

**EMERGENCY MEDICAL SERVICES
PLAN
of the
SOLANO EMERGENCY MEDICAL SERVICES
COOPERATIVE
for the
Communities of Solano County**

Developed and configured to conform with the
California Emergency Medical Services Authority's
June 1993 EMS Systems Standards and Guidelines (EMSA #101)

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Michael A. Frenn - EMS Administrator

1 February, 1999

Table 1.
EMS First Responder Resources

Department	Government	Personnel	Defibrillation	Paramedic	Other
Benicia	City	EMT-Is/Ps		X	
Cordelia	District	First Resp./EMT-I	X	X ¹	
Dixon	City	First Resp./EMT-I	X		ETAD ²
Fairfield	City	First Resp./ EMT-I/P	X	X	
Gordon Villy	District	Unknown			
Montezuma	District	First Resp./EMT-I			
Rio Vista	City	First Resp./EMT-I	X	X ³	
Ryer Island	District	First Resp./EMT-I			
Suisun City	City	First Resp./EMT-I	X		
Suisun Dist.	District	First Resp./EMT-I			
Vacaville	City	EMT-I/EMT-P	X ⁴	X	Transport
Vacaville	District	First Resp./EMT-I			
Vallejo	City	First Resp./EMT-I	X		

¹ Cordelia has one part-time EMT-Paramedic.

² Dixon personnel will soon utilize Esophageal Tracheal Airway Devices, newly approved statewide for EMT-I use.

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Administration:

A principle function of the Agency is the issuance of certifications for EMT-Is and Mobile Intensive Care Nurses (MICNs), and Accreditations for EMT-Paramedics⁵. In 1998 the Agency processed the following certificates and Accreditations:

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Total In System:	811

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It should be noted that initial certification of EMT-Is and MICNs is a relatively straightforward process involving an application, verification of completion of training requirements and the payment of a fee. Initial Accreditation for Paramedics includes these steps but then also involves an extensive orientation process, field evaluation and a photo ID. There is also a 2 hour review of policies, procedures, protocols etc., which is conducted by the Prehospital Care Coordinator.

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6. May, if recurrent, pose a threat to the safety of patients or providers of prehospital care.

In 1998, the Agency investigated 105 Unusual Occurrences which fell into one of five general categories:

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2. Communications - Interpersonal:

Example: Difficulties with transfer of care of patient from first responder paramedic to transporting paramedic.

3. Operations

Example: During a medication administration a portion of the IV infusion set malfunctioned.

4. Multi-Casualty Incidents (MCIs)

Example: Policy 6180 requires filing of a UO on all MCI calls defined as five or more patients or three or more ambulances at the same event.

5. Miscellaneous

Example: Any UO not covered by categories 1 - 4, above.

In addition to categorizing UO's, the Agency also qualifies them based on level of significance, rated 1 - 4:

Level 1: Simple

Occurrences requiring only simple interventions, usually able to be closed with a clarification of policy or protocols. Generally, these UO's can be closed within 1-5 days.

Level 2: Intermediate

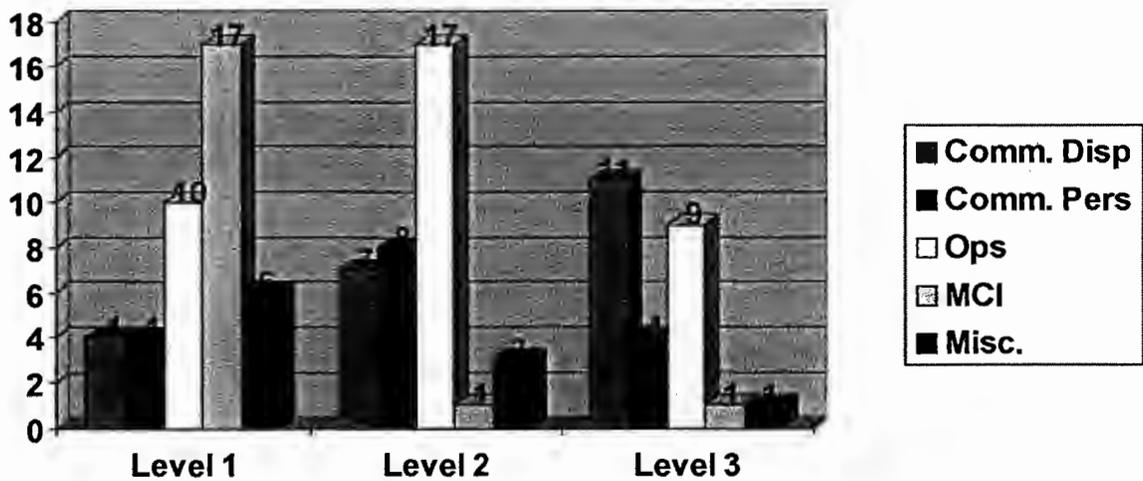
Occurrences requiring investigation and follow-up with more than one provider or agency. Typically, these UO's can be closed within 2-4 weeks of submittal depending on shift work schedules of the parties involved.

Level 3: Advanced

Occurrences requiring complicated investigation with multiple providers, agencies, and jurisdictions. Advanced-complexity UO's may take several weeks to investigate with the inclusion of possible site visits and interviews.

Figure 4 shows the breakdown of UOs by category and level of significance. 1998 was the first year that UOs were tracked on this basis so comparisons with prior years are not readily available.

Fig. 4



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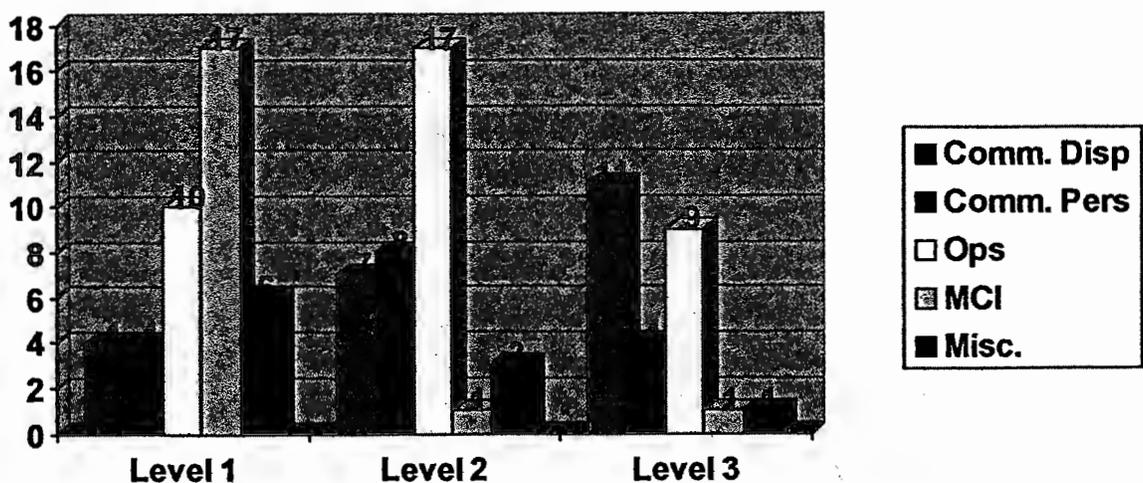
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Committees:

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The *Prehospital Care Committee* (PCC) is a standing subcommittee of the EMCC and is described in Policy 1780. The purpose of the PCC is to serve as an advising group to the EMCC, the EMS Agency Medical Directors and Physician's Forum (below) on those issues requiring technical expertise from individuals and organizations that provide prehospital emergency care. The PCC often reviews existing and/or promulgates new policies and procedures. In particular, the committee reviewed and or revised the policies dealing with Accreditation (3400), Continuing Education (4500), Patient Restraint and Interfacility Transfer Guidelines; evaluated medications and procedures (Pulse Oximetry, Nitroglycerin spray, Saline Locks, etc.) and approved a countywide patch (see attachments).

The *Physician's Forum* (MD Forum) Committee is described in Policy 1790. Its ostensible purpose is to review and evaluate the adequacy, appropriateness and effectiveness of the emergency medical care provided in Solano's EMS system, however this committee has generally focused more on new medications and procedures (saline locks, management of snakebites, etc.). It has also addressed systems issues such as pediatric coverage, ambulance diversion policy and response time standards. It is

anticipated that this committee will have greater involvement as Priority Medical Dispatch and the Parahospital© Services Model are developed and implemented.

The *Helicopter Utilization Review Committee* (HURC) has been in existence for approximately 3 years. While other committees are generally open to anyone who has interest, this committee meets in closed session because it deals with specific case review. The purposes of HURC are several fold: 1) To evaluate the appropriate use of EMS aeromedical resources; 2) To review specific cases from a Quality Improvement perspective; and 3) To enhance the interaction amongst the various aeromedical providers, the EMS Agency and the ground providers they interface with. The Agency solicited the expert opinion from the members of this committee as part of its process to revise the EMS Aircraft response configuration due to the redeployment of one of the providers.

The *Continuous Quality Improvement* (CQI) Committee is the newest and perhaps one of the most important committees serving the Agency and the EMS system. This is a broad-based committee which has been very active in 1998 having developed and issued several performance standards for EMS Care (see attachments), completely revising the Policy on

*CQI Committee
Mission Statement*

“...to help define “effectiveness” of the prehospital care system in Solano County by developing, through a peer based process, consensus on community standards of care, evaluating how closely the system meets these standards, and implementing action plans designed to result in system performance that consistently meets or exceeds these standards.”

Quality Improvement for the EMS Agency, Base Hospitals, BLS Providers and ALS Providers (2200, 2201, 2202 and 2203, respectively). In addition, the committee has begun to undertake specific audits, the most recent of which involved specific parameters of EMS aircraft activity. The committee will be participating in a “Rapid Cycle” QI project for cardiac care with several other EMS Agencies and is presently chaired by the Prehospital Care Coordinator.

Finally, the Agency provides staff support to the *Sudden Infant Death Syndrome* (SIDS) Advisory Committee which is a citizen-based group charged by the Solano County Board of Supervisors with evaluating and promoting prevention efforts aimed at reducing SIDS deaths in the County. The EMS Administrator and Dr. Charron serve as ex-officio members of this committee.

Accomplishments:

The Agency had a full and productive year in 1998 which included a number of major undertakings as well as a series of special projects.

RFP: Without question, the finalizing of the Requests For Proposals (RFP), including the multiple public meetings, the mandatory conferences, voluntary workshops and several major revisions represented the largest single effort of the agency. However, given that the ambulance franchise will form the framework of the EMS system, and given the fundamental policy positions represented in the RFP, it was appropriate to spend extra time and effort in finalizing the document.

Trauma: Another major undertaking by the Agency in 1998 focused on Trauma Planning. Originally developed back in 1995, the Trauma Plan organizes the prehospital care of patients suffering traumatic injury through the use of an "inclusive" trauma system model and designation of several local hospitals as Level III Trauma Centers. A series of preplanning meetings were held mid-year with the hospitals (NorthBay, Sutter and Kaiser) and the Agency re-enlisted the services of Dr. Richard Narad, the consultant who developed the plan originally, for the purposes of facilitating the sites visits required as part of the designation process. It is anticipated that site visits will occur in late spring and designation will be conferred prior to the end of August.

Unusual Occurrences: Considerable progress was made in the processing of Unusual Occurrences. Prior to 1998, the internal policies of the Agency regarding logging, investigating and follow-up of UOs was inconsistent and occasionally ineffective. Deliberate attention was given to this process so that by the end of the year the Agency has been able to demonstrate compliance with internal policy and thorough follow-up in excess of 95% of the time. It is expected that this level of performance will be maintained for the coming year.

Quality Improvement: Significant progress has been made in the are of Continuous Quality Improvement. In addition to the on-going efforts of the CQI committee, the Agency substantially revised the applicable policies for system-wide CQI activities. These policies have been nearly fully implemented resulting in both routine as well as specific audits being conducted which are providing valuable information on patient care, documentation, EMS Aircraft utilization and other important system variable.

EMS Aircraft Response Planning: The sudden relocation o the REACH helicopter from Vacaville to Sacramento required that the Agency undertake a complete re-evaluation of EMS Aircraft utilization. Ultimately, the Agency adopted a two zone system with rotation amongst four helicopters from 3 providers. Subsequently, UCD LifeFlight relocated to Vacaville in September which required yet another revision of the protocol. However, since this time the system has been stable with very few difficulties.

Influenza: The Agency has also been involved with a number of "Special Projects". As a result of the major impact on hospitals and EMS systems due to the influenza outbreak in late 1997 and early 1998, the Agency and the Health Officer met with hospital representatives far in advance of the anticipated flu season to pre-plan against a repeat of the previous flu season. Beginning in November, hospitals have reported their bed status twice a day to the Agency which has been tracking total bed capacity throughout the county. On several occasions capacity at any one hospital became seriously low, however the Agency was able to coordinate other beds based upon the information it had available. No Emergency Department closures or ambulance diversions occurred this year due to over-crowding or impact from influenza related hospital admissions.

Distance Learning Program: One of the more interesting projects the Agency was involved with was approval of the first and only Distance Learning Program for initial paramedic certification. This program was made even more unique because the "classroom" portion was structured in virtual reality and took place on the Internet. No program of this type is in existence anywhere else in the country. At present, there are seven students, many from the state of Nevada and one from Idaho.

The Agency received considerable resistance and criticism from a few other EMS Agencies for approving a program without a validated track record. However, Samaritan Training Center, a locally approved paramedic training program, demonstrated to the Agency substantial research and development of this program. Additionally, the Agency approved this program for only one year as opposed to the two-years allowed by regulation. There has been and continues to be extensive testing, evaluation and monitoring of the DLP, both by Samaritan and the Agency.

ETAD: At the request of the Dixon Fire Department, a training and implementation program for use of Esophageal Tracheal Airway Devices (ETAD) was organized. Using materials provided by San Diego EMS and with training developed and conducted by Samaritan, nine EMTs from the Dixon department were trained. Use of ETADs by EMT-Is was only recently approved by the State EMS Commission and Dixon will be one of the first departments in California to go on-line. These devices are particularly appropriate for departments which also have an Automatic External Defibrillation program, which Dixon does.

Priority Medical Dispatch: The Agency currently has one grant project for implementation of Priority Medical Dispatch & Managed Care that is being carried out by the Burlingame dispatch center for American Medical Response and the Solano Sheriff's Office. Ten dispatchers have already been trained and certified as Emergency Medical Dispatchers and 911 call management with Pre-Arrival Instructions should begin before the end of March 1999. Once validated, 911 calls will be categorized and "managed" on paper using managed care protocols developed by medical Priorities, Inc. This approach to 911 dispatching will become a key element of the proposed Parahospital© Service Model.

Data Collections: In October of 1998, the Agency re-released its EMS-MIS system. This was the culmination of several months of intense "reverse-engineering" by staff of the data collection program developed and written by the prior administrator. This effort was necessary because no instructions, programming source codes, trouble shooting or other reference materials were ever produced. After a complete re-evaluation of the program, the Agency developed a comprehensive User's Manual for all ALS providers (this was distributed to the SEMSC Board of Directors at their November 1998 meeting). Prior to this, compliance with data entry was less than 40%. At present, 100% of all ALS providers are using the database program successfully and are submitting the required reports to the Agency on a regular basis.

Bulletin Board: 1998 marked the first year of the Agency's Bulletin Board. Located in the reception area of the Agency, the Board provides a show case of relevant EMS and safety topics, highlights different EMS personnel, provides a centralized point for important notices and contains copies of minutes and materials of the various EMS committees. The bulletin board is designed and maintained by the Administrative Secretary.

Goals For 1999:

The Agency will focus its efforts in the coming year to projects falling into two broad categories: On-Going and New.

First in the On-Going category is the obvious project: The RFP. With proposals due back to the Agency at the end of March 1999, there will be a substantial amount of work beginning with proposal review by the Procurement Committee. This will hopefully be followed by a recommendation to the SEMSC Board of Directors with subsequent presentations to the various governing bodies of the SEMSC membership. A contract will also need to be negotiated with the successful bidder.

Trauma designation is tentatively scheduled for late spring, and even though a consultant has been retained to facilitate this process, the project will require considerable effort by the Agency in review of the applications, coordination of the site visits and final designation.

The Emergency Medical Dispatch Project will peak in the months of April - June during which time data will be collected and validations done.

The EMS-MIS will require a complete overhaul. In addition to being NON Y2K COMPLIANT, the database has outlived its usefulness and has a number of built-in difficulties. In particular, the system relies on the use of complicated entry codes and has no available technical support. Ideally, a data management system which can be used by, or is at least compatible with, fire service ALS units is desirable. The RFP also has

significant bearing on this project. The Agency will work closely with the fire service and ambulance provider(s) to adequately solve this problem. The current methods and systems for data collections are totally inadequate. Rectifying this will be one of the highest priorities for the Agency in 1999.

For new projects the Agency will attempt to develop a Newsletter to convey important and timely information to EMTs, paramedics, nurses, physicians, fire chiefs, administrators, affiliated agencies and organizations, etc. Along the lines of information delivery, the Agency will also pursue development of a website which will be a vital resource for policies, procedures, meeting minutes, announcements and other important pieces of information.

The Agency plans to devote energy to one principal system-wide issue: Disaster Preparedness. Very little effort or resource has been expended by the Agency over the past several years on this important system component. This will be pursued at several levels: readiness for a widespread catastrophe (e.g., earthquake); Solano's role to surrounding counties in the event of a catastrophic incident; preparing the population for at least 72 hours of self-sufficiency in the event of a disaster; assessing the threat of and planning for urban terrorism; and continuing to plan for hospital impacts during influenza seasons. Preliminary discussions with the EMS Authority, Disaster Preparedness Unit, have already taken place in preparation to meet this goal.

Conclusion:

The Agency continues to be an active and productive unit for EMS system planning, implementation and evaluation. By and large, statutory and regulatory obligations have been fulfilled. Principle challenges will continue to be focused on bringing the RFP to a successful completion while at the same time ensuring that the EMS system is sufficiently flexible to respond appropriately to the fluid dynamics of health care and public safety.

Solano Emergency Medical Services Agency

Annual Report

to the

Solano EMS Cooperative Board of Directors

History and Organization:

Solano's Emergency Medical Services (EMS) Agency was constituted by Ordinance issued by the Solano County Board of Supervisors in 1989. This action was prompted as a result of an audit of the EMS Unit by an independent consultant (Milton Silberberg) who noted that the EMS Unit (not officially an EMS Agency) was inconsistently staffed and managed, and generally unable to adequately administer the requirements of applicable legislation. The Board of Supervisors, determining that there was need for a formal EMS program within the County, also agreed with the consultant's recommendations that a formal EMS Agency was required.

The Solano EMS Agency existed as a unit of county government in the Health and Social Services Department until June of 1996. At that time, as a result of the formation of a Joint Powers Authority (JPA) between the county, its member cities and the fire districts, the Solano County Board of Supervisors designated this JPA as the Local EMS Agency (LEMSA) for the County. This finalized the establishment of the Solano Emergency Medical Services Cooperative (SEMSC). The SEMSC is unique in that it is the only LEMSA in California that exists as a single county JPA and also the only LEMSA in California with a true shared governance model. At present, the fiscal responsibility for the Agency rests with the County.

The EMS Agency currently has four full time equivalent (FTE) employees. It is managed by a full time EMS Administrator whose principle responsibility is to see that the mission, objectives and legal requirements of the Agency are satisfied. This position is also staff to the SEMSC Board of Directors, provides public information and education on behalf of the Agency and the SEMSC, manages the Agency budget, oversees federal block grant projects and provides supervision to the other positions in the Agency.

A Prehospital Care Coordinator who is licensed as a Registered Nurse, has principle concerns with Quality Improvement and Policy and Procedure development. There is a full time Administrative Secretarial position whose principle function it is to manage the office sub-systems as well as taking and producing the minutes for the various committees that the Agency staffs. A clerical position process certificates, files and performs general

MISSION STATEMENT

To assure a timely and effective system of prehospital emergency care to victims of sudden illness or injury through a comprehensive and coordinated arrangement of prehospital resources at a reasonable cost to the users of the system.

receptionist duties. The Agency also enjoys the services of another clerical position for assistance in filing, certificate processing appointments. etc., but this is at no cost to the Agency via a mutually beneficial arrangement with another Bureau in the Health and Social Services Department.

Medical Oversight is accomplished on a daily basis by the contracted services of an Assistant EMS Medical Director who is also an Emergency Department physician in a local community hospital. This position has responsibility for policy development, evaluation of scope of practice, paramedic protocol development and other functions requiring physician expertise. The Assistant Medical Director serves the agency at approximately 0.1 FTE.

The EMS Agency Medical Director is Dr. Thomas L. Charron, who is also the County Health Officer. As proscribed by law, the Agency Medical Director has ultimate and final authority for all matters which affect patient care rendered by prehospital care personnel within the jurisdiction of the LEMSA. EMT-Paramedics function as an extension of this physician's license.

Authority:

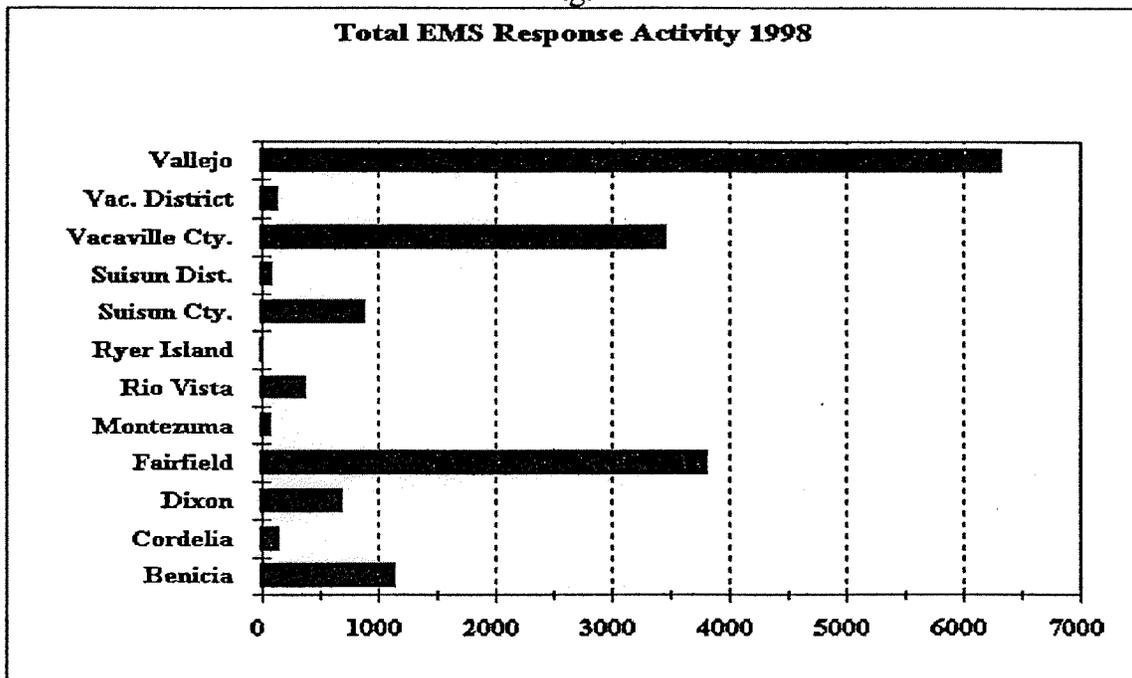
The authority and responsibilities of a LEMSA are established in Health and Safety Code Division 2.5, Section 1797 through 1799.207, and described in California Code of Regulations, Title 22 (Social Security) Division 9 (Prehospital Emergency Medical Services). Specifically, the general functions of a LEMSA are to:

- ⇒ Plan, implement and evaluate EMS systems.
- ⇒ Be responsible for implementing advanced life support (ALS) programs.
- ⇒ Determining the operation of training programs, including program approval.
- ⇒ To establish policies and procedures to assure medical control.

System Activity and Resources:

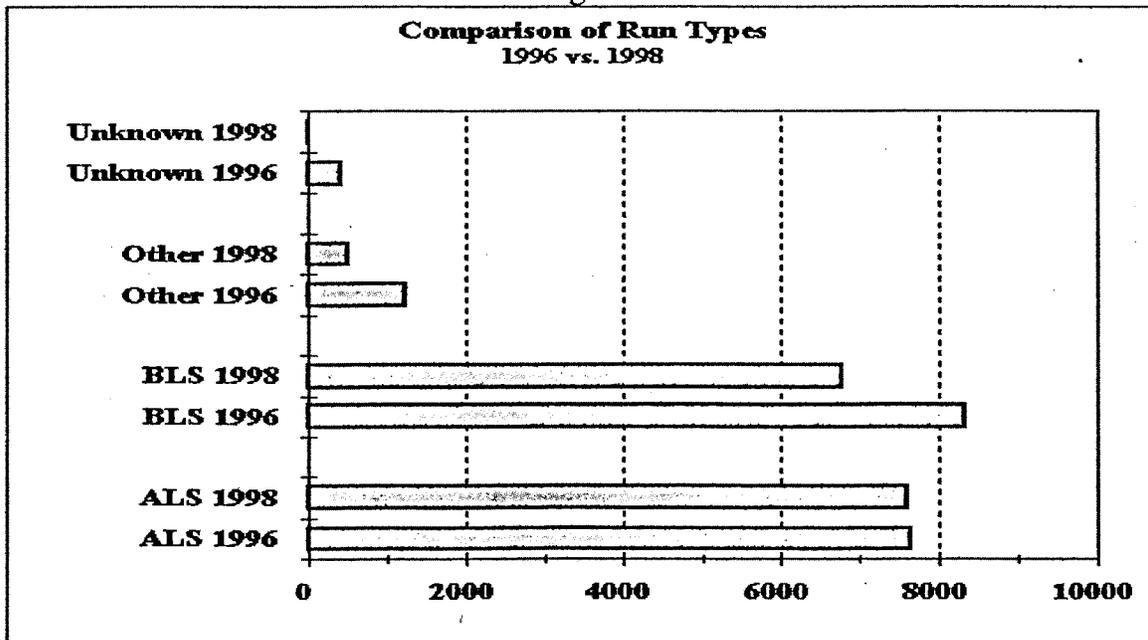
Activity throughout Solano County for calendar year 1998 is shown in the Fig. 1, below. This is "gross" activity in that it represents responses to requests for medical aid from all sources (911, station 'walk-ins', 7-digit numbers, etc.) and does not differentiate as to

Fig. 1



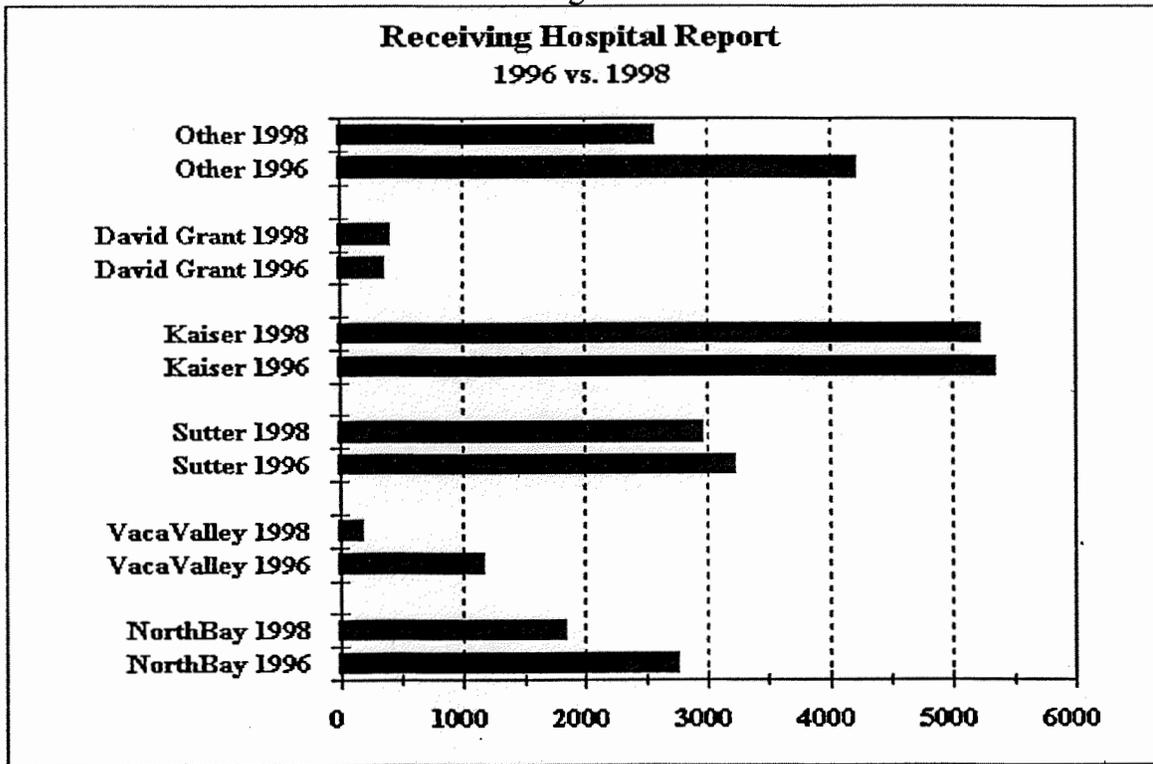
whether the patient was transported or not. For reasons which will be explained later (Goals For 1999: EMS-MIS), it is not possible to draw inferences to any degree of certainty from this data.

