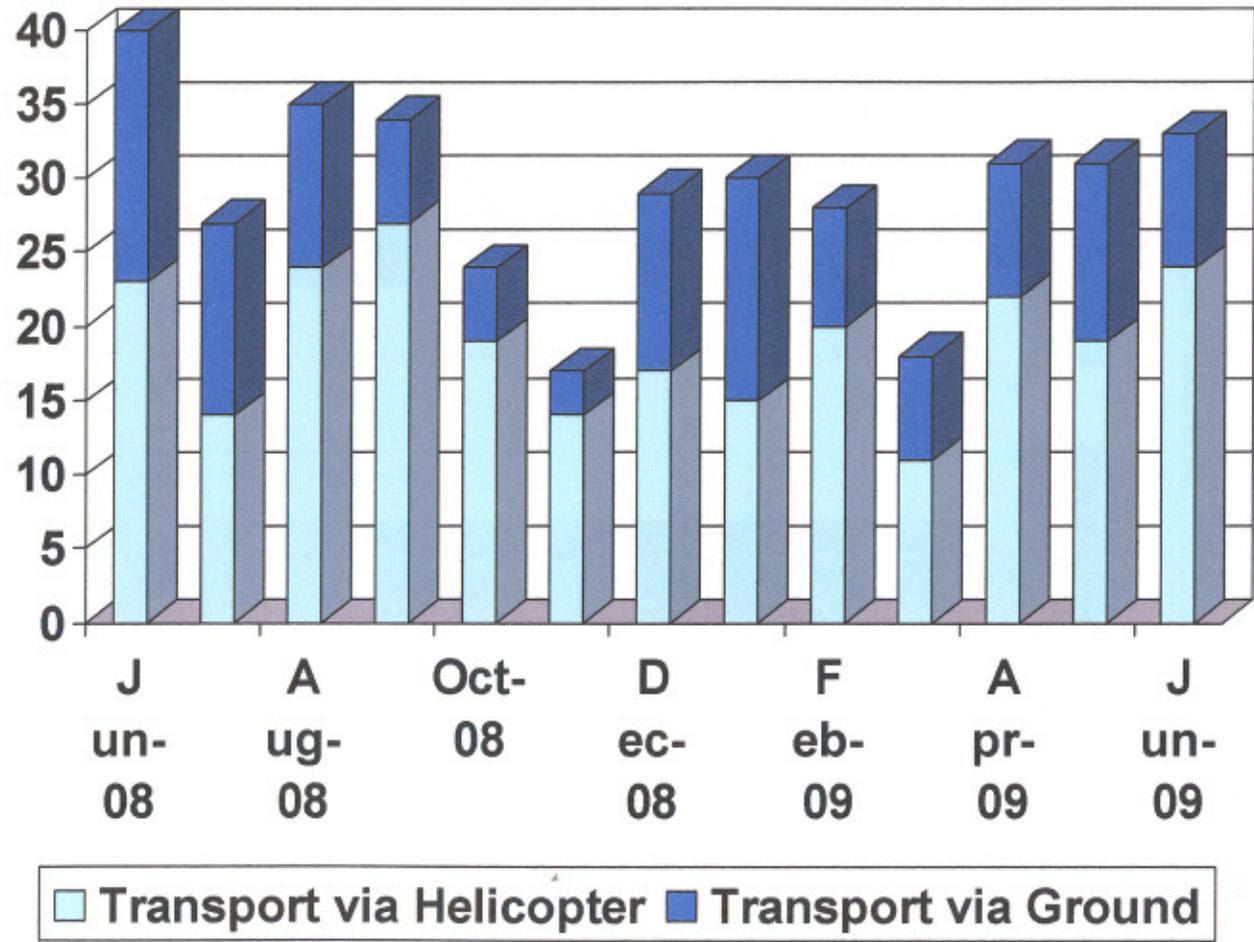
Pediatric Trauma Center Usage



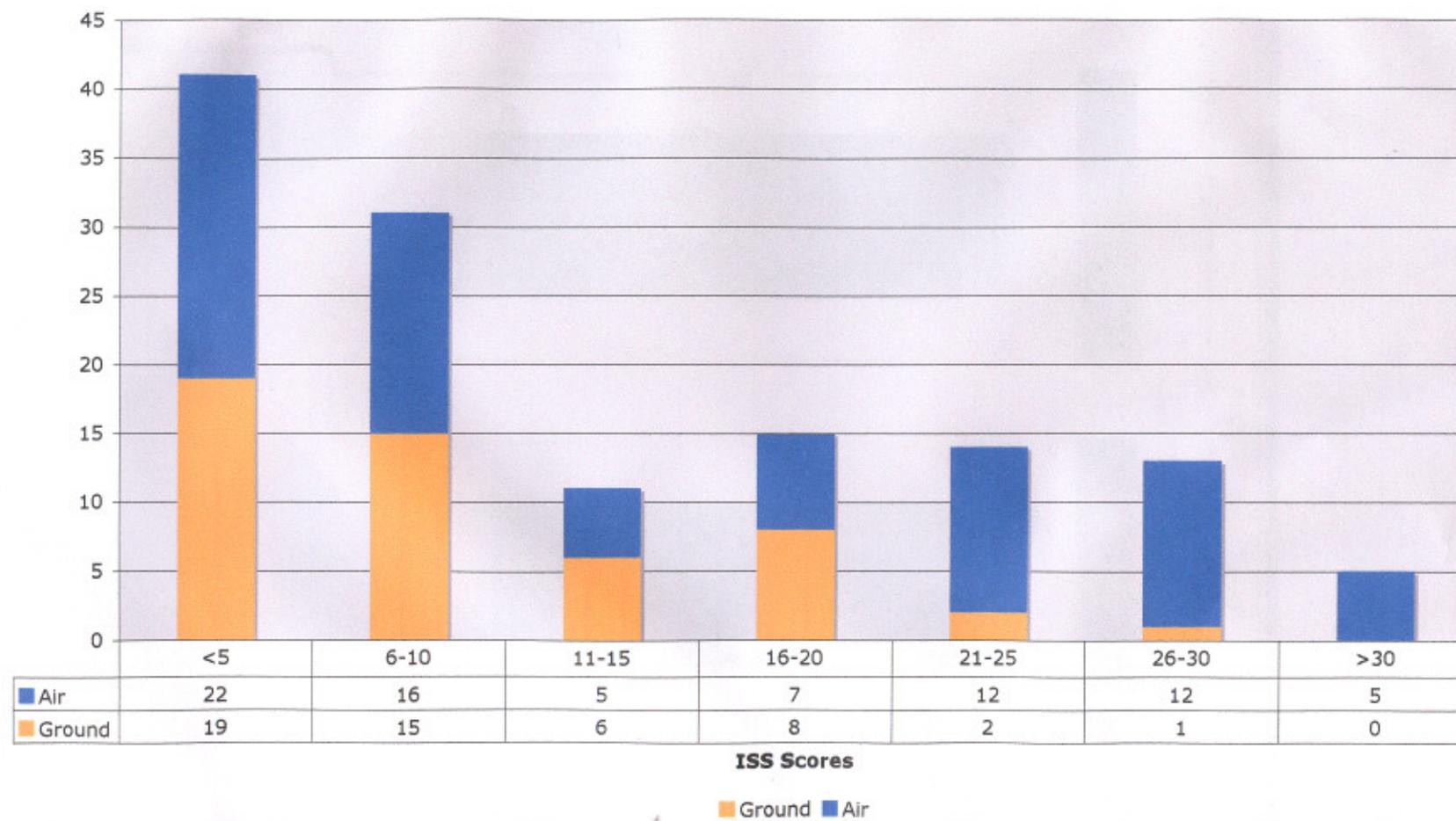