Fig. 2



Data for calendar year 1997 is incomplete and therefore unavailable for comparative analysis. However, data for 1996 is available and is shown against 1998 data for a few select variables for general comparison purposes only. For the most part, Solano's system does not exhibit remarkable upturns or downturns, but has demonstrated a steady and gradual increase in activity. The Agency has received some anecdotal reports of recent sharp upturns (February) but has yet to receive any data to support these claims. As is discussed later, there is insufficient confidence in any data sets to support causal relationships.

Fig. 3



Solano County enjoys essentially all possible levels of EMS service delivery represented throughout its many first response departments. Table 1. provides a description of the various service capabilities.

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The *Physician's Forum* (MD Forum) Committee is described in Policy 1790. Its ostensible purpose is to review and evaluate the adequacy, appropriateness and effectiveness of the emergency medical care provided in Solano's EMS system, however this committee has generally focused more on new medications and procedures (saline locks, management of snakebites, etc.). It has also addressed systems issues such as pediatric coverage, ambulance diversion policy and response time standards. It is

anticipated that this committee will have greater involvement as Priority Medical Dispatch and the Parahospital© Services Model are developed and implemented.

The *Helicopter Utilization Review Committee* (HURC) has been in existence for approximately 3 years. While other committees are generally open to anyone who has interest, this committee meets in closed session because it deals with specific case review. The purposes of HURC are several fold: 1) To evaluate the appropriate use of EMS aeromedical resources; 2) To review specific cases from a Quality Improvement perspective; and 3) To enhance the interaction amongst the various aeromedical providers, the EMS Agency and the ground providers they interface with. The Agency solicited the expert opinion from the members of this committee as part of its process to revise the EMS Aircraft response configuration due to the redeployment of one of the providers.

The *Continuous Quality Improvement* (CQI) Committee is the newest and perhaps one of the most important committees serving the Agency and the EMS system. This is a broad-based committee which has been very active in 1998 having developed and issued several performance standards for EMS Care (see attachments), completely revising the Policy on

*CQI Committee
Mission Statement*

“...to help define “effectiveness” of the prehospital care system in Solano County by developing, through a peer based process, consensus on community standards of care, evaluating how closely the system meets these standards, and implementing action plans designed to result in system performance that consistently meets or exceeds these standards.”

Quality Improvement for the EMS Agency, Base Hospitals, BLS Providers and ALS Providers (2200, 2201, 2202 and 2203, respectively). In addition, the committee has begun to undertake specific audits, the most recent of which involved specific parameters of EMS aircraft activity. The committee will be participating in a “Rapid Cycle” QI project for cardiac care with several other EMS Agencies and is presently chaired by the Prehospital Care Coordinator.

Finally, the Agency provides staff support to the *Sudden Infant Death Syndrome* (SIDS) Advisory Committee which is a citizen-based group charged by the Solano County Board of Supervisors with evaluating and promoting prevention efforts aimed at reducing SIDS deaths in the County. The EMS Administrator and Dr. Charron serve as ex-officio members of this committee.

Accomplishments:

The Agency had a full and productive year in 1998 which included a number of major undertakings as well as a series of special projects.

RFP: Without question, the finalizing of the Requests For Proposals (RFP), including the multiple public meetings, the mandatory conferences, voluntary workshops and several major revisions represented the largest single effort of the agency. However, given that the ambulance franchise will form the framework of the EMS system, and given the fundamental policy positions represented in the RFP, it was appropriate to spend extra time and effort in finalizing the document.

Trauma: Another major undertaking by the Agency in 1998 focused on Trauma Planning. Originally developed back in 1995, the Trauma Plan organizes the prehospital care of patients suffering traumatic injury through the use of an "inclusive" trauma system model and designation of several local hospitals as Level III Trauma Centers. A series of preplanning meetings were held mid-year with the hospitals (NorthBay, Sutter and Kaiser) and the Agency re-enlisted the services of Dr. Richard Narad, the consultant who developed the plan originally, for the purposes of facilitating the sites visits required as part of the designation process. It is anticipated that site visits will occur in late spring and designation will be conferred prior to the end of August.

Unusual Occurrences: Considerable progress was made in the processing of Unusual Occurrences. Prior to 1998, the internal policies of the Agency regarding logging, investigating and follow-up of UOs was inconsistent and occasionally ineffective. Deliberate attention was given to this process so that by the end of the year the Agency has been able to demonstrate compliance with internal policy and thorough follow-up in excess of 95% of the time. It is expected that this level of performance will be maintained for the coming year.

Quality Improvement: Significant progress has been made in the are of Continuous Quality Improvement. In addition to the on-going efforts of the CQI committee, the Agency substantially revised the applicable policies for system-wide CQI activities. These policies have been nearly fully implemented resulting in both routine as well as specific audits being conducted which are providing valuable information on patient care, documentation, EMS Aircraft utilization and other important system variable.

EMS Aircraft Response Planning: The sudden relocation o the REACH helicopter from Vacaville to Sacramento required that the Agency undertake a complete re-evaluation of EMS Aircraft utilization. Ultimately, the Agency adopted a two zone system with rotation amongst four helicopters from 3 providers. Subsequently, UCD LifeFlight relocated to Vacaville in September which required yet another revision of the protocol. However, since this time the system has been stable with very few difficulties.

Influenza: The Agency has also been involved with a number of "Special Projects". As a result of the major impact on hospitals and EMS systems due to the influenza outbreak in late 1997 and early 1998, the Agency and the Health Officer met with hospital representatives far in advance of the anticipated flu season to pre-plan against a repeat of the previous flu season. Beginning in November, hospitals have reported their bed status twice a day to the Agency which has been tracking total bed capacity throughout the county. On several occasions capacity at any one hospital became seriously low, however the Agency was able to coordinate other beds based upon the information it had available. No Emergency Department closures or ambulance diversions occurred this year due to over-crowding or impact from influenza related hospital admissions.

Distance Learning Program: One of the more interesting projects the Agency was involved with was approval of the first and only Distance Learning Program for initial paramedic certification. This program was made even more unique because the "classroom" portion was structured in virtual reality and took place on the Internet. No program of this type is in existence anywhere else in the country. At present, there are seven students, many from the state of Nevada and one from Idaho.

The Agency received considerable resistance and criticism from a few other EMS Agencies for approving a program without a validated track record. However, Samaritan Training Center, a locally approved paramedic training program, demonstrated to the Agency substantial research and development of this program. Additionally, the Agency approved this program for only one year as opposed to the two-years allowed by regulation. There has been and continues to be extensive testing, evaluation and monitoring of the DLP, both by Samaritan and the Agency.

ETAD: At the request of the Dixon Fire Department, a training and implementation program for use of Esophageal Tracheal Airway Devices (ETAD) was organized. Using materials provided by San Diego EMS and with training developed and conducted by Samaritan, nine EMTs from the Dixon department were trained. Use of ETADs by EMT-Is was only recently approved by the State EMS Commission and Dixon will be one of the first departments in California to go on-line. These devices are particularly appropriate for departments which also have an Automatic External Defibrillation program, which Dixon does.

Priority Medical Dispatch: The Agency currently has one grant project for implementation of Priority Medical Dispatch & Managed Care that is being carried out by the Burlingame dispatch center for American Medical Response and the Solano Sheriff's Office. Ten dispatchers have already been trained and certified as Emergency Medical Dispatchers and 911 call management with Pre-Arrival Instructions should begin before the end of March 1999. Once validated, 911 calls will be categorized and "managed" on paper using managed care protocols developed by medical Priorities, Inc. This approach to 911 dispatching will become a key element of the proposed Parahospital© Service Model.

Data Collections: In October of 1998, the Agency re-released its EMS-MIS system. This was the culmination of several months of intense "reverse-engineering" by staff of the data collection program developed and written by the prior administrator. This effort was necessary because no instructions, programming source codes, trouble shooting or other reference materials were ever produced. After a complete re-evaluation of the program, the Agency developed a comprehensive User's Manual for all ALS providers (this was distributed to the SEMSC Board of Directors at their November 1998 meeting). Prior to this, compliance with data entry was less than 40%. At present, 100% of all ALS providers are using the database program successfully and are submitting the required reports to the Agency on a regular basis.

Bulletin Board: 1998 marked the first year of the Agency's Bulletin Board. Located in the reception area of the Agency, the Board provides a show case of relevant EMS and safety topics, highlights different EMS personnel, provides a centralized point for important notices and contains copies of minutes and materials of the various EMS committees. The bulletin board is designed and maintained by the Administrative Secretary.

Goals For 1999:

The Agency will focus its efforts in the coming year to projects falling into two broad categories: On-Going and New.

First in the On-Going category is the obvious project: The RFP. With proposals due back to the Agency at the end of March 1999, there will be a substantial amount of work beginning with proposal review by the Procurement Committee. This will hopefully be followed by a recommendation to the SEMSC Board of Directors with subsequent presentations to the various governing bodies of the SEMSC membership. A contract will also need to be negotiated with the successful bidder.

Trauma designation is tentatively scheduled for late spring, and even though a consultant has been retained to facilitate this process, the project will require considerable effort by the Agency in review of the applications, coordination of the site visits and final designation.

The Emergency Medical Dispatch Project will peak in the months of April - June during which time data will be collected and validations done.

The EMS-MIS will require a complete overhaul. In addition to being NON Y2K COMPLIANT, the database has outlived its usefulness and has a number of built-in difficulties. In particular, the system relies on the use of complicated entry codes and has no available technical support. Ideally, a data management system which can be used by, or is at least compatible with, fire service ALS units is desirable. The RFP also has

significant bearing on this project. The Agency will work closely with the fire service and ambulance provider(s) to adequately solve this problem. The current methods and systems for data collections are totally inadequate. Rectifying this will be one of the highest priorities for the Agency in 1999.

For new projects the Agency will attempt to develop a Newsletter to convey important and timely information to EMTs, paramedics, nurses, physicians, fire chiefs, administrators, affiliated agencies and organizations, etc. Along the lines of information delivery, the Agency will also pursue development of a website which will be a vital resource for policies, procedures, meeting minutes, announcements and other important pieces of information.

The Agency plans to devote energy to one principal system-wide issue: Disaster Preparedness. Very little effort or resource has been expended by the Agency over the past several years on this important system component. This will be pursued at several levels: readiness for a widespread catastrophe (e.g., earthquake); Solano's role to surrounding counties in the event of a catastrophic incident; preparing the population for at least 72 hours of self-sufficiency in the event of a disaster; assessing the threat of and planning for urban terrorism; and continuing to plan for hospital impacts during influenza seasons. Preliminary discussions with the EMS Authority, Disaster Preparedness Unit, have already taken place in preparation to meet this goal.

Conclusion:

The Agency continues to be an active and productive unit for EMS system planning, implementation and evaluation. By and large, statutory and regulatory obligations have been fulfilled. Principle challenges will continue to be focused on bringing the RFP to a successful completion while at the same time ensuring that the EMS system is sufficiently flexible to respond appropriately to the fluid dynamics of health care and public safety.

Item 8a.
3/11/99

Annual Report

- 1. Receive and Accept the Annual Report as Presented by Staff**

Solano Emergency Medical Services Cooperative

Board of Directors Agenda Item Summary

Meeting Date: 3/11/99

Agenda Item: 8.a. Annual Report

- 1. Receive and Accept the Annual Report as Submitted by Staff.**

Staff Recommendation:

It is recommended that your Board receive and accept the attached Annual Report on the activities, goals and objectives of the SEMSC in its capacity as the Local EMS Agency (LEMSA) for the communities of Solano County

Summary:

The attached Annual Report provides an overview of the activities and efforts of the Agency over the past calendar year (1998). Some of the activities are reported to or serve as action items for your Board, however many are not. This report is an opportunity for your Board and other interested persons to receive information about the broader scope of the Agency as the LEMSA for Solano County.

Discussion:

By prior action of your Board, you directed that staff prepare an annual report on the activities of the Agency. Your Board also directed that this report should be based on a calendar year. The attached Annual Report covers the SEMSC for the period of January 1 through December 31, 1998. It is the first such report ever developed for your Board.

The report includes background information such as the origination of the EMS Agency in 1989, a description of the various staff positions assigned to the Agency and their responsibilities, and a brief discussion of the general scope, responsibility and authority of LEMSAs as described in Health and Safety Code (Division 2.5) and California Regulations (Title 22, Division 9).

Information is provided on general EMS activity by the various first responder agencies and some comparisons are made to 1996 data. However, as is indicated in the report, one the principle challenges for the Agency is the development of an accurate, comprehensive and reliable data collections system. Information on the various resources available in the system is also provides as a "snapshot" reference point.

There is a discussion on some of the administrative functions of the Agency, including the issuing of certifications and accreditation's, and the investigation of Unusual Occurrences. There is a detailed discussion on the various committees to which the Agency provides staff support. It is with these committees that a substantial amount of work is accomplished and other issues identified.

The report provides the highlights of the major accomplishments of the Agency, including the RFP, Trauma Plan, Quality Improvement and the Distance Learning Paramedic Program. Finally, there is a discussion on the principle goals and objectives for the Agency for calendar year 1999, including the anticipated conclusion of the RFP process and the development of the EMS-MIS system.

Legal Sufficiency:

This item has been reviewed and accepted by counsel to your Board.

Medical Sufficiency:

This item has been reviewed by and is acceptable to the EMS Agency Medical Director.

Board Action:

Item 7a.
3/11/99

EMS PLAN

- 1. Approve The EMS Plan and Authorize Staff to Submit to it the Solano County Board of Supervisors for Adoption and Then to the State EMS Authority as Required by Statute.**

Solano Emergency Medical Services Cooperative

Board of Directors Agenda Item Summary

Meeting Date: 3/11/99

Agenda Item: 7.a. EMS PLAN

- 1. Approve The EMS Plan and Authorize Staff to Submit it to the Solano County Board of Supervisors for Adoption and Then to the State EMS Authority as Required by Statute.**

Staff Recommendation:

It is recommended that your Board approve the enclosed EMS Plan and authorize staff to submit it to the Solano County Board of Supervisors for Adoption and then to the State EMS Authority as required by statute.

Summary:

Local EMS Agencies (LEMSAs) are required by Statute (Health and Safety Code 1797 et. seq.) to submit an EMS Plan for the implementation of emergency medical services and Trauma Systems to the State EMS Authority (EMSA) for review and approval. The enclosed plan, which has been offered locally for two public comment periods, is a comprehensive document which satisfies and exceeds the requirements for plan development. The plan is both a description of the Solano's EMS system today as well as a potential framework for efforts in the coming year(s).

Discussion:

Health and Safety Code 2.5 (the EMS Act), which provides the statutory basis for emergency medical services in the State of California, requires in part that LEMSAs develop and submit to the EMSA for review and approval a comprehensive plan for the local implementation of emergency medical services. The plan must address, at a minimum, system components identified in Section 1797.103 (see table 1). The State EMS Authority developed and published guidelines for plan development which are based on these system elements. In these guidelines, EMSA identified a standard and also established a minimum level of service as well as a recommended guideline. While the

levels of service cannot be mandated, submission of plan describing where the local system is relative to the standards is required.

Table 1.
Required EMS System Components
(Ref: 1797.103)

- (a) Manpower and Training
- (b) Communications
- (c) Transportation
- (d) Assessment of hospitals and critical care centers
- (e) System organization and management
- (f) Data collection and evaluation
- (g) Public information and education
- (h) Disaster response.

Solano's EMS plan provides a detailed description of the system's organization, resources, strengths and weaknesses. The Trauma Plan, Policy and Procedure Manual, RFP and supporting documents for the SEMSC are included as annexes and/or attachments. The Executive Summary describes the goals and objectives of the plan, a brief description of system needs, a discussion on the overriding influence of managed care and the long range planning objectives. Section 2 provides a demographic overview and identifies some of the high risk groups requiring EMS care. Section 3 is the principle assessment and planning element and addresses each of the components listed in Table 1, above, in accordance with the State's guidelines (EMSA Publication #101). Section 4 provides samples of the data collection and CQI reports and Section 5 is a resource directory.

In addition to submitting the plan, the Agency will also submit the Annual Report to the Authority. Since the EMS plan must be updated annually, it would make sense to submit both the plan updates as well as the annual report simultaneously since the report should describe the efforts and effectiveness of attaining the objectives described in the plan.

The plan has undergone two extensive public comment reviews, having been widely distributed to cities, fire departments, the Emergency Medical Care Committee, hospitals and the general public. Substantial comment was received during the first comment period (August - September 1997) and the suggested edits and revisions were incorporated into the plan released in December 1998. The Agency received no comments on the plan during the public comment period which ended January 22, 1999. We interpret this response to mean that the plan presents no major issue or difficulty for any affected organization or stakeholder.

Alternatives: Your Board could elect not to approve the plan as submitted. This action is not recommended since the plan has been undergone two public review and comment processes and reflects the suggested additions and deletions. However, should your Board elect not to approve the the plan it would need to provide direction to staff on how to proceed given that plan submittal is a statutory requirement.

Legal Sufficiency:

This item has been reviewed and accepted by counsel to your Board.

Medical Sufficiency:

This item has been reviewed by and is acceptable to the EMS Agency Medical Director.

Board Action:

SEMSC Annual Report

1998

Attachments

A. 1999 Meeting Schedule

B. Committee Members

C. Solano County Patch

D. C.Q.I. Adopted Standards

EMERGENCY MEDICAL SERVICES MEETING SCHEDULE FOR 1999

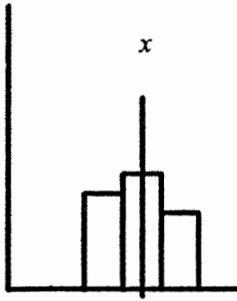
MONTH	SEMSC	5150	MD FORUM	HURC	EMCC	BASE ST.	CQI	PCC
JANUARY	1-14 Cancelled	1-14 12:00-1:30	1-14 Cancelled	No Meeting	1-14 1:30-3:00	1-21 NB 9-11:00	1-21 11-12	1-21 1:30-3:00
FEBRUARY	2-11 9:00-12:00	2-11 12:00-1:30	2-11 No Meeting	2-11 1:30-2:45	2-11 No Meeting	2-18 SS 9-11:00	2-18 12:30-2:00	2-18 2:15-3:45
MARCH	3-11 9:00-12:00	3-11 12:00-1:30	3-11 1:30-2:45	3-11 No Meeting	3-11 3:00-4:30	3-18 NB 9-11:00	3-18 12:30-2:00	3-18 2:15-3:45
APRIL	4-8 9:00-12:00	4-8 12:00-1:30	4-8 No Meeting	4-8 1:30-2:45	4-8 No Meeting	4-15 SS 9-11:00	4-15 12:30-2:00	4-15 2:15-3:45
MAY	5-13 9:00-12:00	5-13 12:00-1:30	5-13 1:30-2:45	5-13 No Meeting	5-13 3:00-4:30	5-20 NB 9-11:00	5-20 12:30-2:00	5-20 2:15-3:45
JUNE	6-10 9:00-12:00	6-10 12:00-1:30	6-10 No Meeting	6-10 1:30-2:45	6-10 No Meeting	6-17 SS 9-11:00	6-17 12:30-2:00	6-17 2:15-3:45
JULY	7-8 9:00-12:00	7-8 9:00-12:00	7-8 1:30-2:45	7-8 No Meeting	7-8 3:00-4:30	7-15 NB 9-11:00	7-15 12:30-2:00	7-15 2:15-3:45
AUGUST	8-12 9:00-12:00	8-12 12:00-1:30	8-12 No Meeting	8-12 1:30-2:45	8-12 No Meeting	8-19 SS 9-11:00	8-19 12:30-2:00	8-19 2:15-3:45
SEPT.	9-9 9:00-12:00	9-9 12:00-1:30	9-9 1:30-2:45	9-9 No Meeting	9-9 3:00-4:00	9-16 NB 9-11:00	9-16 12:30-2:00	9-16 2:15-3:45
OCTOBER	10-14 9:00-12:00	10-14 12:00-1:30	10-14 No Meeting	10-14 1:30-2:45	10-14 No Meeting	10-21 SS 9-11:00	10-21 12:30-2:00	10-21 2:15-3:45
NOV	11-11 * 9:00-12:00	?	11-11* 1:30-2:45	11-11* No Meeting	11-11* 3:00-4:30	11-18 NB 9-11:00	11-18 12:30-2:00	11-18 2:15-3:45
DEC	12-9 9:00-12:00	12-9 12:00-1:30	12-9 No Meeting	12-9 1:30-2:45	12-9 No Meeting	12-16 SS 9-11:00	12-16 12:30-2:00	12-16 2:15-3:45

Note: 1) These are regularly scheduled meetings and are subject to change during the year. Check your monthly agenda for location and possible changes

2) NB: NorthBay Base Hospital; SS: Sutter Solano Base Hospital

* November 11, 1999 is Veteran's Day which is a Solano County Holiday. Committees need to decide individually if they want to meet.





Solano County Quality Improvement Committee

PARAMETER: Airway/Respiratory Assessment and Treatment

STANDARD: All patients with a respiratory complaint or a *potential* airway problem (i.e., altered LOC, EtOH, burns) will at a minimum have the following assessments and/or treatments documented:

- Adequate airway patency and breathing
- Rate, quality and character of breath sounds
- Appropriate positioning of patient
- Use of proper BLS/ALS airway adjuncts
- Administration of oxygen in a timely fashion, if appropriate, using correct delivery device and flow rates
- Proper ventilation technique/equipment
- Suctioning, if needed
- Frequent reassessment/re-evaluation of the patient and interventions

REFERENCES: Solano County CQI

Thomas Charron MD

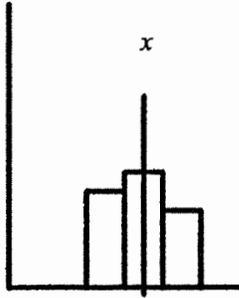
Dr. Thomas L. Charron, Health Officer/EMS Agency Medical Director

10/30/97
Effective Date

Allen J. Morini, DO

Dr. Allen Morini, Assistant EMS Agency Medical Director

10/30/97
Distribution Date



Solano County Quality Improvement Committee

PARAMETER: General Patient Assessment

STANDARD: All persons with a health complaint shall receive a physical assessment that at a minimum evaluates the following:

- Primary Assessment
 - Airway
 - Breathing
 - Circulation
 - LOC (Level of Consciousness)
 - Chief Complaint

- Secondary Assessment
 - Vital Signs (Pulse, BP, Respiratory Rate, Skin Signs)
 - History of Present Illness
 - Past Medical History
 - Medications
 - Allergies
 - Complete Problem-Oriented Physical Exam
 - Reassessment of Vital Signs

REFERENCE: Manual of Advanced Prehospital Care, 2nd. ed. (1984)

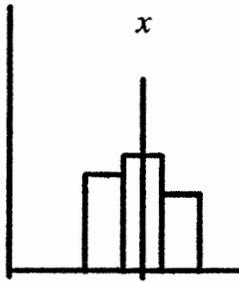
Thomas L. Charron MD

Thomas L. Charron, MD, MPH, Health Officer,
EMS Agency Medical Director

10/30/97
Effective Date

Allen Morini, DO
Allen Morini, DO, Assistant EMS Agency Medical Director

10/30/97
Distribution Date



Solano County Quality Improvement Committee

PARAMETER: Base Contact for Medical Consultation

STANDARD: Contact with the base for medical consultation should include, at a minimum, the following information:

- Name of person making the contact
- Solano County identifier of field unit
- Whether MICN or Physician contact is desired
- Nature of the consultation (AMA, DNR, Treatment Orders, etc.)
- Transport destination
- Age, Sex, Chief Complaint of patient
- Clinical Impression
- Treatment rendered (BLS and ALS)
- Patient's response to treatment
- Requests for medical orders must also include:
 - ☛ Level of Consciousness (LOC)
 - ☛ Vital signs
 - ☛ Pertinent Medical History
 - ☛ Medications
 - ☛ Allergies
 - ☛ Pertinent Physical Exam findings (level of distress, lung sounds, skin signs)
- ETA

REFERENCE: Solano County CQI Committee, 9/18/97

Thomas L. Charron MD

Thomas L. Charron, MD, MPH, Health Officer,
EMS Agency Medical Director

10/30/97
Effective Date

Allen Morini, DO
Allen Morini, DO, Assistant EMS Agency Medical Director

10/30/97
Distribution Date

SOLANO EMERGENCY MEDICAL SERVICES COOPERATIVE

Board of Directors Meeting

11 March, 1999 9:00 AM

Suisun City Council Chambers
701 Civic Center Blvd.
Suisun

A - G - E - N - D - A

Board of Directors

Michael Johnson, CAO
Solano County

Kevin O'Rourke
City Manager
City of Fairfield

Ric Dorris, Fire Chief
Dixon Fire Dept.

Tracie Paiva
Member Services Leader
Kaiser Foundation

Tom Travers
Director of In-Patient
Nursing Medical Services
Sutter-Solano Hospital

ry Tamkin, M.D.
Base Hospital Medical
Director
NorthBay Hospital

Robert C. Thierry
Consumer Representative

EMS Agency Staff

Thomas L. Charron, M.D.
Health Officer, EMS
Agency Medical Director

Michael Frenn
Agency Administrator

Counsel

Vicki Sieber-Benson
Asst. County Counsel

1. Call To Order/Roll Call Mike Johnson
2. Changes, Additions, Deletions to Agenda Directors
3. Approval of Minutes Mike Johnson
 - a. December 10, 1998
4. Directors' Comments Directors
5. Correspondence Mike Johnson
6. Administrator's Report Michael Frenn
 - a. Priority Medical Dispatch Grant
 - b. RFP: Procurement Committee
 - c. Fines for Out of Coverage
 - d. Updates to SEMSC Membership
7. Unfinished Business
 - a. EMS Plan
 1. Approve The EMS Plan and Authorize Action
Staff to Submit to the Solano County
Board of Supervisors for Adoption and to
Then to the State EMS Authority as
Required by Statute.
8. New Business
 - a. Annual Report
 1. Receive and Accept the Annual Report as Action
Presented by Staff
9. Public Comment
10. Adjournment

Agenda Materials Are Available at the EMS Agency
Attachments Are Available For Viewing at Meeting Location

Item 7a.
3/11/99

EMS PLAN

- 1. Approve The EMS Plan and Authorize Staff to Submit to it the Solano County Board of Supervisors for Adoption and Then to the State EMS Authority as Required by Statute.**

Solano Emergency Medical Services Cooperative

Board of Directors Agenda Item Summary

Meeting Date: 3/11/99

Agenda Item: 7.a. EMS PLAN

- 1. Approve The EMS Plan and Authorize Staff to Submit it to the Solano County Board of Supervisors for Adoption and Then to the State EMS Authority as Required by Statute.**

Staff Recommendation:

It is recommended that your Board approve the enclosed EMS Plan and authorize staff to submit it to the Solano County Board of Supervisors for Adoption and then to the State EMS Authority as required by statute.

Summary:

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Discussion:

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levels of service cannot be mandated, submission of plan describing where the local system is relative to the standards is required.

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(Ref: 1797.103)

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- (g) Public information and education
- (h) Disaster response.

Solano's EMS plan provides a detailed description of the system's organization, resources, strengths and weaknesses. The Trauma Plan, Policy and Procedure Manual, RFP and supporting documents for the SEMSC are included as annexes and/or attachments. The Executive Summary describes the goals and objectives of the plan, a brief description of system needs, a discussion on the overriding influence of managed care and the long range planning objectives. Section 2 provides a demographic overview and identifies some of the high risk groups requiring EMS care. Section 3 is the principle assessment and planning element and addresses each of the components listed in Table 1, above, in accordance with the State's guidelines (EMSA Publication #101). Section 4 provides samples of the data collection and CQI reports and Section 5 is a resource directory.

In addition to submitting the plan, the Agency will also submit the Annual Report to the Authority. Since the EMS plan must be updated annually, it would make sense to submit both the plan updates as well as the annual report simultaneously since the report should describe the efforts and effectiveness of attaining the objectives described in the plan.

Alternatives: Your Board could elect not to approve the plan as submitted. In that event, your Board would need to provide direction to staff on how to proceed given that plan submittal is a statutory requirement.

Legal Sufficiency:

This item has been reviewed and accepted by counsel to your Board.

Medical Sufficiency:

This item has been reviewed by and is acceptable to the EMS Agency Medical Director.

Board Action:

Solano Emergency Medical Services Cooperative
Minutes
March 11, 1999

Present:

Michael Johnson, CAO Solano County
Ric Dorris, fire Chief, Dixon Fire Dept.
Tracie Paiva, Member Services Leader, Kaiser Foundation Hospital
Tom Travers, R.N., director of In Patient Nursing Medical Services, Sutter Solano
Robert Thierry, Consumer Representative

Excused:

Kevin O'Rourke, City Manager, City of Fairfield
Thomas L. Charron, M.D., M.P.H., EMS Agency Medical Director

Staff:

Michael Frenn, EMS Agency Administrator
Vicki Sieber-Benson, Asst. County Counsel

1. Call to Order/Roll Call

The meeting was called to order at 9:10 AM by Michael Johnson. The role was called, and it was determined that a quorum was present.

2. Changes, Additions, Deletions to Agenda

A motion was made and carried to approve the agenda as submitted.

3. Approval of Minutes of December 10, 1998

A motion was made and carried to approve the minutes as submitted.

4. Director's Comments

None

5. Correspondence

Staff indicated that the correspondence enclosed in today's packets include: 1) Cancellation of the February 1999 indicating that meetings with private providers and cities have indicated that the Out Of Coverage Fines are no longer an issue and is no longer a concern for the authorization agreements; 2) Annual Report and the EMS Plan will be carried over to the March meeting; 3) Submission Requirements were

sent to potential bidders; 4) Agency follow up to RFP questions from AMR and to Medic Ambulance.

6. Administrator's Report

6a. Priority Medical Dispatch

This project is moving slower than projected as we are still waiting for the connection by Pac Bell between Burlingame and the Sheriff's Dept. The project will be validated by study of EMD and Managed Protocol Utilization instead of an actual field implementation.

6b. RFP Procurement

The Procurement Committee has been notified via letter of the approaching deadline for Proposal Submission and their upcoming schedule of meetings that will be required in order to make a recommendation to this board by the June meeting.

6c. Out of Coverage Fines

The private sector and the providers have reached consensus and resolved the issue. Providers and the cities have agreed that there is no need for a fine structure as evidenced by a letter from Fire Chief Tougas of Fairfield Fire Dept. which is included in today's packets.

6d. Interim Reports to SEMSC Membership

Staff clarified that as required in the by-laws of the SEMSC, the agency has and will be making presentations to the cities. Vacaville is to be included, although they are not members. The reception at Rio Vista, Montezuma Fire Protection District, City of Benicia and the County Board of Supervisors has been positive. Future presentations are scheduled for the City of Dixon and the City of Vallejo.

7a. EMS Plan

The EMS Plan has been offered for public comment, and there have been no comments received during that period. It is imperative that the plan be on file at the State EMS Authority by June 30, 1999, as a plan from Solano County is not on file yet. After submission of the plan to the state, there will be yearly updates required. The Plan Framework is described in section 3 of the plan and is the principle assessment and planning element. Section 4 provides samples of the data collection and CQI reports, and Section 5 is a resource directory.

Michael Johnson requested the time table for submission. Staff stated that it is basically ready to be submitted to state by June 30, 1999 with minor adjustments. Michael Johnson asked for comments on the EMS Plan, and there were none.

A motion was made and carried to approve the EMS Plan for submission to the State EMS Authority.

8a. Annual Report

Staff stated that this is the first time that an annual report has been produced by The Agency for this board's acceptance. Staff requested feedback from the board regarding what they would like to have in future reports. Michael Frenn thanked his staff for their help in preparing the report. Michael Johnson requested that reports be as timely as possible; therefore, reports should be issued in January for the preceding year. Staff stated that the data reports from December might not be ready by each January, but the Agency will attempt to report out each January. Michael Johnson requested the distribution list for the report. Staff stated that it included: 1) Board of Supervisors; 2) State EMS Authority as part of the EMS Plan; 3) Emergency Medical Care Committee.

A motion was made and carried to accept the 1998 Annual Report as submitted by the EMS Agency.

9. Public Comment: None

10. Adjournment

The meeting was adjourned at 10:00. The next meeting will be April 8, 1999 at 9:00 AM at the Suisun City Council Chambers, 701 Civic Center Blvd., Suisun.

Minutes submitted by Dava Castillo, EMS Agency Secretary

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Section 1 - Executive Summary

Purpose of the EMS Plan

This plan is designed to assist and guide the Solano Emergency Medical Services Cooperative, in its role as the local EMS Agency, in the performance of its mission:

To assure a timely and effective system of prehospital emergency care to any persons within the jurisdiction of the Agency needing such service, through a comprehensive and coordinated arrangement of appropriate Health and Safety resources, including Parahospital© services, at a reasonable cost to the users of the system.

Goals and Objectives of the EMS Plan

As required by Section 1797.224 and 1797.250 of the Health and Safety Code, this EMS Plan sets forth the major goals and objectives of the EMS Agency. This Plan shall serve as the blueprint of the strategic plan for the activities that the EMS Agency will be directing its limited resources to in the coming year(s). The plan addresses the following goals listed below:

1. An EMS System that appropriately addresses the medical needs of any person who accesses the system.
2. Seamless countywide coverage with emergency Advanced Life Support (ALS) ambulances, configured such that the closest available ambulance is responded, when appropriate, to 911 requests for medical emergencies.
3. True emergency medical dispatch programs countywide, including the availability of pre-arrival instructions to all 911 requests, as appropriate, and priority medical dispatch designed to generate the appropriate level of response upon the initial request.
4. Maximize opportunities for true public-private cooperation and ventures which strives for both efficiency as well as effectiveness by allowing all stakeholders to maximize their strengths within the system.

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5. Recognize and legitimize the roles of each of the components of the prehospital care system: dispatch, ALS first response, EMT defibrillation, transport, health-plan sensitivities, and others as integral to overall system design.
6. To be consistent with a capitated managed care environment for prehospital care.
7. Design an EMS system that conforms to the state legislature's intent that EMS Medical Director shall be responsible for medical control of the provision of all prehospital emergency medical services for all communities of the EMS Agency's service area.
8. Ensures that medical services provided by the EMS community are medically appropriate, cost-effective, and configured in a coordinated and cooperative fashion as described in the Parahospital© Services model.
9. Development of alternatives to the utilization of local hospital emergency departments as a source of primary health care for many of the residents in the communities of Solano.
10. Fosters and encourages an environment to address the need of preventative health educational programs, which would decrease preventable injuries and reduce need of 911, thus limiting the unnecessary dispatch and utilization of costly EMS services.

Legislative Mandates Associated with the EMS Plan

1. As required by Section 1797.250 of the Health and Safety Code, the Solano County EMS Agency is required to submit an EMS Plan that conforms to guidelines prescribed by the State Emergency Medical Service Authority (identified in Sections 3-5 of this document).
2. Section 1797.224 of the Health and Safety Code mandates that the process for the selection and designation for an exclusive ambulance zone must be described within this plan and must be approved by the Solano County Board of Supervisors. This plan and the forthcoming RFP process protects the County (and the SEMSC) from anti-trust litigation from any public or private organization wishing to monopolize the provision of ambulance services within the Exclusive Operating Area (EOA).

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Current Solano County EMS System Needs

The current provision of EMS services to the citizens of Solano generally conforms to State EMS standards. The Solano's EMS System has made great strides in ensuring that the provision of ALS services countywide and medical care are consistent with medical expectation. The EMS Agency and the EMS community still need to focus their attention to the following areas of the system:

1. Designation of exclusive ambulance operating zones to ensure that all communities in the county are afforded appropriate ambulance service at reasonable cost and the provision of medical services are accountable to the County's Health Officer.
2. A system configured so that (1) enough ambulances are available to meet all demands for EMS Services; (2) the closest emergency ambulance is dispatched, when appropriate, to all medical emergencies and (3) ambulance services comply with community response time performance standards.
3. Provision of pre-arrival medical instruction for all 9-1-1 callers needing immediate medical assistance prior to the arrival of first responders and/or an ambulance.
4. Coordinate with the Office of Emergency Services (OES) for disaster response procedures.
5. Provision of incentive and encouragement for all EMS organizations in the community to begin the initiation of EMS public education and information programs. These programs should encourage injury prevention, self reliance to manage minor medical emergencies and active reduction of unnecessary and inappropriate and costly 9-1-1 demands for immediate EMS services.
6. Strive to provide appropriate services to the public, maximizing economies of scale and organizing for efficiency. The EMS Cooperative and the Parahospital© Services model should attempt to secure a stable economic base for the overall EMS system. The Solano County system will be legitimized by acknowledging the current trends in health care wherein payors will increasingly demand efficiency of operations, efficacy in treatment; reimbursement by capitation, service response consistent with defined parameters of appropriateness, and system design that is data driven. The Parahospital© Service model leverages the core capabilities of the existing EMS system, particularly first responders, to provide **value-added** services which hopefully will preserve the financial underpinnings of the overall EMS system.

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Generalized Overview of the Contents of the EMS Plan

1. Has been developed and configured to comply with California EMSA (Emergency Medical Services Authority) EMS system standards.
2. Describes in detail both the strengths and weaknesses of the Solano EMS System.
3. Outlines and ranks the specific tasks to which the Solano EMS Agency will invest EMS resources (EMS Staff and Materials) to continually improve and upgrade the existing system.
4. This EMS Plan also identifies specific components of the Solano EMS System that require the investment of capital, political leadership and clear direction from the SEMSC Board of Directors to reconfigure existing patterns of EMS service delivery to ensure appropriate and cost-effective EMS service provision to the whole community.
5. Details selected components of the EMS system where the EMS Agency is currently focusing its attention in the development of short and long range plans to improve the EMS System.
6. Highlights other components of the Solano County EMS System that need to be implemented (rebuilding of the County's Med-Net and other disaster EMS Communications systems, designation of exclusive operating zones, public injury prevention educational programs, etc.).

The EMS Planning Process

EMS system planning effort is an ongoing process the goal of which is to ensure that each component shall be designed to contribute to a framework for optimal and cost-effective EMS care. Until very recently, most EMS System planning efforts in California have primarily involved securing the provision of ALS (Advanced Life Support - Paramedic) services to all citizens within a region or county. Most of the activities of a local EMS agency revolved around the provision of ALS services and/or centralized medical control monitoring of ALS care rendered. This limited vision of the roles and responsibilities of the EMS agency has indirectly caused the new problems regarding how EMS services are provided to the community.

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In the past, the cost of the provision of EMS care was a minor consideration when an EMS agency attempted to implement new and better methods to promote the provision of ALS services. The EMS agency now has a public responsibility to evaluate each component of the EMS system to ensure that EMS care is medically appropriate. Planning and evaluating the EMS system includes assessment of EMS system structures and components, constant review of the medical care processes and the monitoring of patient outcomes. The Solano County EMS Agency is now required to not only continue its role to coordinate the independent interactions between multiple EMS service provider organizations as they provide EMS services to the consumer, but also to demonstrate medical accountability, cost-effectiveness and in some cases, even recommend elimination or reductions in current methods of how EMS services are made available to the public.

A commonly overlooked but increasingly important obligation now confronting many EMS agencies is the need to objectively determine whether the current method of EMS service delivery is effective in diminishing death and reducing disability. This concern is becoming more apparent when considered in the wake of the wave of reforms associated with the increasing influence of managed care and new federal and state cost restraints to providing EMS services. At the same time, ensuring that the quality of EMS care adheres to medical expectation remains a constant obligation. The issue of when to initiate paramedic services in a community is now being replaced with introspective community debate on whether expensive EMS services should be seriously curtailed (or even eliminated) because they are not having any significant positive impact upon the citizen (e.g., success rates of cardiac arrest patients or increased pressures to decrease utilization of EMS aircraft).

In order to effectively meet the challenges which appear to be rapidly approaching, it is necessary to understand the priorities and objectives driving payor organizations and the impact these might have on current EMS system design. The health care industry, and in particular, the insurance component, is in a tremendous state of flux. The last few years alone have seen double-digit increases in enrollment of individuals in managed care plans; widespread and national attention to the issue of healthcare reform; and significant attempts at the Congressional level to reform Medicare (the largest HMO in the nation). Donna Shelah, Secretary of Health, recently reported to Congress that 65% of visits to the emergency department are **unnecessary**. There is also a growing realization that any plan, if it is to function long-term, will have to address the uninsured/underinsured population.

Payor organizations have been anticipating these and other factors for the last decade, but have focused their attention primarily on hospitals, physicians and medical specialties. Only now are they turning their attention to emergency medicine, including prehospital care. Some of what can be expected are:

1. Insurers will continue to decrease their costs both by decreasing access to care and by shifting risk to primary care physicians. This has foreseeable implication on scope and manner of

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practice. What has been heretofore taken for granted as the "standard of care" will now be scrutinized and subject to "verifiable need" analysis.

2. Insurers will attempt to maximize revenues through more stringent quality assurance and utilization reviews. This process will demand efficacy and quality in EMS care, substantiated by data (at a level we currently cannot provide).
3. There will continued and increased pressure to drive out unnecessary costs. Public-private partnerships will have to be pursued in earnest to yield the most efficient, cost-effective configuration. Paradigms of exclusivity of either the public or private sectors will vanish.
4. Payors will continue to increase their understanding of emergency medical services, both pre- and posthospital. Systems must be able to withstand scrutiny and address the difficult and inevitable questions of scope of practice, efficacy, and cost-effectiveness.
5. Payors will demand good data in a common data set. This information will ultimately drive protocol development and scope of practice. System configurations will be substantiated by an empirical base, not anecdotal conjecture.

While the above list is not exhaustive, it is certainly indicative of current trends in the industry and there are no indicators to suggest any deviation from this path. It is no longer adequate merely to determine who has authority to design and/or administer EMS systems; this will have little relevance in the presence of the impending economics. The long-term solution lies in configuring a cost-effective system which can provide a package of services sanctioned by payors and appropriate to the patient's needs. To develop such a system will require innovative organizational structures such as that proposed by the Solano County EMS Cooperative. Listed below are major needs and problems that the Solano County EMS System will have to address and resolve in the coming years.

Major EMS System Long Range Planning Objectives

The SEMSC and its provision of Parahospital[©] Medical Services represents a comprehensive and legitimate solution to the issue of how and by whom prehospital medical services in Solano County will be provided. The ultimate goal is to achieve user satisfaction by providing the highest quality medical care that is both appropriate to the patient's need as well as cost-effective. The following objectives are designed to produce this result:

1. Establish a viable and legitimate organizational model to design and administer EMS services throughout the county. This entity must meet the organizational needs of cities, fire districts

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and the county, as well as have credibility with the medical community and payor organizations. The SEMSC, in the form of a JPA, accomplishes this objective.

2. Provide countywide emergency ambulance coverage with uniform response time standards that meet or exceed State minimum guidelines, and a requirement that the closest available unit always be dispatched to 911 calls. This objective will be accomplished by contracting, via a competitive selection process, for an emergency ALS transportation (ambulance) provider(s). In the event of multiple providers, dispatch will be at least coordinated, if not centralized.
3. Build in long term fiscal stability for the provision of Parahospital© services to the community. This objective will be accomplished by development of a fiscal plan consistent with the general trend of payors to capitate contracts. The SEMSC will serve as "broker" of services to the payors and will establish a reimbursement mechanism for providers of Parahospital services.
4. Provide pre-arrival instructions to all 911 callers. This objective may be accomplished by several methods, including but not limited to: centralized medical dispatch, call transfer, 911 subcontracting, and/or coordinated dispatch.
5. Provide the appropriate resources and service options to clients the first time. This objective will be accomplished by developing protocols and procedures permitting alternatives to ambulance transport to emergency departments; the ability to treat and release; the referral of patients to their health plan for appointments, etc.
6. Ensure adherence to medical control and quality assurance standards. This objective is accomplished through the independence and autonomy of the EMS Agency medical director, as well as the emergency physician presence on the SEMSC Board of Directors.
7. Continually seek out other methods of cost savings such as central purchasing of supplies, coordination of training schedules, etc. Objectively and quantitatively improve the quality of care countywide by improving response times, development of standards, and proactively pursue implementation of innovative programs such as EMT-Defibrillation and ALS First Response.

Conclusions

The Solano County EMS system is in a period of major transition occurring during a time of significant restructuring of health care delivery, the allocation of limited resources for EMS service provision and financial reimbursement for services. Just like every other public and private EMS service and organization in the State, this EMS system is being challenged to do

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more with less revenue, to be more innovative and productive in providing efficient and effective service delivery, to be less wasteful and most importantly, to still ensure that the provision of EMS care in the Community is optimal and medically appropriate. The plan reflects how these expectations will evolve in the near future and how the Solano County EMS System will be configured through the year 2000. This plan is being submitted to the SEMSC Board of Directors for their approval to not only comply with existing health and safety code mandates but to receive direction and approval for the activities and priorities the EMS Administrator intends to pursue in the coming year.

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Central County - An industrial/suburban area, including the cities of Fairfield and Suisun. This area includes many military personnel and civilian employees of Travis Air Force Base. Like the South County, this is also a growing "bedroom community." Slightly more than 35% of County residents live in the Central Solano County.

North County - A largely agricultural/rural/suburban area, including the cities of Vacaville and Dixon. Most of the county's Spanish-speaking residents live in this area, and it is the temporary home for many seasonal agricultural workers. Population density in North County is considerably lower than in the other two portions of the county representing 24% of the county's total population.

Roads

Solano has 162.2 center line miles of state-maintained roads - 68.7 miles of them in urban areas. The remaining 1,482 center line miles of public roads, split 58/42 between city and county, are maintained by local jurisdictions. The major east-west Interstate in Northern California, I-80, passes through the center of Solano County, connecting the remainder of the Bay Area with Sacramento and extending eastward. Interstate 680 is a north-south freeway that connects I-80 with I-580 in Dublin and Highway 101 in San Jose. Interstate 780 connects I-80 and I-680 in southern Solano County and Interstate 505 connects I-80 with I-5. In addition to the Interstates, there are seven State Routes within Solano County, two of which have the unusual distinction of using car ferries on the route, and one which has been designated as a Hazardous Materials Route. There are two major transportation routes that are viewed as not appropriately designed for the volume of vehicles that use these routes. The routes have been associated with high demand for EMS services resulting from motor vehicle accidents. Route 12, which extends from Rio Vista to Fairfield and then links with I-80 until it separates and enters Napa County, is primarily a two-lane road. Motor vehicle accidents on this roadway are commonly associated with major trauma cases because of the speeds vehicles routinely travel. Another route is the Route 37 corridor which begins an exit from I-80 in Vallejo and transverses the northern bay perimeter and services as the prime route to Marin and Sonoma Counties. This road is also a two- and sometimes a three-lane road in relatively isolated areas. Motor vehicle accidents on this roadway are commonly associated with high vehicular speeds in which result head-on collision and/or lose vehicle control resulting in submersion if the vehicle leaves the roadway. This problem has been significantly reduced, however, with the recent placement of a cement median barrier down the middle of the otherwise undivided portion of this highway.

Alternate Transportation/Waterways

The principal mode of transportation in Solano County continues to be the automobile; however, cities are working to overcome the lack of public transportation. Vallejo and Fairfield both have city bus service. Vallejo is currently re-negotiating agreements with Greyhound for BART (Bay Area Rapid Transit) connection by bus to Concord in Contra Costa County. Airports are located at Rio Vista, Vacaville, (the Nut Tree) as well as at Travis AFB. Fairfield/Suisun has an Amtrak stop. There are no centralized public cross-county means of transportation.

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A deep water port at Benicia enables use by ocean-going vessels. principal users at this point include Exxon of Benicia, Huntway refineries, and Toyota. Marina facilities are in Vallejo, unincorporated Glen Cove, Benicia, Suisun, and Rio Vista. River siltage makes dredging a regular operational expense at all sites except deep water dockside.

Population Data

Solano County reveals an amazing growth over the last 10 years. Listed below is a breakdown of county population growth during the ten year period from

Solano County Population by Jurisdiction - U.S. Census Figures				
City	1980	1990	% Change	1997
Benicia	15,696	24,437	56%	27,359
Dixon	7,775	10,401	34%	13,663
Fairfield	59,483	77,211	30%	89,049
Rio Vista	3,448	3,316	-4%	3,708
Suisun City	12,463	22,686	82%	25,823
Vacaville	44,079	71,479	62%	85,124
Vallejo	82,790	109,692	32%	110,519
Unincorporated Areas	9,469	21,692	129%	20,203
TOTALS	234,205	340,421	45%	375,448

This chart reveals the significant growth experienced in Solano County over the past ten years. This rapid growth pattern has the potential to place high demand (particularly peak demand) on EMS services and is a prime reason why there is a need to reconfigure the system to include exclusive operating zones for ambulance service. It is also important to note that the population growth in the unincorporated areas of the county was not accompanied by a corresponding expansion in revenue.

Like much of California, Solano county is experiencing growing ethnic diversity, particularly in the cities of Suisun, Vacaville and Vallejo. In Vallejo alone, for example, the Asian population has almost doubled (going from 11.4% of the city's population in 1980 to 21.6% in 1990). The overall percentage of white residents in the County has decreased nearly 10% dropping from 69.5% in 1980 to 60.9% in 1990.

Distribution by Race/Ethnicity for Solano County 1980-1990			
Race/Ethnicity	1990 Pop	% 1990	% 1980
White	207,476	60.9%	69.5%
Hispanic	45,517	13.3%	10.5%
Black	43,858	12.8%	11.6%
Asian/Pacific Island	40,494	11.9%	7.1%
Other	3,076	9%	1.3%
TOTAL	340,421	100.0%	100.0%

Note: Of the "others," 80% are American Indians. It is also likely that Solano's Hispanic population is larger due to migrant farm workers

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Solano's ethnically diverse population is not evenly distributed throughout the county. Each of the County's seven major communities have very different characteristics. The table below displays the ethnic distribution per city.

Ethnic Distribution by City Solano County 1980-1990 U.S. Census 1990					
City	Hispanic	Asian/Pacific	Black	White	Other
Benicia	7.4	6.8	5.3	79.1	1.4
Dixon	28.4	2.3	1.2	67.1	0.9
Fairfield	13.2	9.9	13.3	62.6	1.0
Rio Vista	8.0	1.7	.1	89.5	1.0
Suisun City	16.1	15.8	13.7	53.3	1.1
Vacaville	15.9	3.4	7.7	72.0	0.9
Vallejo	10.8	21.6	20.9	46.1	0.8

Half of the county's African-American and Asian residents live in Vallejo, where Whites as a group constitute only 46.1% of the population. The largest Hispanic population (11,777) resides in Vallejo, although there is an almost equal number of this group in Vacaville (11,366).

Listed below is a breakdown of the population density for the major cities of the county. Population density (number of people per square mile) is another indicator of urbanization and requires constant analysis of problems frequently associated with this phenomenon (e.g., drugs, violence, poverty, etc.) which may indicate areas of higher demand for EMS services as well as unsafe environments for emergency workers.

Population Density for Solano County /Source: Calif. Dept. of Finance 1990		
Area	Size Square Miles	Population/Sq. Mile
Benicia	13.7	1,777
Dixon	4.2	2,560
Fairfield	34.6	2,199
Rio Vista	1.6	2,125
Suisun City	3.8	5,118
Vacaville	21.2	3,042
Vallejo	27.5	3,756
Unincorporated Areas	716.1	27
Solano (land area only)	822.7	390
Solano (water area)	75.3	0

Economic Data

In every city in Solano, raw or undeveloped land is already zoned for commercial and industrial use and is priced competitively against comparable real estate in the Bay Area. The combination of a relatively non-congested environment, with beautifully preserved open space buffers between cities, easy access to the I-80 corridor and supportive local governments make Solano a progressive and growing community for doing business. The county also offers the most affordable residential housing in the nine Bay Area counties.

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Per capita income of Solano County Citizens is shown below.

Solano County Average Per Capita Income by City/Source ABAG, 1987 Projections	
City	Average Per Capita Income
Benicia	\$13,718
Dixon	9,437
Fairfield	9,996
Rio Vista	11,614
Suisun City	9,373
Vacaville	10,891
Vallejo	10,185
Solano County	10,675
California	11,885

Solano County Demographics-Individuals Below the DHS Poverty Level (n=340,421)		
	Solano Averages	State Averages
Percent of Pop. below poverty level (1991)	7.5%	12.5%
Percent of Children under age 6	11.5%	19.1%
Percent of persons aged 65+	6.5%	7.6%
Percent of Asian/Pacific Islanders	6.4%	14.3%
Percent of Blacks	13.5%	21.1%
Percent of Native Americans	11.3%	18.6%
Percent of Whites	6.0%	9.1%
Percent of Hispanics	12.0%	21.6%

This data reveals that while residents of Benicia have per capita incomes well above the county (and State) average, for residents of the county as a whole, the mean per capita income for county residents is 10% below the State average. The cities of Dixon, Fairfield, Suisun and Vallejo also report mean per capita incomes below even the county average of \$10,675.

Tourist and Transient Populations

The geographical location of Solano County places it in a position where there is a high volume of tourist and transient populations. Marine World Theme Park is based in Vallejo and had over 1,900,00 visitors in the park last year. The entire county is serviced by 9-1-1, so visitors to the county can easily access the EMS system if medical help is needed. There are other places of tourist interest that attract individuals to Solano County (Travis Air Force Base Museum, Suisun Western Museum, Vallejo Naval and Historic Museum, etc.), but many tourists travel through Solano County to also visit the many wineries that are located in Solano, Napa, and Sonoma Counties. Each year, there are major events which attract many tourists and transient populations in which the EMS system has to accommodate for large crowds at specific locations (E.g., Suisun bathtub Races, Benicia Peddlers Fair, Lambtown U.S.A Festival, Vacaville Onion Festival, Solano County Fair, Vallejo Whale Boat Races, and Travis Air Force Base Air Shows, etc.) which do require pre-staging of EMS resources to accommodate the tourists coming to the events.

The transient population of Solano County is an extremely large population which directly impacts the EMS system. Not only is Solano County thought to be a bedroom community to both the Bay Area and Sacramento Metro Area, but the I-80 corridor, a major interstate that connects Northern California with the Bay Area, is a significant factor that places demand on the EMS system. Each day a high volume of commuters routinely uses the major roadways of Solano County. During the winter fog season, the high volume of traffic, in conjunction with poor driving conditions, very often results in mass casualty incidents. The physical design of the I-80 corridor (commonly an 8-lane freeway for the majority of the road in areas of high population density) contributes significantly to the low frequency of motor vehicle accidents and major EMS incidents. The volume of users on the I-80 corridor does increase the possibility of vehicle accidents that have a high risk of a hazardous materials component which may complicate an EMS response to an incident. In order to prepare for this problem, the EMS agency requires all EMTs and EMT-Ps to complete a mandatory Haz-Mat Awareness orientation program before the EMS agency approves an initial EMT certification/authorization, and the individual is placed on an emergency unit.

General Health Demographics of Solano County

The latest (June 1992) general health demographics for Solano County as provided by the California Department of Health Services indicate the following:

Live Births: There were 6,669 Live Births of Solano County residents. The birth rate (births per 100,000 population) is 19.3. The percent of very low birth weight (under 2,500 grams) is 5.8%. The percent of mothers who have birth outside their county of residence is 24.8%. The percent of mothers who began prenatal care after their first trimester is 25.3%. These numbers have a significant impact on community EMS planning. The Solano EMS system has made special efforts to anticipate problems in this area. All EMS transporting units have added necessary supply items (infant warmers) and even EMT-Ps are required to perform emergency field deliveries. The EMS agency has been monitoring the individual clinical assessments of EMT-Ps that have responded to emergency obstetric cases from 1/98 to 12/93. There were 143 obstetric emergencies that entered the EMS MIS system. 72 of the cases were assessed to be in active labor but were transported to a hospital and delivered there; 23 of the cases were normal delivery, and 48 cases were assessed by the EMT-P to be an obstetric complication or difficult case. Only 4 of the newborns resulting from field deliveries were assessed by EMT-Ps needing neo-natal resuscitation and/or immediate ALS care. This data does seem to indicate that preventive actions to improve access to perinatal care seems to be taking effect in the community. The improved frequency rate of 72 mothers in active labor over 1992 (45 reported cases) is a rough indicator of the effectiveness of community outreach and educational peri-natal programs that have been occurring in the county over the last three years. These expectant mothers now appear more willing to call their prime care giver as labor progresses and not wait until the last minute and/or a delivery becomes complicated before they elect to activate the EMS system to receive care. This increase in calls in which the EMS system provides primarily active transport and thus allowing the delivery of a baby in a controlled hospital setting is believed to be caused by increased community outreach and improved access to health care by pregnant women.