Patient Distribution By Trauma Center



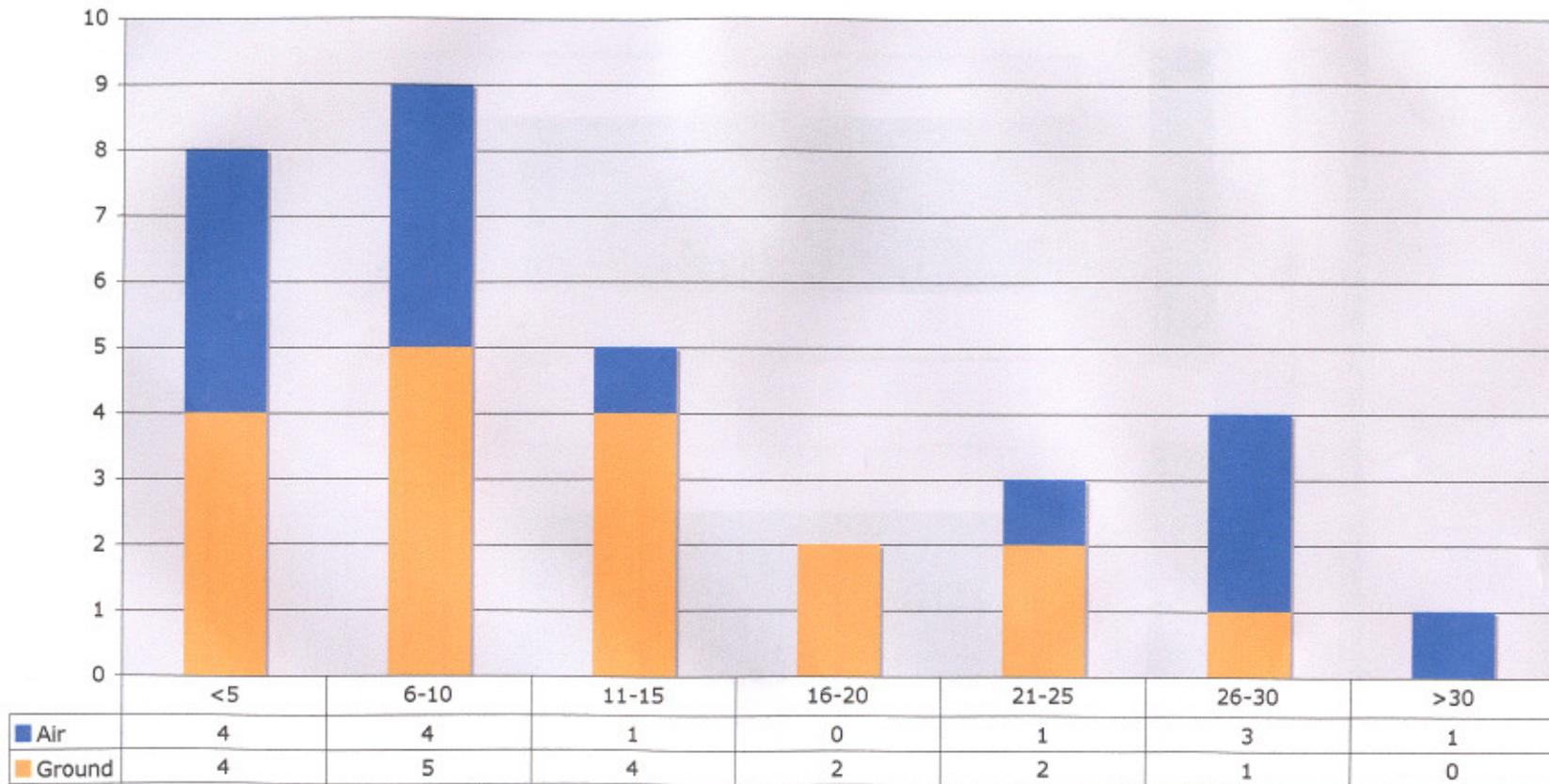
Helicopter Utilization in Trauma Center Transports



JMMC Mode of Arrival by ISS



UCDMC Mode of Arrival



ISS Score

Ground Air