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As EMS-MIS reporting data downloads for ambulance service providers improve, it is believed frequency rates of obstetric emergencies can be used as a monitor of the effectiveness of current out reach programs.

Demographics of individuals needing health care that are below the CHS designated poverty level (1989) are listed below. Many of the individuals within this population commonly use the EMS system as their prime method to obtain primary medical care services.

Deaths - In 1990 there were 2,027 deaths in the County. The crude death rate (deaths per 1,000 population) is 5.9%. There were 57 infant deaths in 1990 under the age of 1 year. The county's infant death rate (deaths per 1, live births) is 8.5%. The age-adjusted deaths per 100,000 population is 799.4 (1988-90 Average). The following is a listing of DHS 1980-90 (Age-Specific Death Rate) Demographic Breakdowns.

Solano County Age-Specific Death Rates (1988-90) Indexed by population Age (Deaths per 100,000 Population)		
	Solano Averages	State Averages
Under 5 years old	230.5	240.3
5-14 years old	18.5	21.7
15-24 years old	81.5	110.6
25 to 34 years old	138.4	158.7
35 to 44 years old	199.1	227.7
45 to 54 years old	430.2	440.6
55 to 67 years old	1,082.9	1,036.6
65 to 74 years old	2,859.6	2,346.0
75 to 84 years old	6,045.1	5,497.9
Over 84 years old	16,887.1	15,191.9

Solano County Age Specific Death Rates (1988-90) by Cause (Deaths per 100,00 population)		
Causes	Solano	California
Heart Disease	162.3	238.1
Malignant Neoplasms	148.1	166.0
Cerebrovascular Disease	43.6	54.1
Chronic Obstructive Pulmonary Disease	30.6	33.4
Unintentional Injuries	27.6	36.4
Pneumonia and Influenza	21.5	33.9
Suicide	15.1	13.2
Diabetes Mellitus	13.0	11.7
Homicide	7.6	11.5

Death rate statistics for the age populations indexed by age population are not unusual. these rates are similar to other counties in the Bay Area and do not deviate from California state averages. The death rate for unintentional injury will be monitored much closer as the County begins to implement a formal "inclusive trauma system." It is hoped that this death rate will show a reduction after the trauma system becomes fully operational. The death rate associated

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with pneumonia and influenza is an additional area of concern, because patients with these general clinical conditions are commonly associated with EMS patient refusals for transport and/or cases in which BLS ambulances are triaged in place of ALS ambulances. Awareness in the EMS community that pneumonia and influenza is a clinical condition that does cause death and may require closer assessment and even ALS care in some instances. This population, of patients who may appear deceptively stable and their clinical conditions can rapidly deteriorate, should not be ignored by the EMS community.

Communicable Diseases - At the present time, there appears to an increase in the number of active tuberculosis cases impacting the county. This increase may be a direct result of increase in the prison population at CMF or a direct result of more TB cases in the general population. In either case, there is a need for the EMS Agency to ensure that each EMS service provider has an updated and active infection control plan. Listed below are the reported 1988-90 average communicable disease for Solano County:

Reported Communicable Diseases (1988-90 Average reported by DHS 1992)			
		Solano Averages	State Averages
Disease	Reported Cases	Rate per 100,000	Rate per 100,00
Hepatitis	115	34.7	36.7
Measles	16	4.8	18.9
Shigellosis	40	12.0	21.9
Tuberculosis	43	13.0	14.4
Syphilis	28	8.4	19.2
Gonorrhea	959	290.5	236.6
AIDS cases	267	78.4	138.3

Selected Morbidity Indicators - According to DHS in 1990 of persons aged 16-64 with a reported work disability, there are 12,900 cases or 8.5% of all persons in the County. There were 6,012 reported disabling injuries and illnesses reported in the county for 1990. 3,151 persons were injured in traffic accidents and 578 cases of reported occupational illnesses were reported for the County. Demographic data indicates that there is a need to begin some formalized injury prevention programs within the county, but at the present time the EMS agency has limited resources to actively address this community need.

General EMS High Risk Groups

Demographics obtained from EMS ambulance report forms provide the following information about individuals that are being serviced by the EMS system. More detailed information regarding EMS system demographics are included in Section 4, Table 10 of this plan. there are two type of EMS call that are entered in the EMS MIS. ALS (Advanced Life Support) care means a special service to provide definitive prehospital emergency care, including cardiopulmonary care, advanced airway management, intravenous therapy, medications and other approved paramedic procedures under the direct supervision of the Base Hospital. BLS (Basic Life Support) care is medical care provided by both paramedics and EMT-1s that is

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considered non-invasive. At the present time, the EMS Agency has been unable to enter all ALS and BLS cases into its EMS-MIS. From 1/1/93 until 12/31/93 (One calendar year), the EMS-MIS reported that there were 20,597 reported requests for EMS and/or ambulance services' encounters in the Solano County EMS system. These requests also include scheduled non-emergency requests for ambulance transfer which may or may not require an EMT-P to care for the patient. Of the 20, 597 reported cases only 18,766 cases were identified as true emergency cases. The remaining 1831 cases coded as scheduled transfers that were not emergencies and/or duplicate cases where more than one EMS service provider responded to the same request and counted the same patients twice. it must recognized that this number includes duplicate counts when multiple EMS units respond to the same emergency call (e.g., City of Benicia or cases in which EMS Aircraft responded to an emergency). During this year there is also significant under reporting of EMS cases for the Dixon and Rio Vista areas. The Final Disposition of the 18,766 requests for EMS service are divided into the following demographic groups:

Final Call Disposition of Solano County EMS Calls (Code 2 and Code 3 Emergency Responses)		
Source: Patient Report Forms reported to the Solano County EMS Office (1/1/98 - 12/31/98, n=14,876)		
Transport to a Hospital Emergency Department	79%	11,787
Transport to a Hospital Non Emergency Dept.	4%	577
Transport by other ground/air EMS Unit	1%	148
EMS Case was not transported	9%	1,383
Unknown EMS Final Call Disposition	1%	174

Of these 18,766 cases, the EMS Agency is still only able to get detailed and complete medical information entered into its EMS-MIS on just the emergency cases where a patient received ALS care. At the present time not all of the ambulance service providers are providing complete records of BLS emergency cases or cases in which there was a patient refusal of service to the EMS office. Because of this inability to receive data for all of the ambulance service providers, the EMS uses only a sample of data in EMS-MIS to make summary demographic projections of the population that received EMS services in the Solano County EMS System. The ALS subgroup is a more accurate indicator of the entire population that receives EMS services in the county. The 1993 sample size of the ALS population is 6,578. The demographics of this ALS patient groups has been processed by the EMS Agency to provide a demographic oversight that is representative of all consumers of the Solano County EMS System. It must be recognized that the age and sex of BLS cases and cases in which EMS care is refused have not always available and has been eliminated from the chart below. This sample is an underestimate of many cases which are presumed to be non-critical EMS cases entering the EMS system. Of the 6,578 ALS cases listed below, some ALS Demographics of the consumers of ALS services in Solano county are listed below:

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Demographics of Solano County ALS (Advanced Life Support) Consumers		
n=7865 1/1/98 - 12/31/98		
Data obtained from ALS cases submitted to the EMS from ambulance report forms		
Sex Demographics of Solano County EMS Consumers of ALS Services		
Male	6%	496
Female	7%	546
Unknown	87%	6,823
Age Demographics of Solano County EMS Consumers of ALS Services		
Age 1 to 4 years of age	2%	197
Age 5 to 15 years of age	3%	263
Age 16 to 25 years of age	7%	603
Age 26 to 35 years of age	9%	708
Age 36 to 45 years of age	12%	956
Age 46 to 55 years of age	12%	1,019
Age 56 to 65 years of age	11%	881
Age >65 years of age	40%	3,214
Unknown	.6%	48
EMT-P Clinical Impression Demographics of Solano county EMS Consumers of ALS Serv.		
Trauma Cases	19%	1,500
Motor Vehicle, Motorcycle, Transportation Accident	5%	442
Assault/Suicide Cases	2%	160
Falls	4%	324
Other Trauma	8%	1,597
Medical Emergency Cases	80%	6,365
Cardiac - Respiratory Arrest Cases	.1%	12
Cardiac - Chest Discomfort\Pain Cases	14%	1,160
Respiratory Distress Cases	15%	1,241
Altered Level of Consciousness	6%	550
Other Medical Emergencies	41%	3,260
Obstetric Emergencies	.7%	57
Other EMS Emergencies (e.g., DOA, Behavioral)	1%	85

Overview of the Public Health Care System

Solano County has experienced intense growth in the past ten year, not only in total population, but also with regard to its ethnic diversity and rate of growth which is expected to continue in the next decade. The Association of Bay Area Government in its 1990 annual growth report indicated that Solano County will be a growth county for the 1990s, irrespective of the closure of the Mare Island naval Military Base. Data also suggests that while per capita incomes may be only slightly below the state average, the rate of individuals living below the poverty level is increasing. Solano County, like other counties in the state is faced with spiraling increases in health care costs, decreasing provisions of health care benefits for low-income and elderly individuals. The result of these trends is a growing number of uninsured or underinsured individuals needing access to health care. In attempting to address this community problem of access to health care and reduce the need of accessing the EMS to obtain primary health care, the county along with other members of the Community (Kaiser, Sutter-Solano medical Center, NorthBay Medical Center, Local Community Clinics, Representative of Local City Government, Physicians, and the Solano County Medical Society, etc.) have taken a pro-active stand in the creation of the **Partnership Health Plan of California**. This organization has been authorized by the State Department of Health and Human Services to create a community-wide health maintenance organization of the Medi-Cal clients throughout the county. This pro-active plan ensures access to primary care physicians for individuals who qualify for Medi-Cal and is designed to reduce the problem of over-reliance of emergency departments as the prime access method individuals who have Medi-Cal. The Partnership, now nearing the end of its year, is currently designing a system to include an opportunity to allow the "working poor" (individuals who are not eligible for Medi-Cal Benefits or other forms of insurance) to become members of the partnership. The county has been a strong supporter of the "Managed Care" initiative, and the EMS office is also attempting to design EMS policies and procedures that support philosophical ideals of managed care. At the present time, many of these individuals use the EMS system as their prime method of obtaining access to primary care. If the program is successful, the EMS System will be one of the first places where it is likely to be identified.

In early 1990, The Solano County Department of Health and Social Services commissioned a needs assessment study of the county's current Health Care System. Listed below are summary findings of the 1990 Consultant's Report of the County's General Health Care System. This summary is the environment that the EMS system operates within.

- ◆ **Growing Number of Uninsured Residents** - During the past ten years Solano county has experienced a growing number of uninsured and underinsured clients. private ambulance companies report 35% of those using the services have no insurance, and of those who do have some type of insurance, 40% rely on Medi Cal.
- ◆ **Solano County does not have a County Hospital** - The fact that Solano County does not operate a county hospital has both positive and negative effects on the entire Health Care System. The access to the primary care issue, which is being addressed by the Health Care Partnership, is still a major factor in the current EMS system. This is because ambulances are required to care for and transport EMS clients (who could be effectively managed and

treated in a clinical setting) to local emergency departments where the cost of medical care is more expensive. Many of the patients using the EMS system come from lower socio-economic populations in which clients have limited insurance. In some instances many individuals using the ambulance transport to and receiving medical care in a hospital emergency department is a questionable and an inappropriate use of existing medical resources. Even though the county does not have a county hospital, the problem of access to primary health care is being addressed by the Partnership Health Plan. With "no county hospital" the County has virtually eliminated the common EMS problem of "Patient Dumping" and/or diversion of patients because of a hospital emergency department closure. "Patient Dumping" is a problem that is somewhat unknown in the EMS System. Individuals needing immediate medical services are routinely treated in all of the local hospitals.

- ◆ **Inappropriate Utilization of Hospital Emergency Departments** - Reliance upon an emergency room for the provision of primary care by the poor is not a new phenomenon; however, this is an acute community problem that is being addressed as the Health Care Partnership becomes more fully operational. At the present time, the Solano County EMS System is impacted by this problem on a daily basis because many clients needing access to health care are still using 9-1-1 and ambulance transport services to address their medical needs when they could be more appropriately managed outside the EMS system in a more traditional clinic with their primary care physician.
- ◆ **Increasing Lack of Specialty Care** - The EMS system exists in an environment in which there is a shortage and difficulty in some areas of physician recruitment. Solano is currently experiencing a lack of providers in the following areas: Neurosurger, Cardio-vascular Surgery and some other specialty areas.

Summary

The Solano County EMS System exists in a very difficult environment in which it has limited resources available to appropriately address the emergency medical needs of the citizens in the county at a time when the EMS System is viewed as a prime method to access primary health care for a major portion of the community. The enclosed EMS System plan is designed to use EMS Authority standards and objectives, but the System is being designed and configured to provide cost-effective services at a reasonable cost to the consumer.

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Section 3- Minimum EMS System Standards and Recommended Guidelines Designed and Developed by the EMSA

EMS System Organization and Management - Although an EMS system at the County or Regional Level is usually composed of independent organizations, all providers within the local EMS system have high degrees of interdependence. The Emergency Medical Services system should be coordinated in order to ensure close cooperation, to limit conflict, and to ensure that the interests of the patients are primary in the system. The minimum standards identified in this section are state minimum EMS system standards developed by the EMS Authority and approved by the EMS Commission. The SEMSC is mandated by Section 1797.250 of the Health and Safety Code to develop an EMS plan that conforms to these standards and each year to submit its EMS plan to the State. This EMS Plan is designed to compare this EMS system relative to the Minimum Standards and/or the Recommended Guidelines. However, nothing precludes the adoption of standards in excess of the Recommended Guidelines.

Each of the numbered standards in these sections that follow are specific minimum standards that the County's EMS system must conform to. Each standard in this plan is designed to also show the current progress the EMS Agency is making in attaining the standard and recommended needs and the objectives and projected timelines of when the standard should be attained.

1.0 LOCAL EMS AGENCY ADMINISTRATION

A. Administration

Minimum Standard 1.01

Each local EMS agency shall have a formal organizational structure which includes both agency staff and non-agency resources and which includes appropriate technical and clinical expertise.

Current Status: Addressed In EMS Policy with both an organizational (#1700) and a Functional (#1760) chart.

Need(s): N/A. Standard has been achieved.

Objective: N/A. Standard has been achieved.

Time Frame For Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.02

Each local EMS agency shall plan, implement, and evaluate the EMS system. The agency shall use its quality assurance/quality improvement and evaluation processes to identify needed system changes.

Current Status: Addressed in the Solano County QA Plan Responsibilities (See Section 2000 of the Solano County EMS Policy Manual). The local EMS agency is responsible for planning, implementing, monitoring and evaluating the local EMS system. The Medical Director or his/her designee of the EMS agency is responsible for medical direction of the EMS system and off-line medical control. The EMS Administrator of the EMS agency has responsibility for integration and coordination of all system-wide Quality Assurance Programs in the EMS system. The EMS Prehospital Care Coordinator is responsible for carrying out the day-to-day activities of the Quality Assurance Program in the agency acting as primary staff for the Quality Assurance Program.

The Base Hospital(s) and prehospital organizations are instrumental in implementing the policies and procedures of the local EMS agency, including monitoring the EMS system for its overall performance relative to minimum quality assurance standards as approved by the EMS agency, active review of the services and care provided, and timely submission of productivity reports to the EMS agency. All EMS personnel providing prehospital care are responsible for meeting or exceeding minimum quality assurance standards as approved by the EMS agency.

Need(s): Identify and integrate quality assurance programs currently being conducted by various providers within the county. Assist those providers not yet having

a formalized quality assurance process with the development/implementation of such program.

Objective: To achieve a uniform, countywide system of quality improvement that is peer driven and agreed to by the majority if not all prehospital care providers.

Time Frame for Objective:

Standard and Objective Achieved

◆ **Annual Implementation Plan**

Long-range Plan

Minimum Standard 1.03

Each local EMS agency shall have a mechanism (including the Emergency Medical Care Committee and other sources to seek and obtain appropriate consumer and health care provider input regarding the development of plans, policies, and procedures, as described throughout this document.

Current Status: Addressed In EMS Policy Manual (Policies #1776,1778,1780 & 1790) prescribing committee formation, intent and bylaws. The SEMSC Board of Directors also has a Health Consumer as a Board of Director.

Need(s): N/A Standard has been achieved. Revisions and updates as needed.

Objective: N/A Standard has been achieved. Revisions and updates as needed.

Time Frame for Objective:

◆ **Standard and Objective Achieved by Solano County EMS Agency**

Annual Implementation Plan

Long-range Plan

Minimum Standard 1.04

Each local EMS Agency shall appoint a medical director who is a licensed physician who has substantial experience in the clinical practice of emergency medicine.

Recommended Guideline

The local EMS Agency medical director should have administrative experience in emergency medical services systems. Each local EMS agency medical director should establish clinical specialty advisory groups composed of physicians with appropriate specialties and non-physician providers (including nurses and prehospital providers, and other areas, as needed.

Current Status: Accomplished: The Solano County Health Officer serves the role of EMS Medical Director and has significant administrative experience in EMS systems and on-line and off-line medical control. Because the Health Officer is not an emergency department physician, the EMS Agency has contracted the services of an Assistant EMS Medical Director since 1990. The Assistant EMS Medical Director provides technical assistance and medical consultation regarding the medical control and

quality assurance aspect of the EMS system. The Physicians Forum addressed in EMS Policy 1790 is an active group that routinely meets to resolve medical EMS system quality assurance issues and to monitor medical performance of the Solano County EMS system. Solano County also maintains a subcommittee of the EMCC called the Prehospital Care Committee (PCC). Its responsibilities are identified in Solano County EMS Policy 1780.

Need(s): Standard has been achieved at recommended guideline level. Revisions and updates as needed.

Objective: Continue Funding

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long-range Plan

B. EMS System Planning Activities

Minimum Standard 1.05

Each local EMS Agency Shall develop an EMS System Plan based on community need and utilization of appropriate resources, and shall submit it to the EMS Authority. The plan shall:

- 1) Assess how the current system meets these guidelines
- 2) Identify system needs for patients within each of the targeted clinical categories (as identified in Section 2.
- 3) Provide a methodology and time line for meeting these needs.

Current Status: This Plan represents current planning efforts.

Need(s): Once this Plan is completed and locally approved, submit it to the EMS Authority, and then submit updates of the Plan to the EMS Authority each year. This Standard is currently being implemented and will have been completed when the Plan is approved by the SEMSC Board of Directors and the County Board of Supervisors and then sent to the EMS Authority. Revisions and updates to the Plan will occur as needed or if the EMS Authority rejects sections of the Plan.

Objective: See enclosed Plan. If this Plan is submitted to the EMS Authority, the objective will be complete. It is expected to be revised each year as an annual report to the SEMSC Board of Directors.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ Annual Implementation Plan

Long Range Plan

Minimum Standard 1.06

Each local EMS Agency shall develop an annual update to its EMS System Plan and shall submit it to the EMS Authority. The update shall identify progress made in plan implementation and changes to the planned system design.

Current Status: To be addressed after the EMS Plan has been submitted to the EMS Authority.

Need(s): As stated above.

Objective: To update the Plan yearly.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ Annual Implementation Plan

Long Range Plan

Minimum Standard 1.07

The local EMS Agency shall plan for trauma care and shall determine the optimal system design for trauma care in its jurisdiction.

Recommended Guidelines:

The local EMS Agency should designate appropriate facilities or execute agreements with trauma facilities in other jurisdictions.

Current Status: Solano EMS Agency, assisted with federal block grant funds through the EMS Authority, is nearing completion of an inclusive trauma system which will result in significant improvement in the management of major trauma events occurring in the system. The EMS agency anticipates formal designation of at least three Level III Trauma Centers.

Need(s): Solano County has a need for a Trauma Plan and System. There are insufficient neurosurgical resources to appropriately manage the demand for this particular specialized medical service. The EMS Agency in cooperation with local hospital medical staff and administrators have developed an inclusive Trauma Plan which has been approved by the State.

Objective: To develop an inclusive trauma plan for Solano County that will result in the consistent and organized management of major trauma events occurring within Solano County.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation**

Long Range Plan

Minimum Standard 1.08

Each local EMS Agency shall plan for eventual provision of advanced life support services throughout its jurisdiction.

Current Status: Accomplished In Solano County.

Need(s): N/A. Standard has been achieved.

Objective: N/A. Standard has been achieved.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.09

Each local EMS Agency shall develop a detailed inventory of EMS resources (e.g., personnel, vehicles, and facilities) within its area and, at least annually, shall update this inventory.

Current Status: The EMS Agency maintains a Management Information System (MIS) that maintains an active listing of the Individuals certified by the EMS Medical Director, and each year there is an annual registration and inspection for each ambulance within the system. There is no active listing or EMS assessment of the medical facilities in the system or a detailed assessment of the service level capability and EMS resources of the fire first responders in the community.

Need(s): The EMS Agency needs to complete its detailed EMS resource inventory to and include vehicles, facilities, training centers, etc.

Objective: To develop a complete facility assessment inventory list, and update it every other year. The EMS Agency is dependent upon the EMS Authority to release its standards for facility assessment before completion of the process. The EMS Agency will secure the voluntary participation of all members of the SEMSC, including first responders, ALS first responders, BLS first responders, and transportation providers to accomplish this objective.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation

◆ **Long Range Plan**

Minimum Standard 1.10

Each local EMS Agency shall identify population groups served by the EMS system which require specialized services (e.g., elderly, handicapped, children, non-English speakers).

Recommended Guidelines

Each local EMS Agency should develop services as appropriate for special population groups served by the EMS System which require specialized services (e.g., elderly, handicapped, children, non-English speakers).

Current Status: The Solano EMS Agency has no comprehensive data which identifies population groups served by the EMS system which require specialized services. Occasionally, special needs are brought to the attention of the agency through the unusual occurrence reporting system.

Need(s): The Solano EMS Agency needs to conduct a comprehensive analysis of the population served by the EMS system to identify those groups which require specialized services and develop a plan for delivery of said services.

Objective: To make sure that the needs of the entire population served by the EMS system are adequately identified and met to the extent possible with existing resources.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation

◆ **Long Range Plan**

Minimum Standard 1.11

Each local EMS Agency shall identify the optimal roles and responsibilities of system participants.

Recommended Guidelines

Each local EMS Agency should ensure that system participants conform with their assigned EMS system roles and responsibilities, through mechanisms such as written agreements, facility designations, and exclusive operating areas.

Current Status: The EMS Agency has been able to partially satisfy this objective of identifying the optimal roles and responsibilities of system participants. This has been done primarily through written agreements and contracts for the provision of services with base hospitals, transportation providers, and aeromedical providers, and agencies that provide early defibrillation services and ALS services.

Need(s): Standard to be completed through the development of roles and responsibilities for system participants, ultimately culminating in written memorandums of understanding. This process will be a consensus process cooperation with the County Fire Chiefs Association, active PSAPs within the County, and representatives of city organizations. The roles, responsibilities and written agreements should be consistent with the overall county quality assurance program and should be reviewed annually by the County Emergency Medical Care Committee (EMCC).

Objective: The objective is to have agreed upon roles and responsibilities for all EMS participants which will then be recorded in memorandums of understanding between the EMS Agency and the various system participants.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation**

Long Range Plan

C. Regulatory Activities

Minimum Standard 1.12

Each local EMS Agency shall provide for review and monitoring of EMS system operations.

Current Status: Accomplished through the Solano County EMS QA Plan (i.e., retrospective audit, MIS reports of EMS system providers, Base logs, ambulance logs, computerized data entry of patient care reports, and computerized medical audits.

Need(s): Standard has been achieved. Improvements regarding monitoring EMS system operations are evolving dependent upon Improved technology changes, availability of the limited EMS staff to manage and prioritize other concerns reported to the EMS agency, and the success of the EMS agency to obtain special projects grants from the EMS Authority.

Objective: Standard has been achieved; however, there remains more work to do in order to have a valid and consistently viable method for monitoring and evaluating EMS System performance.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 1.13

Each local EMS Agency shall coordinate EMS System Operations

Current Status: The EMS Agency provides a coordination role by facilitating the development of standards for EMS operations, and procuring written agreements with all EMS organizations that deliver EMS services in the system. In addition, the existing standing committees (EMCC,PCC, Physician's Forum, CQI, HURD) are designed to provide opportunity to evaluate, via group process, consensus on standards. With the organization of the EMS Cooperative, the coordination function will be greatly enhanced and easily attained. This will result in substantial improvement with overall cohesiveness of the Solano EMS system.

Need (s): The EMS Agency needs to procure written memorandums of understanding with all EMS system participants.

Objective: To achieve true coordination and integration of all system participants.

Time Frame for Objective:

Standard and Objective Achieved by the Solano county EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 1.14

Each local EMS Agency shall develop a policies and procedures manual which includes all EMS system operational and medical direction policies and procedures. The agency shall ensure that the manual is available to all EMS system providers (including public safety agencies, ambulance services, and hospitals) within the system.

Current Status: Accomplished in June 1992.

Need(s): Standard has been achieved. Revisions and updates as needed.

Objective: Standard has been achieved. Revisions and updates as needed.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.15

Each local EMS Agency shall have a mechanism to review, monitor, and enforce compliance with system policies.

Current Status: Standard has been achieved. Accomplished through the EMS system QA Plan. Revisions and updates to EMS system policies occur as needed. The QA Plan establishes a mechanism of retrospective audit which is reported monthly to the EMS agency. The agency maintains active unusual occurrence follow-up and investigation programs, and also generates EMS-MIS summary reports of system productivity using Base Hospital reports, ambulance dispatch logs, and PCR (patient care report) data entry at prehospital service providers and Base Hospitals. These are reported monthly to the EMS agency and are distributed and reviewed at various meetings such as the EMCC, PCC and Physicians Forum, on an as needed basis.

Need(s): Standard has been achieved and revisions and updates will be developed as needed. The prime method used to monitor and evaluate EMS system performance is currently public review of EMS performance in the public advisory committees (EMCC, PCC, Physicians Forum). This method needs to be further enhanced with a peer-driven process of quality improvement, via the CQI Committee.

Objective: To have a standardized and consistent mechanism to review, monitor, and enforce compliance for system policies. This continues to be a work in progress.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

D. System Finances

Minimum Standard 1.16

Each local EMS Agency shall have a funding mechanism which is sufficient to ensure its continued operation and shall maximize use of its Emergency Medical Services Fund.

Current Status: In October of 1989, the Solano County Board of Supervisors approved an EMS consultants report to adequately fund and maintain its local EMS agency. The source of the local EMS agency funding is from the County's Emergency Services Fund (5B612) and additional County General Fund revenues. Solano County has a successful program in which it already uses the EMS Fund that is authorized under the H&SS Code. At the present time there is under-utilization of the Physician component of the EMS Fund, but recent changes in Solano County's economy has seen an increase in physicians' request reimbursement and information on how to access the fund.

The Solano Emergency Medical Services Cooperative (SEMSC) Board of Directors has approved a tentative fee schedule; however, it has not yet been implemented.

Need(s): To design an EMS system that will be adequately funded not from Solano County's General Fund but from a dedicated source of EMS funding that will maintain the EMS Agency and also allow the EMS Agency an opportunity to invest funding in other areas of the EMS system which commonly receive low priority. (e.g., public education, injury prevention, improving the Solano EMS communications system, disaster planning, etc.).

Objective: To develop a stable and reliable source for the Solano County EMS Agency.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ Long Range Plan

E. Medical Direction

The local EMS System shall include appropriate medical direction. This implies involvement of the medical community and ensures medical accountability in all stages of the system.

Minimum Standard 1.17

Each local EMS Agency shall plan for medical direction within the EMS system. The plan shall identify the optimal number and role of Base Hospitals and alternative base stations and the roles, responsibilities, and relationships of prehospital and hospital providers

Current Status: This issue was addressed in October of 1989 when the Solano County Board of Supervisors initiated an EMS consultants study of the Solano County EMS system. The consultant's report addressed specific goals and objectives regarding how the EMS system shall be organized and configured.

Need(s): To develop an EMS Plan that is approved by the EMS Authority and to maintain the Plan after it is approved by the State.

Objective: To complete Solano's EMS Plan and have it approved by the SEMSC Board of Directors and the Solano County Board of Supervisors.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation

Long Range Plan

Minimum Standard 1.18

Each local EMS Agency shall establish a quality assurance/quality improvement program. This may include use of provider based programs which are approved by the local EMS Agency and which are coordinated with other system participants.

Recommended Guideline

Prehospital Care providers should be encouraged to establish in-house procedures which identify methods of improving the quality of care provided.

Current Status: Accomplished through the EMS system, QA Plan, and the use of various committees (e.g.,PCC,HURC, CQI).

Needs This standard has been achieved and revisions and updates to the QI program occur as needed. The EMS Agency has reached a point where it is now ready to publish the compliance rates with QI standards to ensure EMS care is consistent with medical and community expectation.

Objective: This standard has been achieved. Revision and update to the Plan are initiated as needed after retrospective medical review of EMS-MIS productivity report, medical audit summary reports, or after closure of an unusual occurrence investigation in which an EMS system policy revision is indicated. The QA Plan establishes a mechanism of retrospective audits reviewed at various levels within the EMS system. EMS-MIS productivity reports help to ensure EMS care is

consistent with medical standards developed by the Assistant EMS Medical Director, Physician Forum and the Health Officer.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.19

Each local EMS Agency shall develop written policies, procedures, and/or protocols including, but not limited to:

- a) Triage
- b) Treatment
- c) Dispatch protocols and pre-arrival/post-dispatch instructions
- d) Transport
- e) On-scene treatment times
- f) Transfer of emergency patients
- g) Standing orders
- h) Base Hospital Contact
- i) On-scene physicians and other medical personnel
- j) Local scope of practice for prehospital personnel

Recommended Guidelines

Each local EMS Agency should develop (or encourage the development of) pre-arrival/post dispatch instructions.

Current Status: The minimum standard has been accomplished. Standards regarding elements #a,b,d,e,f,g,h,i, & j are all within the current Solano County EMS Policy Manual. Priority Medical Dispatch including Pre-Arrival Instruction is a key component of the proposed Solano EMS system design. Two Public Safety Answering Points (PSAPs) are currently providing Pre-Arrival Instruction. Further, the Solano EMS system, which is currently organized as an EMS Co-op Model, also envisions integration of Managed Care into overall system design.

Need(s): Research and development of draft dispatch protocols which include Pre-Arrival instruction, Call Prioritization, and Managed Care Service Output options.

Objective: Research and development of dispatch policies and procedures with result in the appropriate resources being dispatched according to patient need and appropriate services being rendered in accordance with clinical parameters and HMO contracts. To that end, it is quite possible that Priority Dispatch protocols will be augmented to reflect the service options available to HMO Plan members who access the 9-1-1 system. Integration and implementation of this system is currently being funded by a special block grant through the EMS Authority.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 1.20

Each local EMS Agency shall have a policy regarding "Do Not Resuscitate (DNR)" situations in the prehospital setting, in accordance with the EMS Authority's DNR guidelines.

Current Status: The Solano EMS Agency has had a DNR (Do Not Resuscitate) policy since 10/01/90 (See EMS Policy 6130) and subsequently updated in 1996 to be consistent with State guidelines. The program has been very successful in addressing the DNR requests of physicians and citizens requesting DNR authorization from the Health Officer (EMS Medical Director). Solano has already recognized the EMS Authority DNR form and is revising its EMS Policy 6130 to adhere to the EMS Authority guidelines. The EMS-MIS has been monitoring the frequency of DNR requests associated with 9-1-1 emergency calls and Solano County experiences approximately 20-30 DNR cases a year in which EMT-Ps honor the DNR requests when a DNR form is made available to the responding crews. The current State DNR form requires a physician signature to be valid; the Solano County DNR form allows a patient to make this request without physician signature. The EMS Agency has received many requests from citizens having chronic medical conditions who do not have a primary care physician caring for them. The EMS Agency has maintained a policy that citizens have a right of self-determination and will attempt to honor any DNR request by a citizen without requiring physician approval. This local interpretation of a citizen's right of self-determination differs from the EMS Authority guidelines. This small difference has been taken into account in policy 6130.

Need(s): Update as needed to address any possible problems or changes in legislation that will impact EMS DNR cases.

Objective: None at this time. Update as needed to address any possible problems or changes in legislation that will impact EMS DNR cases.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.21

Each local EMS agency, in conjunction with the county coroner(s), shall develop a policy regarding determination of death, including deaths at the scene of apparent crimes.

Current Status: Accomplished in EMS Policy 6160.

Need(s): Update as needed to address any possible problems or changes in legislation that will impact EMS care at a crime scene.

Objective: None at this time. Update as needed to address any possible problems or changes in

legislation that will impact EMS care at a crime scene.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.22

Each local EMS Agency shall ensure that providers have a mechanism for reporting child abuse, elder abuse, and suspected SIDS deaths.

Current Status: Accomplished in Solano County EMS Policy 6190. In addition, the Solano EMS Agency, in concert with a County Ad Hoc Committee on Sudden Infant Death Syndrome (S.I.D.S.), is expanding the depth of training first responders receive in the response to this condition. Of significant note, the EMS Agency has developed a comprehensive field care reporting form designed specifically to be used in the sudden, unexpected death of infants under one year of age. The information contained in this form is derived from the Deputy Coroners Investigation Protocol. The timely and accurate capture of this information by first responders will be instrumental in assisting the Coroners Department in the investigation of these events and will further serve to enhance the ability of first responders to address the multiple needs present in the event of S.I.D.S.

Need(s): Update as needed to address any possible unusual occurrences reported to the EMS agency or changes in legislation impacting patient listed above.

Objective: Update as needed to address any possible problems or changes in legislation that will impact EMS SIDS care.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 1.23

The local EMS medical director shall establish policies and protocols for scope of practice of prehospital medical personnel during interfacility transfers.

Current Status: Accomplished In EMS Policy 7200.

Need(s): Update as needed to address any possible unusual occurrences reported to the EMS agency or changes in legislation impacting the patient populations listed above.

Objective: Update as needed to address any possible problems or changes in legislation that will impact EMS interfacility transfer cases.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

F. Enhanced Level: Advanced Life Support

Minimum Standard 1.24

Advanced life support services shall be provided only as an approved part of a local EMS system and all ALS providers shall have written agreements with the local EMS Agency.

Recommended Guideline

Each local EMS Agency, based on state approval, should, when appropriate, develop exclusive operating areas for ALS providers.

Current Status: The entire EMS system is being serviced by ambulances and/or first responders which are staffed and equipped to provide Advanced Life Support services at the EMT-P (paramedic) level. It is worthy to note that the current system planning design may, in fact, result in the dispatch of resources other than ALS ambulances and/or first responders should the need as presented by the caller to the PSAP dictate. This will, of course, be determined by protocols developed and approved by the local medical community and will ideally be consistent with the service options sanctioned by the HMOs.

Need(s): To have an Advanced Life Support response to all calls determined to be of immediate life threatening and/or unknown need, and to dispatch alternate resources as the protocols and needs determine.

Objective: To consistently respond the appropriate resource to requests for 9-1-1 service throughout the jurisdiction of the Solano County EMS Agency.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 1.25

Each EMS system shall have on-line medical direction, provided by a Base Hospital (or alternative base station) physician or authorized registered nurse/mobile intensive care nurse.

Recommended Guideline

Each EMS system should develop a medical control plan which determines:

- a) The Base Hospital configuration for the system.
- b) The process for selecting base hospitals, including a process for designation which allows all eligible facilities to apply
- c) The process for determining the need for in-house medical direction for provider agencies

Current Status: The Solano EMS system at the present time requires EMT-Ps to obtain Base Hospital consultation in conjunction with administering advance life support therapy. Authorized registered nurses (MICNs) perform the majority of the base

consults with the exception of a small population of critical cases in which a physician in the emergency department of a Base Hospital takes the time to directly provide immediate consultation and direction to field crews. The recommended guide line of developing a process for selecting Base Hospitals is not applicable to this system because of the geographic placement of hospitals in the system.

Need(s): A better method of providing fiscal support to the Base Hospital providing on-line medical control and the communication linkages with on-line medical control is needed.

Objective: The EMS agency will incorporate as part of the new system design appropriate and defined rules for base hospitals and hopefully will identify the stable sources of funding to compensate facilities for those services.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

G. Enhanced Level: Trauma Care System

Minimum Standard 1.26

The local EMS Agency shall develop a trauma care system plan, based on community needs and utilization of appropriate resources, which determines:

- a) The optimal system design for trauma care in the EMS area
- b) The process for assigning roles to system participants, including a process which allows all eligible facilities to apply

Current Status: The Solano EMS Agency, assisted with federal block grant funds administered through the EMS Authority, has been successful in developing an inclusive trauma plan for the county of Solano which proposes the designation of several local hospitals as the level III Trauma Centers. Presently, arrangements are being made for an application process for designation including site visits by an out-of-area medical specialty team. The Trauma Registry has been purchased for these facilities and the trauma plan is anticipated to be implemented within the next several months.

Need(s): To implement the Trauma Plan through the designation of local facilities as level III Trauma Centers.

Objective: To implement the Solano County Inclusive Trauma Plan, begin the collection of trauma data through the registry and perform analysis which will indicate those sections of the Plan which should be modified or re-evaluated.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ Annual Implementation Plan

Long Range Plan

H. Enhanced Level: Pediatric Emergency Medical Care & Critical Care Systems

Minimum Standard 1.27

The local EMS Agency Shall develop a pediatric emergency medical and critical care system plan, based on community needs and utilization of appropriate resources, which determines:

- a) The optimal system design for pediatric emergency medical and critical care in the EMS area
- b) The process for assigning roles to system participants, including a process which allows all eligible facilities to apply.

Current Status With the assistance of the special project grant from the EMS Authority in fiscal year '93-'94, the EMS Agency successfully developed an educational training program designed for prehospital personnel that was consistent with the larger statewide EMS for Children's (EMS-C) project. The training program (or the equivalent pediatric Advanced Life Support) is now required curriculum for all ALS personnel and BLS training.

Needs: To conduct an in-depth analysis of major traumatic events in pediatric residents and to develop a program of pediatric emergency medical and critical care based on community needs.

Objectives: To re-evaluate training needs and repeat prior trainings, if needed.
To provide effective and appropriate pediatric emergency medical and critical care.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ Long Range Plan

I. Enhanced Level: Exclusive Operating Areas

Minimum Standard 1.28

The local EMS Agency shall develop and submit for state approval a plan, based on community needs and utilization of appropriate resources, for granting of exclusive operating areas which determines:

- a) The optimal system design for ambulance services and advanced life support services in the EMS area
- b) The process for assigning roles to system participants, including a competitive process for implementation of exclusive operating areas.

Current Status: Solano is presently undergoing a competitive bid process which will establish an Exclusive Operating Area (EOA) for a single provider throughout the county excluding the City of Vacaville, which is an acknowledged "201 city." The EOA will include all ALS services originating in the County. Proposals are due by 31 March, 1999, and a recommendation is expected from the procurement committee by early June 1999.

In July 1995, the Solano County Board of Supervisors approved an innovative and cutting edge solution for a system design consistent with capitated market share and compatible in a Managed Care environment. The solution included two significantly new models of EMS for Solano County, one for service delivery and one for organization.

The service delivery model referred to as the Parahospital System describes a package of services provided out of hospital to individuals who access 9-1-1 and may include Pre-Arrival instructions, Call Prioritization, Alternate Patient Destination, Physician Referral Treat and Release, Home Health, Child Inoculation, Repatriation, etc.. These services will be marketed to HMO organizations. The organizational model is in the form of the Solano Emergency Medical Services Co-operative (SEMSC), Joint Power Authority composed of the county, six of the seven cities of the county and the fire districts in the un-incorporated areas of the county. This single county JPA is the first and only in the state of California to be designated as the local EMS Agency. (See organizational chart page .)

Need(s): Solano County needs and stakeholders address the interests of the various system participants as well as being consistent with the current trends in health service reform (the move towards managed care and capitated markets). The end product must result in a seamless countywide system which meets minimum standards for response times and competent Advanced Life Support service as promulgated by the EMS Authority.

Objective: To produce a seamless countywide system which provides for a standard response to medical emergencies, provides the appropriate resources to callers for 9-1-1 service based upon true Priority Medical Dispatch, uses protocols and Managed Care Service options that are politically viable, fiscally sound, medically prudent, and compatible with the tendency of Managed Care to produce capitated markets for service.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

2.0 STAFFING/TRAINING

The local EMS system should include an adequate number of hospital and pre hospital health professionals to provide emergency medical services on a twenty-four hour per day basis. Provision should be made for the initial and ongoing training of these personnel utilizing curriculum consistent with state and national standards.

A. Local EMS Agency

Minimum Standard 2.01

The local EMS Agency shall routinely assess personnel and training needs.

Current Status: This standard has been formally addressed both in the system's quality assurance program and the EMT/MICN certification process of the EMS Agency. Specific individual EMT/MICN training needs are managed during quality assurance review and individual counseling which is done at the EMS service provider level or at the Base Hospital when a medical quality assurance issue is identified needing resolution. Issues in which a formal EMS educational program is needed are identified from retrospective medical audit EMS-MIS trend analysis and review of reported EMS technology changes that will positively impact EMS service from the medical literature are assessed and processed by the EMS staff. In some instances special training programs are used to address unique or EMS system concerns that impact the entire system. The monthly Base Hospital and PCC meetings serve as a forum to address most EMS policies and other patient care informational issues in which there is a need to educate the prehospital community.

Need(s): The assessment of personnel and training needs is an ongoing process which is part of the overall EMS Agency function. The specific need is to continue to evaluate and revise the quality improvement process so that there will exist the shortest time between the identification of a need and a process to meet the need.

Objective: To have a dynamic process in place which continually monitors and evaluates personnel and training needs and produces the means by which to address those needs.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 2.02

The EMS Authority and/or local EMS agencies shall have a mechanism to approve EMS education programs which require approval (according to regulations) and shall monitor them to ensure that they comply with state regulations.

Current Status: This standard has been accomplished. The County's EMS educational training approval process is detailed in the Solano County EMS Policy Manual, Section 4000, EMS program approval. The Agency has also formalized policy and procedure 4500 for designation of C.E. providers consistent with the guidelines promulgated by the Authority in September, 1994.

Need(s): To update as needed to address any possible unusual occurrences or citizen complaints regarding EMS educational programs reported to the EMS agency. To make necessary changes in the EMS Policy Manual dependent upon new legislation impacting the educational programs. Update EMS Policy manual as needed to address any possible problems or changes in legislation that will impact EMS educational programs. To randomly site visit each educational program yearly.

Objective: To insure educational programs are providing the services they agreed to perform. Re-evaluate each educational program's formal approval on at least a bi-annual basis.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 2.03

The local EMS agency shall have mechanisms to accredit, authorize, and certify prehospital medical personnel and conduct certification reviews, in accordance with state regulations. This shall include a process for prehospital providers to identify and notify the local EMS agency of unusual occurrences which could impact EMS personnel certification.

Current Status: This standard has been successfully addressed in the Solano County EMS Policy Manual (Sections 2000 & 3000). The EMS Agency or the Base Hospital initiates formal counseling which very often is all that is necessary to resolve the medical control concern. The EMS Agency is the only agency that is responsible for formal disciplinary actions. This isolates the Base Hospital role to only quality improvement and the QA Plan of each component of the EMS system receives a copy of all formal counseling and disciplinary actions which are performed by the EMS Agency. The employer is involved early in the process of how the case will be resolved when Base Hospital or EMS Agency actions are taken.

Need(s): To continually evaluate and approve the process of accrediting, authorizing, certifying prehospital personnel and methods to evaluate and investigate performance relative to adopted medical standards. The EMS Policy Manual is to be updated as needed to incorporate improvements in these processes.

Objective: To have standardized, consistent meaningful processes for certification; accreditation, and authorization of prehospital medical personnel. In addition to have consistent standards by which performance can be measured and corrective action instituted from deviations from those standards occurred.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

B. Dispatchers

Minimum Standard 2.04

Public Safety Answering Point (PSAP) operators with medical responsibility shall have emergency medical orientation and all medical dispatch personnel (both public and private) shall receive emergency medical dispatch training in accordance with the EMS Authority's Emergency Medical Dispatch Guidelines.

Recommended Guideline

Public Safety Answering Point (PSAP) operators with medical dispatch responsibilities and all medical dispatch personnel (both public and private) should be trained and tested in accordance with the EMS Authority's Emergency Medical Dispatch Guidelines.

Current Status: There are seven (7) major Public Safety Answering Points (Sheriff's Office, cities of Vallejo, Benica, Fairfield, and Suisun. Vacaville, and the Vallejo CHP Dispatch Center) and some additional minor PSAPs , that all receive public 9-1-1 requests for emergency ambulance services. The EMS Authority's Emergency Dispatch Guidelines are included in many of the training programs that each PSAP requires of their dispatchers, but there is no minimum standard of Emergency Medical Dispatcher (EMD) skill or expertise that is required by a local PSAP. Not all of the PSAP dispatchers provide pre-arrival medical instructions to citizens requesting medical advice in an emergency. This issue is being dealt with concurrently as part of the development of the Request for Proposals (RFP) for transportation providers within the county. it is also being assisted with federal block grant funds administered through the EMS Authority for a Priority Medical Dispatch program that integrates Managed Care.

Need(s): The need to develop and implement a cohesive emergency medical communication plan is one of the highest priorities for the EMS Agency.

Objective: The principle objective is to develop a communication and dispatching system that receives 9-1-1 calls and results in the dispatching of the most appropriate and closest resource available. This may include but not be limited to emergency ALS ambulance, ALS first response, non-emergency transportation, nursing personnel in the field, etc. The principle objective is to have the closest available emergency ALS ambulance respond to 9-1-1 requests for emergency medical care at all times.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ Annual Implementation Plan

Long Range Plan

C. First Responders (Non-Transporting)

Minimum Standard 2.05

At least one person on each non-transporting EMS first response unit shall have been trained to administer first aid and CPR within the previous three years.

Recommended Guideline

At least one person on each non-transporting EMS first response unit should be currently certified to provide defibrillation and have available equipment commensurate with such scope of practice, when such a program is justified by the response times for other ALS providers.

At least one person of each non-transporting EMS first responder unit should be currently certified at the EMT-1 level and have available equipment commensurate with such scope of practice.

Current Status: Each public safety agency (police, fire departments and some other private and public organizations) responding to medical emergency calls concurrently with an ambulance response are formally classified as one of three levels of first responder (see EMS Policy 5200). The majority of the non-transporting first responders are classified as public safety first aid providers. These agencies are required to have personnel trained and qualified to comply with Chapter 1.5 of Title 22 of the California Code of Regulations. These standards exceed the minimum 2.05 standard listed above. The EMS agency maintains a policy of encouraging volunteer first responders to get EMS training.. This is reinforced by not charging EMT-1 certification fees for volunteers who elect to obtain an EMT-1 certification or paid public safety employees who elect to become EMT-1 when the training is not a job requirement (e.g. Police Officers).

There is no method at the present time to verify that all non-transporting EMS first response units adhere to the minimum standard 2.05. The EMS Agency maintains a computerized listing of all EMT-1 and their prime EMS Agency affiliation. The summary data of certification reports indicates the majority of the recognized non-transport first responder agencies have a high number of certified EMT-1 within their organization and exceeds the 2.05 standard. The Solano EMS system is very dependent upon first responder assistance because ambulance response time standards are based on the assumption of concurrent dual dispatch of first responders with ambulances. The California EMS system has evolved with almost no recognition and/or public funding to make sure this level of EMS service is available to all citizens within the system. The EMS Agency is attempting to reverse this trend by developing a fiscal model that will formally recognize the life-saving EMS services provided by first responders. The different levels of first responder services in EMS Policy 5200 identifies requirements and responsibilities of the different levels of non-transporting first responders.

Need(s): Standard is met

Objective: Standard is achieved

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

Long Range Plan

Minimum Standard 2.06

Public safety agencies and industrial first aid teams shall be encouraged to respond to medical emergencies and shall be utilized in accordance with local EMS agency policies.

Current Status: Compliance with this standard has been addressed in 2.05, above. The ability to evaluate compliance remains at issue.

Need(s): To develop a mechanism for evaluating degree of participation of first responder agencies in the EMS System.

Objective: Appropriate and consistent integration of first responder agencies in the emergency response system.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 2.07

Non transporting EMS first responders shall operate under medical direction policies, as specified by the local EMS agency medical director.

Current Status:

Standards have been developed for members of the SEMSC which include six of the seven cities within the county and the fire districts in the unincorporated areas. The SEMSC Board of Directors has adopted these standards by the membership and approved by the SEMSC Board of Directors. This should result in the uniformity of response of level of service at first response entities. However, given that many first responder entities within the county are predominantly or entirely all volunteer, it is unreasonable to expect that service delivery will be identical from department to department. System standards are being developed within reasonable expectation of attainment of ninety percent or more of the personnel involved in the EMS first response service.

Need(s): The SEMSC needs to continually monitor and re-evaluate the system standards and the roles and responsibilities of first responders within the local EMS system. The standards will also need to be developed in the context of the Parahospital services model. Additionally, the EMS Authority should be encouraged to define the roles and responsibilities of the first responders within local systems.

Objective: To recognize all first responder services as formal participants of the Solano County EMS system. To continue to foster cooperative agreements with each first responder service that will provide fiscal support for their services and insure care provided in adhering to medical standards prescribed by the EMS Medical Director.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

D. Transport Personnel

Minimum Standard 2.08

All emergency medical transport vehicle personnel shall be currently certified at least at the EMT-1 level.

Recommended Guidelines

If advanced life support personnel are not available, at least one person on each medical transport vehicle should be trained to provide defibrillation.

Current Status: The Solano County EMS system currently requires Advanced Life Support providers to maintain a staff on all ambulances responding to emergency 9-1-1 calls with at least 1 EMT-P and 1 EMT-1. There are only a few exceptions to this requirement depending upon existing intra-jurisdictional agreements. Of course, nothing in Solano County EMS Agency policies and procedures precludes a provider from placing 2 EMT-P on each unit as staff. Basic Life Support ambulances staffed with at least 2 EMT-1 are permissible in only a few exceptions. Therefore, in general, this standard is exceeded in the current Solano EMS system.

Need(s): N/A. Standard has been attained.

Objective: To have all emergency transport vehicles staffed with at least one EMT-P and one EMT-1.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano county EMS Agency**

◆ Annual Implementation Plan

Long Range Plan

E. Hospital

Minimum Standard 2.09

All allied health personnel who provide direct emergency patient care shall be trained in CPR.

Current Status: Accomplished in Base Hospital and receiving hospital agreements. The standard is also a JACHO standard for hospital emergency departments.

Need(s): This standard has been attained.

Objective: This standard has been attained.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 2.10

All emergency department physicians and registered nurses who provide direct emergency patient care shall be trained in advanced life support.

Recommended Guideline

All emergency department physicians should be certified by the American Board of Emergency Medicine.

Current Status: This minimum standard has been accomplished in Base Hospital Agreements and is part of the EMS system Quality Assurance Plan. Solano was successful in offering hazardous material training for all emergency departments in the county. During fiscal year 1994, the EMS Agency obtained a special project EMS grant from the EMS Authority to provide pediatric training, and this training was made available to all emergency department M.D.s and RN.s giving them an opportunity to complete the specialized Pediatric Advanced Life Support (PALS) program.

Need(s): The Solano EMS Agency is attempting to find fiscal assistance to assist emergency department MDs and RNs to provide specialized training in emergency management of trauma patients.

Objective: To encourage and assist the training and capability of emergency department staffs when grants and other fiscal opportunities present themselves as the EMS system evolves.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

F. Enhanced Level: Advanced Life Support

Minimum Standard 2.11

The local EMS Agency shall establish a procedure for accreditation of Advanced Life Support (ALS) personnel which includes orientation to system policies and procedures, orientation to the roles and responsibilities of providers within the local EMS system, testing in any optional scope of practice, and enrolment into the local EMS Agency's quality assurance/quality improvement process.

Current Status: This standard has been accomplished. See the Solano County EMS Policy Manual, Section 2000 (QA Plan) and Section 3000 (EMS Personnel Policies) for more specific detail on how the EMS agency adheres to this standard.

Need(s): To update as needed to address any patient care and/or system needs as identified through the Solano County quality improvement process which will result in enhanced system performance and improved patient care. To make necessary changes in the EMS Policy Manual dependent upon new legislation and new technology.

Objective: To have in place an accreditation process for Advanced Life Support personnel that both meets the intent of statewide licensure permitting these personnel to move freely from jurisdiction to jurisdiction regardless of employment while simultaneously providing an adequate evaluation for quality improvement of ALS personnel that is reasonable, effective, and appropriate.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation

Long Range Plan

Minimum Standard 2.12

The local EMS Agency shall establish policies for local accreditation of public safety and other Basic Life Support (BLS) personnel in early defibrillation.

Current Status: This standard has been addressed in Solano County EMS Policy 4200. The EMS Agency and the general medical community of Solano County clearly see the value and efficacy of early defibrillation. To this end, the Agency is promoting and facilitating wherever possible the implementation of EMT-Defibrillator programs within the county. There are currently seven providers serving 45% of the population in Solano County and inquiries into the office by potential providers occur frequently.

Need(s): Standard has been attained. The implementation of EMT-Defibrillator programs will continue until 100% of the county is covered either by ALS First Response or EMT-Defibrillator First Responder.

Objective: All first in first Response units capable of delivering early defibrillation. Advanced Life Support is the minimum recommended goal.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Standard and Objective 2.13

All Base Hospital/alternative base station personnel who provide medical direction to prehospital personnel shall be knowledgeable about local EMS Agency policies and procedures and have training in radio communications techniques.

Current Status: This standard has been accomplished. See the Solano County EMS Policy Manual, Section 2201 (QA Plan) and Sections 3500 & 3510 (EMS Personnel Policies) for more specific detail on how the EMS Agency adheres to this standard.

Need(s): Update as needed to address any patient care and/or system needs as identified through the Solano County quality improvement process which will result in enhanced system performance and Improved patient care. To make necessary changes in the EMS Policy Manual dependent upon new legislation and new technology.

Objective: To have a process and mechanism whereby all base hospital personnel who provide medical direction to prehospital personnel can be informed and knowledgeable of EMS Agency policies and procedures dealing with prehospital care personnel. Base personnel shall also be afforded orientation and training to radio communication equipment and radio techniques.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS**

Annual Implementation Plan

Long Range Plan

3.0 EMS SYSTEMS

The local EMS system should make provision for two-way communications between personnel and facilities within coordinated communications system(s). The communications system should include public access to the EMS system, resource management; and medical direction on both the Basic Life Support and Advanced Life Support levels.

A. Communications Equipment

Minimum Standard 3.01

The local EMS agency shall plan for EMS communications. The plan shall specify the medical communications capabilities of emergency medical transport vehicles, non-transporting advanced life support responders, and acute care facilities and shall coordinate the use of frequencies with other users.

Recommended Guideline

The local EMS Agency's communications plan should consider the availability and use of satellites and cellular telephones.

Current Status: The Solano EMS system still uses the same EMS medical communications system that was designed In the early 1970's composed primarily of the Med-Net and Med-Channel (1-10) Systems. The City of Vacaville already has implemented a separate 800 MHz radio system for the ambulances within its community.

Need(s): To achieve coordinated EMS communications systems including dispatch of emergency ambulances resulting in the dispatch of the closest available ambulance. This will be one of the highest priorities of the EMS Agency for the coming year and is consistent with the planning objectives of the Parahospital planning process which has been going on since June of 1994. While a centralized emergency medical dispatch is unquestionably the highest standard and the ideal goal, it may be unreasonable to expect that this can be obtained in the foreseeable future. Therefore, designing a system that achieves the goal by use of technology and other configurations will be necessary.

A current funding process allows for maintenance. There is no funding available for replacement or new technology improvements. ALS on-line medical control communications are being addressed in two ways: (1) increased use of cellular telephones for medical consultation; (2) revision of medical treatment protocols that allow paramedics the opportunity to implement ALS procedures prior to base contact.

Objective: To have an EMS communication system ideally configured as a CMED, but at a minimum the dispatch of the closest available ALS ambulance to medical emergencies and satisfactory communication between field personnel and the base hospital for medical consultation and on-line medical control.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 3.02

Emergency medical transport vehicles and non-transporting advanced life support responders shall have two-way radio communications equipment which complies with the local EMS communications plan and which provides for dispatch and ambulance-to-hospital communication.

Recommended Guideline

Emergency medical transport vehicles should have two-way radio communications equipment which complies with the local EMS communications plan and which provides for vehicle-to-vehicle (including both ambulances and non-transporting first responder units) communications.

Current Status: The minimum standard of 3.02 has been partially attained. All ambulances are required to have two-way radio communications with hospitals. Upon successful completion of the Parahospital planning process and selection of an emergency transportation provider(s) countywide via a competitive bid process, the standard should be fully attained.

Need(s): To achieve an adequate communications system that provides for adequate communication between dispatch, emergency transport, resources, and first responder resources, and hospices.

Objective: To insure there is adequate communication capability between first response transport, resources, and dispatch center.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 3.03

Emergency medical transport vehicles used for interfacility transfers shall have the ability to communicate with both the sending and receiving facilities. This could be accomplished by cellular telephone.

Current Status: The minimum standard of 3.03 has been attained. All permitted emergency ambulances are required to have two-way radio communications with local hospitals. However, out of county units may or may not have the capability, and local units may not be able to communicate with out of county hospitals.

Need(s): N/A. Standard has been attained.

Objective: To establish an EMS communication system which includes the ability of emergency medical transport vehicles used for inter-facility transfers, to have the ability to communicate with both the sending and receiving facilities.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 3.04

All emergency medical transport vehicles where physically possible (based on Geography and technology), shall have the ability to communicate with a single dispatch center or disaster communications command post.

Current Status: The minimum standard of 3.04 has been partially attained because the Solano County Sheriff Office (SO) serves the function of the disaster communications command post. The radios and the dispatchers at the SO communications center have never had the opportunity to test their ability to function as the disaster communications command post. At the present time, all permitted ambulances are required to have two-way radio communications with hospitals and the SO Communications Center using either MEDNET or Med-Channel linkages. Establishing either a coordinated or a centralized medical emergency dispatch will greatly facilitate meeting objective or standard 3.04.

Need(s): To insure that the EMS communication system enables all emergency medical transport vehicles have the ability to communicate with a single dispatch center or disaster communications command post.

Objective: To have an emergency communication system that adequately allows for emergency medical transport vehicles to communicate with either a single dispatch center or disaster communications command post.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 3.05

All hospitals within the local EMS system shall (where physically possible) have the ability to communicate with each other by two-way radio.

Recommended Guideline

All hospitals should have direct communications access to relevant services in other hospitals within the system (e.g., poison information, pediatric and trauma consultation).

Current Status: Minimum Standard 3.05 has been successfully attained in Solano County. *All* hospitals in the community have access to the MED-NET system. This system is commonly called HEAR (Hospital Emergency Alert Radio) system.

Need(s): The minimum standard has been attained. Solano would benefit from having a dedicated EMS Hospital communications system that adheres to the recommended guidelines of standard 3.05. However, this type of communications system is very expensive and very dependent upon technology that is still in development. Until additional fiscal resources can be found to allow for the purchase and maintenance of such sophisticated systems, Solano is capable of only complying with the minimum standard.

Objective: Until funding for more sophisticated communication is found, Solano will comply with the minimum standard of 3.05.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 3.06

The local EMS Agency shall review communications linkages among providers (prehospital and hospital) in its jurisdiction for their capability to provide service in the event of multi-casualty incidents and disasters.

Current Status: ~~The Solano County Office of Emergency Services (OES) is responsible for~~ developing disaster communication linkages. At present and in addition to the normal public telephone system, each ambulance service and all hospitals participate in both the MED-NET and Med-Channels for communication lines to be used in MCIs and disasters.

Need(s): The OES has been recently reorganized under the Sheriff Department. The EMS agency needs to coordinate with OES to test and ensure communication lines are functional and available upon demand. An essential and necessary component of the EMS communication system will be the ability for all emergency resources to communicate with a single designated center (e.g., a disaster medical command post) in order to coordinate the allocation of response resources to mitigate the disaster.

Objective: To have adequate communication linkages between all resources in the event of a of a medical disaster.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

B. Public Access

Minimum Standard 3.07

The local EMS Agency shall participate in ongoing planning and coordination of the 9-1-1 telephone service. The local EMS Agency should promote the development of enhanced 9-1-1 systems.

Current Status: Solano County has seven (7) active Public Safety Answering Points (PSAPs) that respond to 9-1-1 calls. 100% of the County is currently serviced by **9-1-1**, and there is no ongoing plan or development to expand or enhance existing services at the present time.

Need(s): To develop a process or forum for the Agency to regularly participate in the evaluation and planning of 9-1-1 systems.

Objective: To have an ongoing evaluation of 9-1-1 systems throughout the system.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 3.08

The local EMS Agency shall be involved in public education regarding the 9-1-1 telephone service as it impacts system access.

Current Status: At the present time the EMS Agency is not conducting any analysis specific to appropriate use of 9-1-1.

Need(s): To develop a forum to review 911 services in the system in the broad context of the parahospital planning process.

Objective: To implement a 9-1-1 access system that is appropriate to the overall system design within the county and which avoids the development of alternate three or seven digit access numbers outside the EMS system which could result in system fragmentation. To develop a monitoring system to ensure appropriate use of 9-1-1 for medical emergencies.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

C. Resource Management

Minimum Standard 3.09

The local EMS Agency shall establish guidelines for proper dispatch triage which identifies appropriate medical response.

Recommended Guideline

The local EMS Agency should establish an emergency medical dispatch priority reference system, including systemized caller interrogation, dispatch triage policies, and pre-arrival instructions.

Current Status: At present there are no uniform guidelines for proper dispatch triage which identifies appropriate medical response. One jurisdiction formally adopted, without necessarily EMS Agency approval encoding system of red-yellow-green priority, the standards of which are internal of that PSAP. Other PSAPS, while they have adopted Pre-Arrival Instruction protocols, still dispatch maximum response to all 9-1-1 calls. On any given day a **9-1-1** call is likely to generate a response by the first responders, ALS transporting ambulances, law enforcement, and even possibly a helicopter.

Need(s): The principle need within the county is to develop a standard emergency medical dispatch priority reference system that is capable of coordinating all private and public resources responding to emergency calls. The dispatch system should include a systemized interrogation process that allows for call prioritization at dispatch and pre-arrival instruction that can assist the caller before EMS responders arrive on scene. Of paramount importance is the dispatch of resources appropriate to the need. The routine dispatch of resources in excess of what is needed, while a typical way of operating the EMS system, will continue to receive greater and greater opposition from payors for reimbursement of said responses when they are unwarranted.

Objective: To establish a uniform, countywide prioritized dispatch system that results in the appropriate resource being dispatched to request for aid. Services so rendered would be factored into the reimbursement scheme agreed upon with payor entities.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ Long Range Plan

Minimum Standard 3.10

The local EMS system shall have a functionally integrated dispatch with system-wide emergency services coordination, using standardized communications frequencies.

Recommended Guideline

The local EMS Agency should develop a mechanism to ensure appropriate system-wide ambulance coverage during periods of peak demand.

Current Status: Under the existing system, responses to 9-1-1 emergency medical requests for ambulance transport is handled on a rotation basis between two providers. While this system ensures that every 9-1-1 call receives an ambulance response, there is no coordination between the two providers or the PSAP's creating the potential for fragmentation and uncoordinated response. This condition is aggravated during periods of peak demand. Solano is nearing the end of its procurement process which should result in a single countywide provider. This will satisfy the recommended guideline.

Need(s): To select an emergency ambulance provider through a competitive process that will be responsible for coordinated ambulance response.

Objective: To insure appropriate system-wide ambulance coverage during periods of peak demand.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

4.0 RESPONSE/TRANSPORTATION

Minimum Standard 4.01

The local EMS Agency shall determine the boundaries of emergency medical transportation service areas.

Recommended Guideline

The local EMS Agency should secure a county ordinance or similar mechanism for establishing emergency medical transport service areas (e.g., ambulance response zones).

Current Status: At present, two ambulance providers service the county, except in the City of Vacaville and the north east portion of the county which is served by the city. There are no exclusive operating areas.

Need(s): To select a successful contractor who responds to the RFP and is willing to provide ambulance services at a level that is consistent with the standards outlined in the RFP. A map of the proposed exclusive zone is identified on Section 3 Page 54.

Objective: To implement a county-wide exclusive ambulance zone which shall ensure that emergency ambulance services are available to consumers anywhere in the county that is cost-effective, adheres to medical responsive time standards and conforms to medical standards prescribed by the Health Officer/EMS Medical Director.

Time Frame For Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation**

Long Range Plan

Minimum Standard 4.02

The local EMS Agency shall monitor emergency medical transportation services to ensure compliance with appropriate statutes, regulations, policies, and procedures.

Recommended Guideline

The local EMS Agency should secure a county ordinance or similar mechanism for licensure of emergency medical transport services. These should be intended to promote compliance with overall system management and should, wherever possible, replace any other local ambulance regulatory programs within the EMS area.

Current Status: The current method of licensure of Emergency Medical Transport Services exists predominantly through ALS Transport Authorization Agreements as no transport providers within the County function at any level other than Advanced Life Support service. These agreements contain general provisions which are designed to promote compliance with overall system management and medical control and medical quality standards. In addition, there exists a County ordinance permitting the operation of emergency ambulance vehicles within the County. As of this writing, the Agency is pursuing establishment of an exclusive operating area via a competitive selective process described within a Request for Proposal (RFP). The requirements of the proposal will include specific detail of parameters within which

transportation providers will be required to operate as determined by the EMS Agency. At the present time several tools are used to insure compliance with local medical transportation standards. Each quarter, response time performance statistics are generated by the EMS agency's EMS-MIS, and review of response time performance occurs. The EMS Agency also maintains and staffs one (1) FTE Prehospital Care Coordinator position who is responsible for investigation, follow-up, and resolution of all unusual occurrences that are reported to the EMS agency.

Need(s): The selection of a transportation provider through an RFP which will be a performance based contract. Effective monitoring of the emergency medical transportation system will be an integral component of overall system design and will be necessary to insure the viability of the Solano EMS Cooperative.

Objective: To have an EMS system sufficiently designed and organized so as to insure compliance of any and all emergency medical transport services with overall system management There should be an appropriate, effective and agreed to mechanism for monitoring performance to evaluate consistency and compliance.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Office

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.03

The local EMS Agency shall determine criteria for classifying medical requests (e.g., emergent, urgent, and non emergent) and shall determine the appropriate level of medical response to each

Current Status: Refer to Standard 3.09.

Need(s): The Parahospital Model is predicated upon system efficiency derived by responding the appropriate resources to request medical assistance. In order to accomplish this, a sophisticated system of call prioritization and dispatch becomes essential. However, the development of this priority medical dispatch cannot occur in a vacuum; rather, it must receive the support of the local medical community and thus be consistent with the client needs and health needs of organizations. The process of protocol development will likely commence once the RFP is awarded and the managed care component is subsequently developed.

Objective: To develop and implement a true priority medical dispatch system which classifies requests for medical response as an emergent, urgent or non-emergent according to established and medically sound criteria.

Time Frame for Objective:

Standard and Objective Achieved by the Solano county EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.04

Service by emergency medical transport vehicles which can be prescheduled without negative medical impact shall be provided only at levels which permit compliance with local EMS Agency policy

Current Status: The limited agreements under which current ALS transport providers currently operate are not specific as to the issue of use of emergency transport vehicles for non-scheduled events. Any conflicts generally arise when there is delayed response time with resulting delays. Ambulance dispatch is done on a rotational basis without regard to the location of units or the appropriate allocation of resources.

Need(s): To develop either a system status management plan and/or coordinated ambulance dispatch so that the use of emergency ALS transport vehicles for non-emergency scheduled events does not negatively impact overall system performance.

Objective: To permit use of emergency medical transport vehicles for prescheduled events without negatively impacting response to emergency calls.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.05

Each local EMS Authority Agency shall develop response time standards for medical responses. these standards shall take into account the total time from receipt of the call at the primary public safety answering point (PSAP) to arrival of the responding unit at the scene, including all dispatch intervals and driving time.

Recommended Guidelines

Emergency medical service areas (response zones) shall be designated so that, for ninety percent of emergent responses:

- a. The response time for a basic life support and CPR capable first responder does not exceed:
Metro/urban -- 5 Minutes
Suburban/rural -- 15 minutes
Wilderness -- as quickly as possible
- b. The response time for an early defibrillation-capable responder does not exceed:
Metro/urban -- 5 Minutes
Suburban/rural -- as quickly as possible
Wilderness -- as quickly as possible
- c. The response time for an advanced life support capable responder (not functioning as the first responder) does:
Metro/urban -- 8 minutes
Suburban/rural -- 20 minutes
Wilderness -- as quickly as possible
- d. The response time for an EMS transportation unit (not functioning as the first responder) does not exceed:
Metro/urban -- 8 minutes
Suburban/rural -- 20 minutes
Wilderness -- as quickly as possible

Current Status: Solano currently authorizes Advanced Life Support ambulance providers through a written agreement process. Part of that written agreement is a response time standard 90% of the time in urban areas and 15 minutes or less 90% of the time in rural areas. The EMS Agency monitors these response times from time to time to insure compliance.

There are two needs identifiable under the heading of Response Time Standards. The first need at the local level is for the incorporation of currently recognized Guidelines for Response Time Standards into the performance based contracts for the subsequent monitoring and enforcement of those standards. Secondly, and perhaps most importantly, is a review and perhaps scientific study of response time of what is currently accepted as the operable response time standards. There is a growing feeling within medical and operational communities that the standards currently promulgated not only by the State EMS Authority but by other professional agencies are perhaps not as valid as originally thought and warrant re-examination. While Solano County will generally design its system based upon the existing standards, it also intends to aggressively pursue an examination of those standards for validity and reliability. The objective is to have a system based upon Response Time Standards that are both medically prudent as well as substantiated

by current medical research. Response Times Standards are a significant element in determination of system costs and must be acceptable not only to medical professionals but also to payor organizations. The time frame for this objective is both in the annual implementation as well as the long range plan.

Need(s): To incorporate response time standards into performance based contracts.

Objective: To have Response Time Standards that are medically prudent and substantiated by current medical research. A balance needs to be struck between medical sufficiency and cost-effectiveness.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Plan**

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.06

All emergency medical transport vehicles shall be staffed and equipped according to current state and local EMS Agency regulations and appropriately equipped for the level of service provided.

Current Status: Accomplished in Solano County EMS Policies 5520, 5600, 5700, and 5710. The EMS agency in consultation with the Health Officer and the Physician Forum have determined that it is appropriate to routinely staff an ALS unit with only one ALS (EMT-P) and an EMT-1. The costs of staffing each ALS unit with two EMT-Ps is viewed as cost-prohibitive and unnecessary. Local agencies are welcome to staff ALS units with two EMT-Ps. At the present time, Solano County maintains a very active on-line medical control Base Hospital system that is able to provide on-line medical consultation to EMT-Ps needing medical direction. Less than 10% of all ALS calls are true life-threatening emergencies, and the current medical protocols have been designed to allow EMT-Ps to institute appropriate ALS treatment if it is determined that any delay in Base Hospital consultation will have a negative impact upon the patient. The reliance on immediate access to the Base Hospital is a key reason why the minimum staffing of EMT-Ps on an ALS unit is one EMT-P.

Need(s): To continue to monitor and retrospectively review the prehospital care being provided to ALS patients and ensure care is consistent with medical expectation.

Objective: To monitor the care provided by single-staffed EMT-P units to be sure that ALS care is consistent with medical expectation.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.07

The local EMS Agency shall integrate qualified EMS first responder agencies (including public safety agencies and industrial first aid teams) into the system.

Current Status: At present the Solano County EMS Agency formally integrates those first responder agencies that are providing early defibrillation services. Current EMS Authority statutes and regulations do not require EMS first responder agencies to have any written agreement with the local EMS Agency. However, it is the intent of the EMS Agency to expand lists of qualified first responders from those providing early defibrillation or other services to all first responders operating within the county. It is the expectation of the Agency that given the of the Joint Powers Authority, which includes all fire districts within the county, this standard will be more easily attained. Further, the Solano County EMS Agency has developed a countywide and uniform first responder form which will not only provide documentation of treatment of patients by first responders, but it will also begin the process of standardization of patient care management by these agencies.

Need (s): To develop uniform countywide standards agreed to by the first responder service providers and formalize the written agreements with the local EMS Agency.

Objective: To fully integrate all agencies and services, public or private, providing EMS first response.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.08

The local EMS Agency shall have a process for categorizing medical and rescue aircraft and shall develop policies and procedures regarding:

- a) Authorization of aircraft to be utilized in prehospital patient care
- b) Requesting of EMS aircraft
- c) Dispatching of EMS aircraft
- d) Determination of EMS aircraft patient destination
- e) Orientation of pilots and medical flight crews to the local EMS system
- f) Addressing and resolving formal complaints regarding EMS aircraft

Current Status: This standard has been achieved and is addressed in both EMS Policy and current

EMS aircraft agreements.

Need(s): This objective has been achieved.

Objective: To review and/or update written agreements or policies dependent upon local need or changes in existing regulation or demand for EMS aircraft services.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano county EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.09

The local EMS Agency shall designate a dispatch center to coordinate the use of air ambulances or rescue aircraft.

Current Status: The Solano County Sheriff's Office (SO) has been designated as this County's air ambulance designated dispatch center.

Need(s): This objective has been achieved.

Objective: To review and/or update written agreements or policies dependent upon local need or changes in existing regulation or demand for EMS aircraft services.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.10

The local EMS agency shall identify the availability and staffing of medical and rescue aircraft for emergency patient transportation and shall maintain written agreements with aeromedical services operating within the EMS area.

Current Status: This standard has been achieved and is addressed in both the EMS Policy Manual and current EMS aircraft agreements.

Need(s): This objective has been achieved.

Objective: To review and/or update written agreements or policies dependent upon local need or changes in existing regulation or demand for EMS aircraft services.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.11

Where applicable, the local EMS agency shall identify the availability and staffing of all-terrain vehicles, snow mobile, and water rescue and transportation vehicles.

Recommended Guidelines

The local EMS agency should plan for all response by and use of all-terrain vehicles, snow mobiles, and water rescue vehicles in areas where applicable. This plan should consider existing EMS resources, population density, environmental factors, dispatch procedures and catchment area..

Current Status: At the present time this minimum standard has not been addressed. Solano County has unique areas in which the San Joaquin Delta inhibits the availability of standard ground transport units to areas of the County. This problem is reduced by the immediate availability of EMS aircraft, but there is a need to have more resources and capability to allow for water rescue. The relatively low frequency events occurring in areas requiring the use of all-terrain and/or water rescue vehicles makes this item a relatively low priority for the current objectives of the EMS Agency.

Needs: To assess and identify available EMS resources that have the capability of water or all-terrain rescue/response.

Objective: To ensure the EMS system has the necessary resources to appropriately manage and respond to the emergency calls that have environmental factors that inhibit a ground unit response.

Time Frame for Objective:

Standard and Objective Achieved by the Solano county EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 4.12

The local EMS Agency, in cooperation with the local Office of Emergency Services (OES), shall plan for mobilizing response and transport vehicles for disaster.

Current Status: The EMS Agency in conjunction with OES has been participating in the BAMMA (Bay Area Medical Mutual Aid) planning process for intercounty medical mutual aid and planning. The BAMMA planning process has already developed an inventory list and a procedure to access ambulance resources from neighboring counties. This resource list has been placed in Solano County's Office of

Emergency Services, and the Sheriffs Office Dispatch Center has been advised regarding how to immediately access medical mutual aid from outside the County in the event a medical disaster occurs.

Need(s): There is a need to develop a more coordinated medical mutual aid plan for medical disasters between ambulance transport services and local -hospitals.

Objective: To formalize a more defined Medical Disaster Plan.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 4.13

The local EMS Agency shall develop agreements permitting intercounty response of emergency medical transport vehicles and EMS personnel

Recommended Guideline

The local EMS agency should encourage and coordinate development of mutual aid agreements which identify financial responsibility for mutual aid response.

Current Status: This standard has been achieved and is addressed in the EMS Policy Manual (See EMS Policy 6180).

Need(s): This objective has been achieved.

Objective: To review and/or update written agreements or policies dependent upon local need or changes in existing regulation.

Time Frame for Objective:

◆ **Standard and Objective achieved by the Solano EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.14

The local EMS agency shall develop multi-casualty response plans and procedures which include provisions for on-scene medical management, using the Incident Command System

Current Status: This standard has been achieved and is addressed In the EMS Policy Manual (See Solano County EMS Policy 6180).

Need(s): To evaluate all medical disaster plans for consistency with the Status Standardized Emergency Response System (SEMS) plan.

Objective: To have functional and effective emergency response plans in place that meet State guidelines.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.15

Multi-casualty response plans and procedures shall utilize state standards and guidelines.

Current Status: This standard has been achieved and is addressed in the EMS Policy Manual (See Solano county EMS Policy 6180).

Needs: To evaluate all medical disaster plans for consistency with the Status Standardized Emergency Response System (SEMS) plan.

Objective: To have functional and effective emergency response plans in place that meet State guidelines.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

A. Enhanced Level: Advanced Life Support

Minimum Standard 4.16

All ALS ambulances shall be staffed with at least one person certified at the advanced life support level and on person staffed at the EMT-1 level.

The local EMS Agency should determine whether advanced life support units should be staffed with two ALS crew members or with one ALS and one BLS crew members.

On any emergency ALS unit which is not staffed with two ALS crew members, the second crew member should be trained to provide defibrillation, using available defibrillators.

Current Status: This minimum standard has been achieved and is addressed in the Solano County EMS Policy Manual (See EMS Policy 5520). Some fire departments in the EMS system respond with three-member ALS teams (1, 2 or 3 EMT-Ps) on a unit.

Need(s): To evaluate the efficacy of EMT-1 personnel functioning with EMT-Ps to determine if augmentation in scope of practice including defibrillation is indicated.

Objective: To have an emergency response crew that is able to deliver indicated services that provide patient care which will result in a favorable outcome to the 9-1-1 request for service.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

Long Range Plan

Minimum Standard 4.17

All emergency ALS ambulances shall be appropriately equipped for the scope of practice of its level of staffing.

Current Status: This standard has been achieved and is addressed in both the EMS Policy Manual and current EMS Aircraft and Ground Provider Agreements.

Need(s): This objective has been achieved. Each year, each ambulance must be inspected; and it is documented that the ALS unit is appropriately equipped and stocked. The EMS agency has a fine and penalty system in the event service providers elected to place an inappropriately equipped unit into service.

Objective: To review and/or update policies dependent upon local need or changes in existing regulation, scope of practice regulations, or specific demand for EMS services.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

Long Range Plan

B. Enhanced Level: Ambulance Regulation

Minimum Standard 4.18

The local EMS Agency shall have a mechanism (e.g., an ordinance and/or written provider agreement (s) to ensure that EMS transportation agencies comply with applicable policies and procedures regarding system operations and clinical care.

Current Status: Solano County has already established a county-wide EMS system ordinance. This ordinance requires all EMS organizations that wish to formally participate within the Solano County EMS system must (1) maintain a written agreement with the EMS agency, (2) agree to adhere to all medical control policies, (3) maintain a QI plan, and (4) routinely provide summary reports or data about the EMS care that was provided by the EMS organization.

Need(s): To have all BLS and ALS organizations that provide prehospital medical services in the EMS system maintain written agreements with the EMS agency for the medical care they provide.

Objective: To try to induce all BLS and ALS organizations to formally participate in the EMS system and develop written agreements with each organization that clearly details the medical role and responsibility of each EMS service and its relationship with the EMS agency.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

C. Enhanced Level: Exclusive Operating Permits

Minimum Standard 4.19

Any local EMS Agency which desires to implement exclusive operating areas pursuant to Section 1797.224, Health and Safety Code, shall develop an EMS transportation plan which addresses:

- a) Minimum standards for transportation services
- b) Optimal transportation system efficiency and effectiveness
- c) Use of a competitive process to ensure system optimization

Current Status: At the present time, the Solano County EMS system intends to implement exclusive operating ambulance zones to ensure that the minimum medical EMS standards are available to all citizens in the county irrespective of municipal boundary, fire district, hospital district, or any other political geographic barrier with the exception of federal military bases or other locations in which EMS is not authorized access. Refer to Annex I and 2 and attachments A & B for specific details on establishing an EOA in Solano County.

Need(s): To create an exclusive operating area within Solano County via a competitive process.

Objective: To develop a system served by a competent provider(s) of emergency ambulance services that results in seamless coverage countywide with pre-arrival instruction to all callers of 9-1-1 and is consistent with the changes and demands of managed care.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ Annual Implementation Plan

Long Range Plan

Minimum Standard 4.20

Any local EMS Agency which desires to grant an exclusive operating permit without use of a competitive process shall document in its EMS transportation plan that its existing provider meets all of the requirement for non-competitive selection ("grandfathering") under Section 1797.224, Health and Safety Code.

Current Status: The EMS Agency intends to utilize a competitive process for the selection of a provider and an exclusive operating area within the county.

Need(s): Not applicable.

Objective: Not applicable.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.21

The local EMS Agency shall have a mechanism to ensure that EMS transportation and/or advanced life support agencies to whom exclusive operating permits have been granted pursuant to Section 1797.224, Health and Safety Code. Comply with applicable policies and procedures regarding system operations and patient care.

Current Status: The EMS Agency is currently in the process of designating exclusive operating area by use of an RFP process. Even though the Solano EMS system does not presently have an exclusive operating zone, each year the EMS agency requires a renewal of ambulance service provider permits. The annual permit process requires the following elements:

1. Application for-ALS Service Provider permit renewal (including documentation of appropriate insurance coverage, an inspection form for each EMS unit that responds to medical emergencies);
2. A mandatory written agreement to provide ALS and BLS emergency services;
3. An acceptance of condition and compliance statement that the service shall adhere to all EMS agency medical policy and procedures;
4. A copy of the agency's initial or revised QA plan for EMS agency approval; and other administrative requirements for the permits process.

Need(s): The EMS agency intends to develop an exclusive operating zone within the County initially by an RFP process.

Objective: To require and ensure that all EMS transportation services and/or advanced life support agencies (whether they maintain an exclusive operating zone or not) to comply with all applicable policies and procedures regarding system operations and patient care.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 4.22

The local EMS Agency shall periodically evaluate the design of exclusive operating zones.

Current Status: Not applicable at this time.

Need(s): Not Applicable

Objective: To ensure adequate evaluation of all exclusive operating zones within the system.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

5.0 FACILITIES\CRITICAL CARE

Minimum Standard 5.01

The local EMS agency shall assess and periodically re-assess the EMS related capabilities of acute care facilities in its service area.

Recommended Guidelines

The local EMS agency should have written agreements with acute care facilities in its service area.

Current Status: Each of the acute care facilities (Medical Centers and Hospitals) in the Solano County EMS system are currently designated as a Basic Emergency Department. There are no acute care facilities that are designated as a standby Emergency Department. The EMS agency has been unable to perform a standardized facility assessment that was developed by the EMS Authority in July of 1986 and is not an appropriate standard to evaluate the assessment of hospitals and critical care centers as required by Section 1797.103 of the Health & Safety Code. The EMS Agency does have written agreements with the following hospitals that receive patients from ground and EMS aircraft units at the present time (Sutter-Solano Medical Center, NorthBay Medical Center, VacaValley Hospital). David Grant Medical Center (A military acute care hospital) is unable to sign the standardized MOA the County uses, but the EMS agency does have a letter of intent to participate in the EMS system. The only hospital in the EMS system that does not have a formal written agreement is Kaiser Permanente Medical Center-Vallejo.

Need(s): To perform on an every-other-year basis, a medical facility assessment using the hospital and critical care center evaluation criteria designed by the EMS Authority. The EMS Agency will still attempt to have Kaiser-Vallejo sign a formal EMS receiving hospital agreement with the County. As part of the parahospital services model, the EMS agency also intends to develop formal agreements and/or policies and procedures to allow ambulance transport of stable and non-life threatening cases needing medical services to other non-acute care medical facilities willing to accept patients in whose needs can be appropriately met without having to transport patients to expensive emergency departments. (e.g. Kaiser Clinics for Kaiser patients, county and community clinics for non-life threatening cases if possible, Urgent Care Centers and Family Practice Clinics in communities that are geographically isolated (Dixon and Rio Vista, and ambulance transport of non-life threatening cases is not cost-effective and places a community at risk for lack of ambulance coverage.)

Objective: To foster the development and continuous maintenance of formal written agreements with all medical facilities within and outside Solano County for the acceptance of EMS patients needing emergency or specialized tertiary care and ensure that EMS services are available to all citizens in a timely manner. To also perform a formal facility assessment using EMS Authority standards.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 5.02

The local EMS Agency shall establish prehospital triage protocols and shall assist hospitals with the establishment of transfer protocols and agreements

Current Status: At the present time, all acute care hospitals in Solano County EMS system are Basic Emergency Departments. The Solano EMS Agency is nearing completion implementation of a countywide inclusive trauma system facilitated through the use of federal block grant funds administered through the EMS Authority. This trauma plan also includes a trauma triage algorithm developed specifically for Solano County by physicians, surgeons, nursing and other expertise from within the Solano County medical community. These are the triage protocols to be used not only by the prehospital field personnel, but also by base hospital physicians and MICNs as they provide destination and mode of transport direction to paramedics in the field. Additionally, and also part of the countywide Inclusive trauma plan, the Solano EMS Agency is negotiating written transfer agreements between the hospitals in Solano County to be designated as level III trauma centers and specialty care in other trauma centers located outside of the county.

Need(s): To continue to monitor compliance with the established trauma triage algorithm and to make modifications as data indicates and to facilitate the establishment of written transfer agreements between Solano County trauma centers and out of county specialty care centers.

Objective: To have a system that effectively and consistently manages patients from the field setting including appropriate destination and mode of transport and also allows for the unobstructed transfer of patients between facilities as necessary.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 5.03

The local EMS Agency, with participation of acute care hospital administrators, physicians, and nurses, shall establish guidelines to identify patients who should be considered for transfer to facilities of higher capability and shall work with acute care hospitals to establish transfer agreements with such facilities.

Current Status: As part of Solano County's inclusive countywide trauma system plan, patients will be triaged directly from the field to the appropriate facility whether that be an in-county level III trauma center or out of county level I, level II or other specialty centers located out of the county. Once patients have arrived at an in-county level III center, the need to transfer patients to specialty care or other centers will be determined by the patient's medical need. This will be facilitated by written transfer agreements between level III centers within the county and out of county specialty centers. The appropriateness of transfers (or the fail to transfer) will be evaluated by the county trauma audit committee as stipulated in the trauma plan.

Need(s): To have consistent disposition of patients either directly from the field or from level III centers to appropriate facilities outside of the county.

Objective: To insure that all patients are treated consistently on the basis of medical need and that this disposition is supported by retrospective audit review.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan current status: Addressed in the EMSC Grant for Pediatric

Minimum Standard 5.04

The local EMS Agency shall designate and monitor receiving hospitals and, when appropriate, specialty care facilities for specified groups of emergency patients.

Current Status: The EMS Agency is currently attempting to maintain written agreement with each receiving hospital within the EMS system. At the present time, there are no specialty care facilities that have the specialized medical care capability of group I standards identified in the EMS Authority 1988 Facility Assessment Standards (i.e., Specialized Medical Facilities serving Cardiopulmonary emergencies, Trauma, Pediatric, Obstetric, Spinal Injury, Poisoning, Psych\Behavioral, Radiation\Toxic Materials, Amputation, Obstetric, or Neonatal).

Need(s): To develop a monitoring system to ensure emergency patients (when transported to a local hospital) have timely access and referral to specialized care facilities when clinically appropriate.

Objective: To have the County EMS system comply with standard 5.04.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 5.05

The local EMS Agency shall encourage hospitals to prepare for mass casualty management.

Recommended Guideline

The local EMS Agency should assist hospitals with preparation for mass casualty management, including procedures for coordinating hospital communications and patient flow.

Current Status: Addressed in ongoing disaster planning in cooperation with OES and the Disaster Council for Solano County.

Need(s): To coordinate the needs of hospitals in mass casualty management with the planning function conducted by the Office of Emergency Services.

Objective: To support and encourage hospitals to prepare for MCI's\Medical Disasters. Voluntary planning and participation with local hospital disaster drills occur upon

request of the local hospital in the community.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 5.06

The local EMS Agency shall have a plan for hospital evacuation, including its impact on other EMS system providers

Current Status: The Agency presently has no such plan.

Need(s): To develop a hospital evacuation plan.

Objective: To effect a rapid emergency hospital evacuation without collapsing the existing 9-1-1 response system.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

A. Enhanced Level: Advanced Life Support

Minimum Standard 5.07

The local EMS Agency shall, using a process which allows all eligible facilities to apply, designate Base Hospitals or alternative base stations as it determines necessary to provide medical director of prehospital personnel.

Current Status: Accomplished via Base Hospital Memorandum of Agreements (MOAs).

Need(s): To review the MOAs every two (2) years and re-assess the medical needs for Base Hospitals and the casts to maintain on-line medical control.

Objective: To maximize optimal medical resources needed to provide on-line medical control In Solano County and to develop a system that will fiscally support the on-line medical control needs of the Solano County EMS system.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

Long Range Plan

B. Enhanced Level: Trauma Care System

Minimum Standard 5.08

Local EMS Agencies that develop trauma care systems shall determine the optimal system, (based on community need and available resources) including but not limited to:

- a) The number and level of trauma centers (including the use of trauma centers in other counties)
- b) The design of catchment areas (including areas in other counties, as appropriate), with consideration of patients who should be triaged to other specialty care centers
- c) Identification of patients who should be triaged or transferred to a designated center, including consideration of patients who should be triaged to other specialty care centers
- d) The role of non-trauma center hospitals, including those that are outside of the primary triage area of the trauma center
- e) A plan for monitoring and evaluation of the system

Current Status: This objective has been accomplished with the development of the Solano County inclusive trauma care system incorporated as an attachment to this plan.

Need(s): To continue to monitor trauma care in Solano County and fully implement the countywide inclusive trauma plan as necessary.

Objective: To continue to strive for high quality appropriate cost-effective consistent management of trauma patients in Solano County.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

Long Range Plan

Minimum Standard 5.09

In planning its trauma care system, the local EMS Agency shall ensure input from both prehospital and hospital providers and consumers

Current Status: This standard is achieved through the submission of reports to the county emergency medical care committee on the status of trauma in the county.

Need(s): To continue to monitor adequate input and access by the public and health care consumers through the trauma care process.

Objective: To maintain a trauma management system of high integrity that results in the appropriate and consistent management of patients and that can withstand appropriate public and professional scrutiny.

Time Frame for Objective:

◆ Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

Long Range Plan

C. Enhanced Level: Pediatric Emergency Medical and Critical Care Systems

Minimum Standard 5.10

Local EMS agencies that develop pediatric emergency medical and critical care systems shall determine the optimal system, including:

- a) The number and role of system participants, particularly of emergency departments
- b) The design of catchment areas (including areas in other counties, as appropriate), with consideration of work load and patient mix
- c) Identification of patients who should be primarily triaged or secondarily transferred to a designated center, including consideration of patients who should be triaged to other specialty care centers
- d) Identification of providers who are qualified to transport such patients to a designated facility
- e) Identification of tertiary care centers for pediatric critical care and pediatric trauma
- f) The role of non-pediatric specialty care hospitals including those which are outside of the primary triage area
- g) A plan for monitoring and evaluation of the system.

Current Status: Documentation of training in either pediatric advanced life support or equivalent course is a requirement for accreditation as an EMT-Paramedic in Solano County. Pediatric trauma is pre-designated to either Children's Hospital (Oakland) or U.C. Davis (Sacramento) by the field triage guidelines.

Need(s) To insure ongoing education in the management of pediatric emergencies.

Objective: To maintain a greatest proficiency possibly in prehospital personnel of the management of pediatric emergencies.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ Annual Implementation

Long Range Plan

Minimum Standard 5.11

Local EMS Agencies shall identify minimum standards for pediatric capability of emergency departments, including

- a) Staffing
- b) Training
- c) Equipment
- d) Identification of patients for whom consultation with a pediatric critical care center is appropriate
- e) Quality assurance/quality improvement
- f) Data reporting to the local EMS Agency

Recommended Guidelines

Local EMS Agencies should develop methods of identifying emergency departments which meet standards for pediatric care and for pediatric critical care centers and pediatric trauma centers.

Current Status: Standard met by Policy 7300 in April 1994 via the EMS-C project.

Need(s): To identify funding and other resources to allow continuation of the recommended standard.

Objective: To achieve the recommended guideline of standard 5.11.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 5.12

In planning its pediatric emergency medical and critical care system, the local EMS Agency shall ensure input from both prehospital and hospital providers and consumers.

Current Status: Insure from both prehospital hospital providers and consumers regarding pediatric emergency care and critical care systems is accomplished via the EMCC, PCC and CQI committees.

Need(s): To review the current status of pediatric emergency medical and critical care systems.

Objective: To achieve an effective and competent system with high integrity for managing pediatric emergency medical and critical care.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

D. Enhanced Level: Other Specialty Care System

Minimum Standard 5.13

Local EMS agencies developing specialty care plans for EMS-targeted clinical conditions shall determine the optimal system for the specific condition involved including:

- a) The number and role of system participants
- b) The design of catchment areas (including inter-county transport, as appropriate), with consideration of workload and patient mix
- c) Identification of patients who should be triaged or transferred to a designated center
- d) The role of non-designated hospitals, including those which are outside of the primary triage area
- e) A plan for monitoring and evaluation of the system.

Current Status: At the present time there are no specialized care facilities within the county that provide specialized care for the EMS-targeted clinical conditions.

This standard has been attained by development of inter-facility agreements between local hospitals and special designated medical centers outside the county.

Need(s): Medical facilities within the County are not at present capable of providing the specialized medical services associated with the EMS-target clinical conditions.

Objective: This enhanced level standard cannot be addressed by the medical facilities in Solano County.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 5.14

In planning other specialty care systems, the local EMS Agency shall ensure input from both prehospital and hospital providers and consumers.

Current Status: Solano County does not have the medical resources and physical plant to plan and designate specialty care systems within the county.

Need(s): To encourage the development of specialized emergency Inter-facility transfer agreement between local community hospitals and specialty care centers outside the County.

Objective: To perform a local facility assessment of all medical facilities in the County and encourage transfer agreements to be developed where it is determined existing services cannot meet needs of patients needing specialty care centers (e.g., bum, amputation, cardiovascular surgery, etc.)

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

6.0 DATA COLLECTION SYSTEM EVALUATION

Minimum Standard 6.01

The local EMS Agency shall establish an EMS Quality Assurance/Quality Improvement (QA/QI) program to evaluate the response to emergency medical incidents and the care provided to specific patients. The programs shall address the total EMS system, including all prehospital provider agencies, Base Hospitals, and receiving hospitals. It shall address compliance with policies, procedures, and protocols and identification of preventable morbidity and mortality and shall utilize state standards and guidelines. The program shall use provider based QA/QI programs and shall coordinate them with other providers.

Recommended Guideline

The local EMS Agency should have the resources to evaluate the response to and the care provided to specific patients.

Current Status: Accomplished in the EMS QA Plan (Solano County EMS Policies 2200 -2999), and the distribution of standardized EMS-MIS software to all EMS service providers in the County and the requirement that all EMS service providers maintain written agreements with the EMS agency and that written agreements require a QA/QI reporting requirement. All ALS service providers are performing in-house QA/QI studies using medical standards included with the software. Each month, each ALS service provider submits download of the monthly EMS ambulance report form data with a hard copy of the ambulance report form to the EMS agency. Sample EMS-MIS summary productivity and medical control accountability reports are included in the appendix of this Plan.

Need(s): To refine the QA/QI monitoring, to improve the sensitivity of the EMS-MIS output reports, and to begin performing patient outcome studies to document the cost-benefits of the EMS system to the citizens it services.

Objective: Ensure the QA/QI system is addressing the EMS system medical needs for accountability.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 6.02

Prehospital records for all patient responses shall be completed and forwarded to appropriate agencies as defined by the local EMS Agency.

Current Status: This minimum standard has been accomplished. See Solano County EMS Policy Manual (Sections 6000-6150).

Need(s): To ensure appropriate compliance with existing Solano County EMS policies.

Objective: To convert all medical records into a format that can be entered into a computer system so the Solano EMS agency will be able to perform productivity and effectiveness studies on EMS system performance.

Time Frame for Objective:

- ◆ **Standard and Objective Achieved by the Solano County EMS Agency**
 - Annual Implementation Plan
 - Long Range Plan

Minimum Standard 6.03

Audits of prehospital care, including both system response and clinical aspects, shall be conducted.

Recommended Guideline

The local EMS Agency should have a mechanism to link prehospital records with dispatch, emergency department, in-patient and discharge records

Current Status: The minimum standard 6.03 has been accomplished in those hospitals and ALS service providers that have signed written agreements with Solano EMS agency and have an approved QA/QI plan. At the present time, medical audits by Base Hospital liaisons are computerized and routinely submitted to the EMS agency and are being used for individual QI counseling and Base Hospital tape reviews. Sample audit forms for the various specialized components of the EMS system are included in the appendix of this Plan.

Need(s): To review and monitor the effectiveness of the audit standards to ensure the Solano County EMS system is capable of patient outcome studies by linking ambulance report records with records from dispatch centers, first responder agencies, emergency departments, and in-patient discharge records for EMS cases taken to medical facilities both inside and outside the County.

Objective; To comply with the recommended guidelines of standard 6.03.

Time Frame for Objective:

- ◆ **Standard and Objective Achieved by the Solano County EMS Agency**
 - Annual Implementation Plan
 - Long Range Plan

Minimum Standard 6.04

The local EMS Agency shall have a mechanism to review medical dispatching to ensure that the appropriate level of medical response is sent to each emergency and to monitor the appropriateness of pre-arrival\post dispatch directions.

Current Status: At present medical dispatching is not uniform throughout the county. Two of seven primary PSAPs utilize a modified system of pre-arrival instruction and emergency medical dispatch personnel. There is no prioritized medical dispatch. The Agency is implementing a priority medical dispatch program which includes not only call

prioritization but also pre-arrival instruction to 9-1-1 callers and has been enhanced through integration with managed care. This is being done as a component of the parahospital services model described previously.

Need(s): To successfully complete the pilot project for the priority medical dispatch grant - -

Objective: Standard countywide implementation of priority medical dispatch integrated with managed care.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 6.05

The local EMS Agency shall establish a data management system which supports its system-wide planning and evaluation (including identification of high risk patient groups) and the QA/QI audit of the care provided to specific patients. It shall be based on state standards.

Current Status: This minimum standard has been accomplished. See Solano County EMS Policy Manual (Sections 6000-6150). The EMS Authority has not yet released QA\QI standards for evaluation of system performance and/or medical expectation of selected high-risk patient populations at the present time. The Solano EMS agency does have an EMS-MIS system that allows the EMS agency to comply with minimum standard 6.05. Sample audit standards and EMS-MIS summary reports are included in the appendix of this Plan.

Need(s): To ensure the EMS-MIS is capable of providing sufficient information to successfully perform the necessary functions identified in standard 6.05. The Agency is pursuing a modernization of its MIS system and will more than likely adopt a menu-driven-system similar to the one currently used by surrounding agencies.

Objective: To link the EMS-MIS with other in-hospital medical records from all EMS receiving hospitals to better evaluate the productivity and effectiveness of EMS care upon patient outcome.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long -Range Plan

Minimum Standard 6.06

The local EMS Agency shall establish an evaluation program to evaluate EMS system design and operations, including system effectiveness at meeting community needs, appropriateness of guidelines and standards, prevention strategies that are tailored to community needs, and assessment of resources needed to adequately support the system. This shall include structure, process, and outcome evaluations, utilizing state standards and guidelines.

Current Status: The EMS Agency has an annual evaluation and reporting system which provides summary reports. In many respects the minimum standard requires the local EMS Agency to develop prevention strategies and appropriate resources evaluation for specialized EMS system care, when there are no resources to address or improve system effectiveness in meeting community needs. The EMS-MIS system at the EMS Agency does allow for queried studies. The EMS Agency does perform structured, processed and limited outcome evaluations of EMS system effectiveness and performance, but at the present time state standards and guidelines to compare local performance with state expectation are not available.

Need(s): To initiate structure, process and outcome studies using comparison of EMS system performance with EMS Authority expectations when standards become available.

Objective: To establish an evaluation program to determine system effectiveness.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 6.07

The local EMS Agency shall have the resources and authority to require provider participation in the system-wide evaluation program.

Current Status: Accomplished in Solano EMS QA provider plan and is included in any written agreement with the local EMS agency. The EMS agency currently provides each organization that participates in the EMS system with performance standards, audit criteria, and in most cases compile software which allows for internal provider QI programs and downloads of performance information to the EMS agency on a monthly basis. The issue of resources is not as critical as authority. Even with an approved EMS system ordinance in the County, there are many elements of the EMS system that elect not to participate in the system-wide evaluation program and do not actively participate in the system-wide evaluation process (e.g.. 9-1-1 dispatch centers, fire department first responders, cities claiming Section 1797.201 status, emergency departments that do not maintain written agreements with the EMS agency. etc.). This issue can only be successfully addressed when the existing Health and Safety Code is redefined to include all EMS service providers to be formally participating within the County's EMS system.

Need(s): To incorporate this standard into the performance-based contract awarded to the vendor of emergency ambulance service resulting from the RFP process

Objective: To continue pursuing provider participation in the system wide evaluation program.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 6.08

The local EMS Agency shall, at least annually, report on the results of its evaluation of EMS system design and operations to the Board(s) of Supervisors, provider agencies, and Emergency Medical Care Committee (s).

Current Status: As a result of the demands on the agency of the development of the parahospital services model and the organization of the SEMSC, regular reports have only recently been submitted to either the emergency medical care committee and the Solano County Board of Supervisors.

Need(s): To renew annual reporting to the Solano County Board of Supervisors, SEMSC Board of Directors and Emergency Medical Care Committee, the county medical society and other interested parties on the evaluation of the Solano County EMS system design and operations.

Objective: To augment the EMS annual report to the Solano County Board Supervisors with an annual update of the EMS Plan which would be sent to the EMS Authority after approval and adoption.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

A. Enhanced Level: Advanced Life Support

Minimum Standard 6.09

The process used to audit treatment provided by advanced life support providers shall evaluate both base hospital (or alternative base station) and prehospital activities.

Recommended Guideline

The local EMS Agency's integrated data management system should include prehospital, base hospital, and receiving hospital data.

Current Status: Addressed in the Solano County EMS QA Plan and written agreements with Base Hospitals and ALS service providers (See Solano County EMS Policies 2200, 2201, & 2203).

Need(s): Standard has been achieved. Revisions and updates as needed. The EMS agency is attempting to design its EMS-MIS to conform to the recommended guidelines for standard 6.09.

Objective: Standard has been achieved. Revisions and updates as needed.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the EMS Agency**

Annual Implementation Plan

Long Range Plan

B. Enhanced Level: Trauma Care System

Minimum Standard 6.10

The local EMS agency, with participation of acute care providers, shall develop a trauma system evaluation and data collection program, including:

- a) A trauma registry
- b) A mechanism to identify patients whose care fell outside of established criteria
- c) A process of identifying potential improvements to the system design and operation.

Current Status: The EMS Agency is nearing completion and implementation of the countywide inclusive trauma plan.

Need(s): To monitor and evaluate the inclusive countywide trauma plan and make modifications and revisions as necessary.

Objective: To insure that all victims of traumatic events within Solano County are effectively, appropriately and consistently managed.

Time Frame for Objective:

Standard and Objective Achieved by the EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 6.11

The local EMS agency shall ensure that designated trauma centers provide required data to the EMS Agency, including patient specific information which is required for quality assurance/quality improvement and system evaluation.

Recommended Guidelines

The local EMS Agency should seek data on trauma patients who are treated at non-trauma center hospitals and shall include this information in their quality assurance/quality improvement and system evaluation program.

Current Status: The Solano EMS Agency is providing to the three hospitals to be designated as Level III Trauma Centers registry software which will also be available to the Solano County EMS Agency so that data is collected uniformly and consistently amongst the three facilities. This data will be utilized to evaluate the system and to support modifications and revisions to the trauma plan.

Need(s): To implement Solano County inclusive trauma system.

Objective: To insure that all victims of traumatic events within Solano County are effectively, appropriately and consistently managed.

Time Frame for Objective:

Standard and Objective Achieved by the EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

7.0 PUBLIC INFORMATION AND EDUCATION

The local EMS system should provide programs to establish an awareness of the EMS system, how to access the system and how to use the system. Programs to train members of the public in First Aid and CPR should be available.

Minimum Standard 7.01

The local EMS Agency shall promote the development and dissemination of information materials for the public which addresses:

- a) Understanding of EMS system design and operation
- b) Proper access to the system
- c) Self help (e.g., CPR, First Aid, etc.)
- d) Patient and consumer rights as they relate to the EMS system
- e) Health and safety habits as they relate to the prevention and reduction of health risks in target areas
- f) Appropriate utilization of emergency departments

Recommended Guidelines

The local EMS Agency should promote targeted community education programs on the use of emergency medical services in its service area.

Current Status: The EMS Agency at present has no resources or staffing to address the requirements of standard 7.01. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective.

Need(s): To identify adequate and stable funding sources and other resources to address the number of objectives of the EMS Authority standard.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 7.02

The local EMS Agency, in conjunction with other local health education programs, shall work to promote injury control and preventive medicine.

Recommended Guideline

The local EMS Agency should promote the development of special EMS educational programs for targeted groups at high risk of injury or illness.

Current Status: The Solano EMS Agency recently completed a public education and safety awareness program assisted with block grant funds administered to the state EMS Authority. This project allowed for the initiation of Project SAFE at a local

primary school wherein students, teachers, and some parents were educated in a wide variety of safety aspects for the home.

Need(s): To identify adequate and stable funding sources and other resources to address the number of objectives of the EMS Authority standards.

Objective: To enable all primary schools within the county to participate in Project SAFE and other public education and injury control and prevention programs.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ Long Range Plan

Minimum Standard 7.03

The local EMS Agency, in conjunction with the local office of emergency services, shall promote citizen disaster preparedness activities.

Recommended Guideline

The local EMS Agency, in conjunction with the local office of emergency services (OES), should produce and disseminate information on disaster medical preparedness.

Current Status: The EMS Agency at present has no resources or staffing to address the requirements of standard 7.03. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective.

Need(s): To coordinate with the Office of Emergency Services In the Sheriff Department to attain the standard.

Objective: To promote citizen disaster preparedness activities.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ Long Range Plan

Minimum Standard 7.04

The local EMS Agency shall promote the availability of First Aid and CPR training for the general public.

Recommended Guideline

The local EMS Agency should adopt a goal for training of an appropriate percentage of the general public in First Aid and CPR. A higher percentage should be achieved in high risk groups.

Current Status: Attaining the standard is a principal concern of the Solano County Emergency Medical Care Committee.

8.0 DISASTER MEDICAL RESPONSE

The local EMS system must be capable of expanding its standard operations to meet the needs created by multi-casualty incident and medical disasters, including integration of out-of-area resources.

Minimum Standard 8.01

In coordination with the local Office of Emergency Services (OES), the local EMS Agency shall participate in the development of medical response plans for catastrophic disasters, including those involving toxic substances.

Current Status: Solano County EMS agency requires all EMT-Ps and EMT-Is that staff emergency ambulances to successfully complete an EMS system orientation which includes the current MCI plan and to document the successful completion of the Federal (OSHA) Haz-Mat first responder awareness programs before the individual is authorized to practice in the County. The EMS agency routinely participates in Solano County OES planning efforts which includes the County Disaster Council and the Haz-Mat CAREs program.

Need(s): There is a need to completely re-evaluate the County medical response plan for a catastrophic disasters. In particular, the Agency is actually interested in adequate preparedness for influenza pandemics, urban This has been assigned as a principal EMS Agency objective for the coming year. There remains a need to obtain adequate funding and resources to address necessary planning effort needs to comply with the minimum objectives of this EMS Authority Standard.

Objective: To continue coordination with OES and the medical community to comply with the minimum standard of this objective after finding appropriate funding to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 8.02

Medical response plans and procedures for catastrophic disasters shall be applicable to incidents caused by a variety of hazards, including toxic substances.

Recommended Guideline

The California Office of Emergency Services multi-hazard functional plan should serve as the model for the development of medical response plans for catastrophic disasters.

Current Status: The EMS Agency routinely participates in Solano County OES planning efforts which includes the County Disaster Council and the Haz-Mat CAREs program.

Need(s): There is a need to completely re-evaluate the County medical response plan for a catastrophic disaster. This has been assigned as a principal EMS Agency objective for the coming year. There remains a need to obtain adequate funding and resources to address necessary planning effort needs to comply with the minimum objectives of the EMS Authority standards.

Objective: To continue coordination with OES and the medical community to comply with the minimum standards of this objective after finding appropriate funding to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

Minimum Standard 8.03

All EMS providers shall be properly trained and equipped for response to hazardous materials incidents, as determined by their system role and responsibilities.

Current Status: The EMS Agency requires all EMT-Ps and EMT-Is that staff emergency ambulances to successfully complete an EMS system orientation which includes the current MCI plan and to document the successful completion of the Federal (OSHA) Haz-Mat first responder awareness programs before the individual is authorized to practice in the County.

Need(s): The EMS system complies with this minimum standard.

Objective: The EMS system complies with this minimum standard.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 8.04

Medical response plans and procedures for catastrophic disasters shall use the Incident Command System (ICS) as the basis for field management.

Recommended Guideline

The local EMS Agency should ensure that ICS training is provided for all medical providers.

Current Status: The EMS agency requires all EMT-Ps and EMT-Is that staff emergency ambulances to successfully complete an EMS system orientation which includes the current MCI plan. (See Solano County EMS Policy 6180).

Need(s): The EMS system complies with this minimum standard.

Objective: The EMS system complies with this minimum standard.

Time Frame for Objective:

◆ **Standard and Objective Achieved by the Solano County EMS Agency**

Annual Implementation Plan

Long Range Plan

Minimum Standard 8.05

The local EMS Agency, using state guidelines shall establish written procedures for distributing disaster casualties to the medically most appropriate facilities in its service area.

Recommended Guideline

The local EMS agency, using state guidelines and in consultation with Regional Poison Centers, should identify hospitals with special facilities and capabilities for receipt and treatment of patients with radiation and chemical contamination and injuries.

Current Status: Solano County EMS Agency at present has no resources or staffing to address the requirements of standard 8.05. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of this EMS Authority standard.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.06

The local EMS Agency, using state guidelines shall establish written procedures for early assessment of needs and shall establish a means for communicating emergency requests to the state and other jurisdictions.

Recommended Guideline

The local EMS Agency's procedures for determining necessary outside assistance should be exercised yearly.

Current Status: Solano EMS at present has no resources or staffing to address the requirements of standard 8.06. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective

and does coordinate its planning activities with the Solano County Office of Emergency Services.

Needs: To obtain adequate funding and resources to address the minimum objectives of this EMS Authority standard.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.07

A specific frequency (e.g., CALCORD) or frequencies shall be identified for interagency communication and coordination during a disaster.

Current Status: The EMS Agency at present has no resources or staffing to address the requirements of standard 8.07. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objective of this EMS Authority Standard.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.08

The local EMS agency, in cooperation with local OES, shall develop an inventory of disaster medical resources to respond to multi-casualty incidents and disasters likely to occur in its service area

Recommended Guideline

The local EMS Agency should ensure that emergency medical providers and health care facilities have written agreements with anticipated providers of disaster medical resources.

Current Status: The EMS Agency at present has no resources or staffing to address the requirements of standard 8.08. The EMS agency does provide technical assistance and support to private and public agencies that are attempting

To address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of this EMS Authority standard. Compliance with this standard has been identified as a principal annual objective for the EMS Agency.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.09

The local EMS Agency shall establish and maintain relationships with DMAT (Disaster Medical Assistance Teams) in this area.

Recommended Guideline

The local EMS agency should support the development and maintenance of DMAT teams in its area.

Current Status: Solano EMS regularly participates in the local DMAT (Disaster Medical Assistance Teams) and the county health officer is an alternate regional disaster medical health coordinator. However, at the present time there are no active DMATs within the surrounding jurisdictions. Planning is under way spearheaded through Contra Costa to initiate such programs.

Need(s): To obtain adequate funding and resources to address the minimum objectives of this EMS Authority Standard. Establishment of DMATs in the area is of prime concern.

Objective: To successfully adhere and comply with the minimum standard of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.10

The local EMS Agency shall ensure the existence of medical mutual aid agreements with other counties in its OES region and elsewhere, as needed, which ensure that sufficient emergency medical response and transport vehicles, and other relevant resources will be made available during significant medical incidents and during periods of extraordinary system demand.

Current Status: Solano EMS at present has no resources or staffing to address the requirements of standard 8.10. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of this EMS Authority standard.

Objective: To successfully adhere and comply with the minimum standard of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano county EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.11

The local EMS Agency, in coordination with the local OES and county Health Officer(s) and using state guidelines, shall designate casualty collection points (CCPs).

Current Status: Solano EMS at present has no resources or staffing to address the requirements of standard 8.11. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of these EMS Authority standards.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.12

The local EMS agency, in coordination with the local OES, shall develop plans for establishing CCPs (Casualty Collection Points) and a means for communicating with them.

Current Status Solano EMS at present has no resources or staffing to address the requirements of standard 8.12. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of these EMS Authority standards.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.14

The local EMS Agency shall encourage all hospitals to ensure that their plans for internal and external disasters are fully integrated with the county's medical response plan (s).

Recommended Guidelines

A least one disaster drill per year conducted by each hospital should involve other hospitals, the local EMS Agency, and prehospital medical care agencies.

Current Status: Solano EMS at present has no resources or staffing to address the requirements of standard 8.14. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of these EMS Authority standards.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this Issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano county EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.15

The local EMS agency shall ensure that there is an emergency system for interhospital communications, including operational procedures.

Current Status: Solano EMS at present has no resources or staffing to address the requirements of standard 8.15. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of these EMS Authority standards.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

Minimum Standard 8.16

The local EMS Agency shall ensure that all prehospital medical response agencies and acute-care hospitals in its service area, in cooperation with other local disaster medical response agencies, have developed guidelines for the management of significant medical incidents and have trained their staff in their use.

Recommended Guideline

The local EMS agency should ensure the availability of training in management of significant medical incidents for all prehospital medical response agencies and acute-care hospital staff in its service area.

Current Status: Solano EMS at present has no resources or staffing to address the requirements of standard 8.16. The EMS agency does provide technical assistance and support to private and public agencies that are attempting to address this important objective and does coordinate its planning activities with the Solano County Office of Emergency Services.

Need(s): To obtain adequate funding and resources to address the minimum objectives of this EMS Authority standard.

Objective: To successfully adhere and comply with the minimum standards of this objective after finding appropriate funding is available to address this issue.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

A. Enhanced Level: Advanced Life Support

Minimum Standard 8.17

The local EMS Agency shall ensure that policies and procedures allow advanced life support personnel and mutual aid responders from other EMS systems to respond and function during significant medical incidents.

Current Status: Solano has established written agreements with surrounding jurisdictions which would allow advanced life support personnel and mutual aid responders from the EMS system to respond and function during significant medical institutions across jurisdictional lines.

Need(s): This standard has been achieved.

Objective: This standard has been achieved.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

Annual Implementation Plan

◆ **Long Range Plan**

B. Enhanced Level: Specialty Care Systems

Minimum Standard 8.18

Local EMS agencies developing trauma or other specialty care systems shall determine the role of identified specialty centers during a significant medical incidents and the impact of such incidents on day-to-day triage procedures.

Current Status: The Solano County inclusive trauma plan does not address the role of identified specialty care centers (i.e., level III trauma centers) during significant medical incidents and the impact of such incidents on a day to day triage procedures.

Need(s): To determine the role of identified specialty care centers (level III trauma centers) during a significant medical incident and the impact of such incidents on a day to day triage procedures.

Objective: To have pre-defined roles of level III trauma centers during significant medical incidents.

Time Frame for Objective:

Standard and Objective Achieved by the Solano County EMS Agency

◆ **Annual Implementation Plan**

Long Range Plan

NOTE FOR SUB-SECTION 8. Disaster Medical Response

It is evident that there is a fundamental lack of resources committed to addressing the various standards of the sub-section. The Agency is nonetheless committed to making serious progress in this area. The Agency intends to conduct an in depth Strength/Weakness Action Plan (SWAP) assessment from which a comprehensive implementation plan and budget will be developed.

Section 4
Tables-EMSA Summary Reporting Tables

Table 1: Geographic and Demographic Description of the EMS System:

County: Solano
Reporting Year: 1998

- 1. Population served: 370,700
- 2. Number of counties served: 1
- 3. Number of incorporated entities: 7

Population density for Solano County

Area	Sz. Square Miles	Population/Sq. Mile
Benicia.....	14.....	1,907
Dixon.....	4.6.....	2,804
Fairfield.....	33.....	2,727
Rio Vista.....	4.....	975
Suisun City.....	4.....	6,475
Vacaville.....	21.....	3,966
Vallejo.....	65.....	1,787
Unincorporated areas.....	716.1.....	27
Solano (land only).....	898.....	412
Water areas.....	75.3.....	0

EMS Agency designated grids based on Thomas Brothers Map Grid coordinates in the EMS Management Information System.

- a. Urban areas 478 (0.5mi. x0.5mi. grids)..... 119.5 sq. miles..... 15%
- b. Rural areas 52 (0.5mi. x 0.5mi. grids)..... 13.0 sq. miles..... 2%
- c. Remote areas (remaining areas) 690.2 sq. miles..... 83%

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- c. Remote areas (remaining areas) 690.2 sq. miles..... 83%

Table 2: EMS System Resources and Operations

County: Solano
Reporting Year: 1998

1. Percentage of population served by level of EMS care rendered based on available 1998 EMS-MIS Data (n=18,608)
 - a. BLS (Basic Life Support)..... 1%
 - b. LSL (Limited Life Support)..... 0%
 - c. ALS (Advanced Life Support) 2%
 - d. Dry Run, DOA, etc..... 0.1%

2. Type of EMS Agency -

3. The person responsible for day-to-day activities of the Agency reports to:
Public Health Officer (EMS Medical Director)

4. Indicate the non-required functions which are performed by the agency.
 - Development of exclusive operating areas (planning and development phase only)
 - Designation of trauma centers (planning and development phase only)
 - Designation of pediatric centers (implementation phase only)
 - Enforcement of EMS System Ordinance
 - Enforcement of ambulance performance and compliance with community performance standards
 - Oversight of EMS Dispatch center(s) operations
 - Refinement of EMS System policies and procedures

5. Solano EMS Agency Budget for FY 1997-1998

EXPENSES	
A. Salaries and Benefits	\$250,200
B. Services/Supplies	\$83,680
C. Travel	Included
D. Fixed Assets	0
E. Contract Services.....	Included
F. Indirect Expenses (Overhead)	Included
G. Other: (EMSA Special Project Assignments	Included
 TOTAL EXPENSES	 \$333,880
 SOURCES OF FUNDING	
A. County General Fund	\$124,915
B. Certification Fees and Ambulance Permit Fees	\$8,965
C. EMSA Special Project Grants	\$35,000
D. SB 12 (SB 612)	\$65,000
 TOTAL Funding	 \$333,880

Table 2 (continued): EMS System Resources and Operations

County: Solano
Reporting Year: 1998

Special Note: The prime source of EMS funding is first obtained from quarterly revenues received through the EMS Fund. Since this revenue cannot accurately be predicted and is obtained after fines and penalties are received from the courts. The County General Fund pays the remaining balance of the EMS Agency budget.

6. EMS Fee Structure for FY 1998

a. EMT-1 Certification (excluding volunteers).....	\$15.00
b. EMT-1 Recertification (excluding volunteers).....	\$15.00
c. EMT-1 Transfer authorization/lost cards	\$10.00
d. EMT-Paramedic Accreditation.....	\$25.00
e. EMT-Paramedic Re-accreditation	\$25.00
f. MICN Authorization.....	\$25.00
g. MICN Re-authorization.....	\$25.00
h. EMT-1 Training Program Approval.....	NA
i. EMT-2 Training Program Approval.....	NA
j. EMT-P Training Program Approval.....	NA
k. MICN Training Program Approval	NA
l. Emergency Ambulance Service Provider Permits.....	NA
m. Emergency Ambulance Vehicle Permits.....	\$150.00
n. Photocopying fees.....	\$.75,\$.17 for add
o. Bad checks.....	\$20.00
p. EMS-MIS summary reports upon request.....	Cost

7. EMS Agency Personnel Inventory for FY 1998

EMS Agency	Full Time Equivalent	%Time devoted Status EMS	Base Salary Rate/hr.	Fifth Step Salary/hr.	Benefits % of Salary
1. EMS Administrator	100%	100%	\$23.52	\$28.58	25%
2. Pre-Hospital Care Coordinator	100%	100%	\$22.56	\$27.42	25%
3. Administrative Secretary	100%	100%	\$13.36	\$16.24	25%
4. Clerical Support Specialist	100%	100%	\$12.81	\$15.57	25%

SOLANO COUNTY EMS PLAN
Section 4

- c. Number classified as "BLS rescue":..... 0
- d. Number classified as "auxiliary rescue":..... 0

Total number of responses:

- a. Number of emergency responses:..... 593
- b. Number of non-emergency responses:..... 0

Total number of transports:

- a. Number of emergency responses:..... 284
- b. Number of non-emergency responses:..... 0

Response times (Time interval from call received until unit arrives on scene.)

BLS and CPR capable first responder

- a. System wide:..... 18
- b. Metro/urban: 4
- c. Rural:..... 11
- d. Remote:..... 3

Early defibrillation capable responder

- a. System wide:..... 5
- b. Metro/urban: 3
- c. Rural:..... 2
- d. Remote:..... 0

Advanced life support capable non-transport first responder

- a. System wide:..... 3
- b. Metro/urban (Response time standard 9 mins.):..... 2
- c. Rural (Response time standard 15 mins.):..... 1
- d. Remote (Response time standard 20 mins.):..... 0
- e. Industrial:..... 1

EMS transport unit

- a. System wide:..... 3
- b. Metro/urban (Response time standard 9 mins.):..... 3
- c. Rural (Response time standard 15 mins.):..... 2
- d. Remote (Response time standard 20 mins.):..... 2

SOLANO COUNTY EMS PLAN
Section 4

Number of non-transporting agencies that have written agreements with the local EMS agency:.....	6
Transporting agencies:.....	3
Number of fire service ground ambulance services:.....	1
Number of proprietary ground ambulance services:.....	2
Number of other permitted non-emergency ground ambulance services:.....	0
Number of ground ambulance services providing basic life support (only):.....	0
Number of ground ambulance services providing early defibrillation:.....	7
Number of ground ambulance services providing advanced life support:.....	3
Number of transport agency contracts:.....	2
Number of exclusive operating areas: Vacaville Zone C.....	1
Percentage of population covered by exclusive ambulance zones:.....	22
Total number of responses from the Solano EMS MIS:.....	18,608
a. Number of emergency responses:.....	1,097
b. Number of non-emergency responses:.....	17,511
Total number of transports:.....	16,503
a. Number of emergency responses:.....	7,496
b. Number of non-emergency responses:.....	9,007
Early defibrillation programs	
Number of public safety/EMT-1 defibrillation programs:.....	5
a. Automatic:.....	5
b. Manual:.....	N/A
Air ambulance services	
Total medical helicopter services:.....	4
a. Number classified as "air ambulances":.....	3
b. Number classified as "air rescue":.....	1

Table 3
Personnel/Training

Total Certified EMT-1's:	811
a. EMT-1's employed by public agencies:	560
b. EMT-1's employed by private agencies:	146
c. EMT-1's without agency affiliation:	105
Number of EMT-1's newly certified this year:.....	96
Number of EMT-1's recertified this year:	112
EMT-1 certificate reviews:	2
a. Formal investigations:.....	2
b. Suspensions:.....	0
c. Revocations:.....	0
d. Denials of certification:.....	0
e. No action taken:	2
Total certified EMT-II's:	N/A
Total certified EMT-P's:.....	135
a. EMT-P's employed by public agencies:	58
b. EMT-P's employed by private agencies:	77
Number of EMT-P's newly accredited this year:	15
Number of EMT-P's recertified this year:	39
EMT-P certificate reviews:	3
a. Formal investigations:.....	2
b. Suspensions:.....	0
c. Revocations:.....	0
d. Denial of certifications:.....	1
e. No action taken:	2
Other personnel	
Number of MICN's authorized:.....	58
Number of EMS Dispatchers certified:.....	61

a. Number trained to EMSA standards:.....	61
Early defibrillation	
a. Number of EMT-1D employed:.....	142
b. Number of public safety employed:.....	0
Training programs, Number of training programs:	
a. EMT-1.....	3
b. EMT-1D.....	1
c. EMT-P.....	1
d. MICN.....	1

Table 4
System Resources and Operations-Communications.

Number of primary PSAP's:.....	7
Number of secondary PSAP's:	0
Number of dispatch centers directly dispatching ambulances:.....	3
Number of designated dispatch centers for EMS Aircraft:.....	1

Table 5
System Resources and Operations-Response/Transportation.

Non-transporting agencies:	20
Number of fire departments non-transporting agencies:	17
Number of law enforcement non-transporting agencies:.....	9
Number of other non-transporting agencies (industrial first aid):	4
Number of non-transporting agencies providing basic life support (only):.....	20
Number of non-transporting agencies providing early defibrillation:	8
Number of non-transporting agencies providing advanced life support:.....	4

Table 6
System Resources and Operations-Facilities/Critical Care

Trauma care system

Total number of trauma centers: N/A

- a. Number of level I trauma centers: 0
- b. Number of level II trauma centers: 0
- c. Number of level III trauma centers: 0
- d. Number of pediatric trauma centers: 0

Percentage of population within 30 minutes of a trauma center

- a. Ground transport: 100
- b. Air transport: 100

Trauma patients

- a. # of patients meeting trauma triage criteria: *UTD
- b. # transported directly to a trauma center by ground /air ambulance: *UTD
- c. # of major trauma patients transferred to a trauma center: *UTD
- d. Patients meeting triage criteria who were not treated at a trauma center: *UTD

Emergency Departments

Total number of Emergency Departments: 5

- a. Number of referral emergency services: 0
- b. Number of standby emergency services: 0
- c. Number of basic emergency services: 5
- d. Number of comprehensive emergency services: 5
- e. Number of receiving hospitals with agreements: 4

Medical control facilities

Number of Base Hospitals: 2

Number of alternative Base Stations: 0

Total number of base hospital contacts: 7,121

- a. Emergency: 439
- b. Non-emergency: 6,682

* Unable To Determine

Pediatric facilities

Number of pediatric critical care non-trauma centers: 0

Number of pediatric ICU's: 0

Number of Emergency Departments approved for pediatrics: 0

Other facilities

Number of emergency psychiatric facilities: 0

Number of burn centers: 0

Number of cardiac rehabilitation centers: 0

Number of spinal cord rehabilitation centers: 0

Number/type of other critical care centers: 0

Table 7

System Resources and Operations-Data/system evaluation.

EMS MIS Summary Report listings.

- a. Code out vs. Code in Summary Report.
- b. Response Times Summary Report.
- c. Response Times by EMSA Population Density Report.
- d. ALS/BLS Level of Care Report.
- e. ALS care indexed by Base Hospital Report.
- f. Trauma Patient Severity Summary Report.
- g. Mechanism of Injury Summary Report.
- h. EMS Patient Age and Sex Demographic Summary Report.
- i. Receiving Hospital Summary Report.
- j. Final Disposition of EMS calls.
- k. Change in patient condition Summary Report.

Table 8

System Resources and Operations-Public Information/Education.

Media Packets

Table 9

System Resources and Operations-Disaster Medical.

- a. Number of approved casualty collection points: 0
- b. Number of CISD (Critical Incident Stress debriefing Teams): 1
- c. Number of CISD team mobilizations: *UTD
- d. Number of DMAT's (Disaster Medical Assistance Teams):..... 0
- e. Number of Hazmat Teams (Hazardous Materials): *UTD
- f. Number of Hazmat Incidents: 0
- g. Number of MCI's (Mass Casualty Incidents where plan was activated): *UTD

- Unable To Determine

(c) 1993 Solano County EMS Agency

All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Code Out vs Code In Summary Report
Total number of cases: 18608

Code Out	Code In Code 2	Code 3	Dry Run	Unk	Totals
Code 1	3289 (18%)	17 (0%)	218 (1%)	30 (0%)	3554 (19%)
Code 2	3133 (17%)	52 (0%)	198 (1%)	71 (0%)	3454 (19%)
Code 3	8665 (47%)	907 (5%)	1533 (8%)	312 (2%)	11417 (61%)
Upgrade 2 to 3	1 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)
Downgrde 3 to 2	0 (0%)	0 (0%)	0 (0%)	3 (0%)	3 (0%)
Unknown	0 (0%)	2 (0%)	8 (0%)	169 (1%)	179 (1%)
Totals	15088 (81%)	978 (5%)	1957 (11%)	585 (3%)	18608 (100%)

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

EMS service total prehospital time intervals for calls
(Interval EMS service dispatch receives a call and the EMS unit is available)
Total cases in the study population n=18608
excluding UNK cases.....13488
excluding NA cases.....0
Remaining cases that this report includes n=5120

Time Int	N	%	Cumulative N	% (adjusted for UNK and NA cases)
0-4 min...	24	0%	24	0%
5-9 min...	70	1%	94	2%
10-14 min.	147	3%	241	5%
15-19 min.	261	5%	502	10%
20-24 min.	393	8%	895	17%
25-29 min.	497	10%	1392	27%
30-34 min.	557	11%	1949	38%
35-39 min.	520	10%	2469	48%
40-44 min.	463	9%	2932	57%
45-49 min.	430	8%	3362	66%
50-54 min.	292	6%	3654	71%
55-59 min.	209	4%	3863	75%
60-64 min.	189	4%	4052	79%
65-69 min.	156	3%	4208	82%
70-74 min.	148	3%	4356	85%
75-79 min.	93	2%	4449	87%
80-84 min.	101	2%	4550	89%
85-90 min.	90	2%	4640	91%
90-119 m..	248	5%	4888	95%
120-300 m.	148	3%	5036	98%
>300 min..	84	2%	5120	100%

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Response time compliance summary report for EMG cases

of people requesting EMS services: 18608 (# of Dispatched Units: 17506)

of people requesting EMG response: 11421 (# of Dispatched Units: 10709)

Code 3 calls to Urban Areas (n=5203)

City	Within Stds X<= 9 mins	Outside Stds X> 9 mins	Disp Term EMG Call	Unknown	Totals n
Benica	190	31 (14%)	0	6 (3%)	227
Fairfield	1292	129 (9%)	2	37 (3%)	1460
Rio Vista	14	2 (12%)	0	1 (6%)	17
Suisun City	167	32 (16%)	0	2 (1%)	201
Vacaville	5	26 (79%)	0	2 (6%)	33
Vallejo	2666	209 (7%)	2	49 (2%)	2926
Fairfield/Suisun	197	12 (6%)	0	7 (3%)	216
Benica/Vallejo (	2	4 (67%)	0	0 (0%)	6
Unknown City	99	15 (13%)	0	3 (3%)	117
Totals	4632	460 (9%)	4	107 (2%)	5203

Code 3 calls to Rural Areas (n=124)

Rural Areas	Within Stds X<=15 mins	Outside Stds X>15 mins	Disp Term EMG Call	Unknown	Totals n
Mare Island	20	0 (0%)	0	0 (0%)	20
American Canyon	100	4 (4%)	0	0 (0%)	104
Totals	120	4 (3%)	0	0 (0%)	124

Code 3 calls to Remote Areas (n=488)

Remote Areas	Within Stds X<=20 mins	Outside Stds X>20 mins	Disp Term EMG Call	Unknown	Totals n
Totals	455	8 (2%)	0	25 (5%)	488

Code 3 calls to Unknown Areas or Non-Reported Grids (n=4894)

Unknown PCR Grids	Within Stds X<= 9 mins	Outside Stds X> 9 mins	Disp Term EMG Call	Unknown	Totals n
Totals	355	91 (2%)	0	4448 (91%)	4894

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98.

Total number of calls: 18608

Level of EMS Care Rendered indexed by initial EMT assessment

Level of EMS care	Total cases	% of n	Initial EMS Assessment			of Acuity	
			Imed	Delay	Stable	DOA	UNK
Advanced Life Support	7865	(42%)	1026	2254	954	18	3613
Basic Life Support (	10089	(54%)	63	500	4182	1	5343
Other (Dry Run, DOA,	529	(3%)	8	40	416	46	19
Unknown	125	(1%)	0	0	0	0	125
Totals	18608	(100%)	1097	2794	5552	65	9100

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of calls: 18608

Total number of cases requiring base consult: 8058

Total number of cases w/o ALS prior to base consult: 7121

Initial acuity of patient using base hospital services

EMT assessment of patient severity before consult	NBMC	SSMC	Oth. Base	Unk	Total	%
Immediate	203	230	5	1	439	(6%)
Delayed	804	1166	10	11	1991	(28%)
Minor/Stable	494	500	8	37	1039	(15%)
DOA	10	24	0	6	40	(1%)
Unable to classify	3	1	0	1	5	(0%)
Unknown	25	21	1	3560	3607	(51%)
Totals	1539	1942	24	3616	7121	(100%)

Total number of cases with ALS prior to base consult: 937

EMT assessment of patient severity before consult	NBMC	SSMC	Oth. Base	Unk	Total	%
Immediate	273	315	2	3	593	(63%)
Delayed	119	171	0	2	292	(31%)
Minor/Stable	24	21	0	0	45	(5%)
DOA	0	1	0	0	1	(0%)
Unknown	3	3	0	0	6	(1%)
Totals	419	511	2	5	937	(100%)

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of EMS cases: 18608

Type of Trauma Cases: All Trauma Cases (n=5236)

of Trauma Cases Transported to a hospital: 4292 (82% of n)

Cases Not Transported directly to a Hospital: 944 (18% of n)

Summary EMS System Trauma Report

Receiving Hospital of EMS trauma calls indexed type of trauma patient

Receiving Hospital of EMS calls	Total cases	% of n	Trauma Score			
			0-4	5-8	>=9	Unk
NorthBay Medical Center	540 (13%)		0	0	0	540
Sutter-Solano Medical Center	800 (19%)		0	0	0	800
Kaiser Permanente Vallejo	1490 (35%)		0	0	0	1490
Vaca Valley Hospital	44 (1%)		0	0	0	44
David Grant Medical Center	88 (2%)		0	0	0	88
Mare Island Branch Clinic	5 (0%)		0	0	0	5
Other (Solano County Rec Fac	5 (0%)		0	0	0	5
Napa Hospital Facility	3 (0%)		0	0	0	3
Queen of the Valley Hospital	27 (1%)		0	0	0	27
UCD Medical Center	27 (1%)		0	0	0	27
Contra Costa Hospital Facili	19 (0%)		0	0	0	19
John Muir Medical Center	27 (1%)		0	0	0	27
Kaiser Martinez	3 (0%)		0	0	0	3
Lodi Community Hospital	22 (1%)		0	0	0	22
Other bay area facility	28 (1%)		0	0	0	28
Other Bay Area\Sac Kaiser Fa	21 (0%)		0	0	0	21
Pt transport by other unit (	1 (0%)		0	0	0	1
Other (Scheduled transfers)	3 (0%)		0	0	0	3
Unknown Rec. Hospital	1139 (27%)		0	0	0	1139
Totals	4292 (100%)		0	0	0	4292

EMS Service Provider of EMS trauma cases	Total cases	% of n	Trauma Score			
			0-4	5-8	>=9	Unk
Benicia Fire Dept	30 (1%)		0	0	0	30
Solano Ambulance Service	5206 (99%)		0	0	0	5206
Totals	5236 (100%)		0	0	0	5236

EMT initial assessment of EMS trauma cases	Total cases	% of n	Trauma Score			
			0-4	5-8	>=9	Unk
Immediate	145 (3%)		0	0	0	145
Delayed	492 (9%)		0	0	0	492
Minor/Stable	1849 (35%)		0	0	0	1849
DOA	4 (0%)		0	0	0	4
Unable to classify	12 (0%)		0	0	0	12
UNK EMTP Assessment	2734 (52%)		0	0	0	2734
Totals	5236 (100%)		0	0	0	5236

EMT care rendered for EMS trauma cases	Total cases	% of n	Trauma Score			Unk
			0-4	5-8	>=9	
Advanced Life Support (ALS)	1156	(22%)	0	0	0	1156
Basic Life Support (BLS)	3833	(73%)	0	0	0	3833
Other (Dry Run, DOA, Transfe	243	(5%)	0	0	0	243
UNK EMTP Assessment	4	(0%)	0	0	0	4
Totals	5236	(100%)	0	0	0	5236

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of EMS cases: 18608

Type of Trauma Cases: All Trauma Cases (n=5236)

Frequency Summary Report

Mechanism of Injury of EMS trauma calls indexed type of trauma patient

Mechanism of Injury	Total cases	% of n	Type of Trauma Major	Minor	Patient Unknown
Unknown	5236	(100%)	145	2390	2701
Totals	5236	(100%)	145	2390	2701

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of calls: 18608
Patient age and sex summary report

Patient Age	Patient Sex		Unk	Total	%
	Male	Female			
1 yr <	38	38	306	382	(2%)
1 - 2 yrs	8	9	120	137	(1%)
3 - 4 yrs	16	10	131	157	(1%)
5 - 6 yrs	7	6	117	130	(1%)
7 - 8 yrs	7	9	113	129	(1%)
9 - 10 yrs	10	9	122	141	(1%)
11- 15 yrs	45	30	430	505	(3%)
16- 20 yrs	58	90	811	959	(5%)
21- 25 yrs	49	62	614	725	(4%)
26- 30 yrs	52	66	624	742	(4%)
31- 35 yrs	72	72	765	909	(5%)
36- 40 yrs	69	89	953	1111	(6%)
41- 45 yrs	81	68	929	1078	(6%)
46- 50 yrs	83	87	824	994	(5%)
51- 55 yrs	73	75	793	941	(5%)
56- 60 yrs	73	57	614	744	(4%)
61- 65 yrs	73	85	698	856	(5%)
66- 70 yrs	91	124	878	1093	(6%)
71- 75 yrs	108	155	1141	1404	(8%)
76- 80 yrs	120	193	1212	1525	(8%)
81- 85 yrs	102	159	1044	1305	(7%)
86- 90 yrs	59	138	740	937	(5%)
>90 yrs	38	84	382	504	(3%)
Unknown	18	14	1168	1200	(6%)
Totals	1350 (7%)	1729 (9%)	15529 (83%)	18608	(100%)

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of calls: 18608

Frequency Summary Report

Receiving Hospital of EMS calls indexed by Code Out

Cases transported to a receiving facility: 16654

Cases not directly transported: 1954

Receiving Facility	Total cases	% of n	Dispatch Out Code			
			Code 3	Code 2	Code 1	UNK Code
Dry Run (N/A)	3846	(23%)	1315	396	1999	136
NorthBay Medical Center	1913	(11%)	1610	237	54	12
Sutter-Solano Medical Cente	3049	(18%)	2403	556	86	4
Kaiser Permanente Vallejo	5657	(34%)	3971	1257	412	17
Vaca Valley Hospital	207	(1%)	56	116	34	1
David Grant Medical Center	417	(3%)	291	106	19	1
Mare Island Clinic	1	(0%)	0	1	0	0
Mare Island Branch Clinic	76	(0%)	1	72	3	0
Other (Solano County Rec Fa	480	(3%)	2	90	388	0
Napa Hospital Facility	15	(0%)	1	5	9	0
Queen of the Valley Hospita	162	(1%)	42	97	23	0
Sacramento Hospital Facilit	1	(0%)	0	0	1	0
UCD Medical Center	83	(0%)	5	51	27	0
Sutter Davis Hospital	1	(0%)	0	0	1	0
Contra Costa Hospital Facil	91	(1%)	27	62	1	1
John Muir Medical Center	56	(0%)	24	16	16	0
Kaiser Martinez	15	(0%)	15	0	0	0
San Joaquin Gen Hospital	1	(0%)	0	0	0	1
Lodi Community Hospital	85	(1%)	76	7	2	0
Other bay area facility	305	(2%)	29	90	185	1
Other Bay Area\Sac Kaiser F	115	(1%)	6	37	72	0
Pt transport by other unit	3	(0%)	1	2	0	0
Other (Scheduled transfers)	13	(0%)	2	11	0	0
Unknown	62	(0%)	7	49	5	1
Totals	16654	(100%)	9884	3258	3337	175

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of calls: 18608

Frequency Summary Report

Final disposition of EMS calls indexed by Code Out

Final Disposition of EMS calls	Total cases	% of n	Dispatch Out Code			
			Code 3	Code 2	Code 1	UNK Code
Unknown	1259	(7%)	348	150	642	119
Transport to an Emg Dept	12669	(68%)	9466	2317	837	49
Transport to an Emg Depr (D	36	(0%)	7	17	12	0
Transport a Hospital (Non-E	923	(5%)	42	535	343	3
Transport to medical fac (n	468	(3%)	2	66	400	0
Transport to ECF/Nursing Fa	1107	(6%)	1	125	979	2
Transport to R.P for air tr	21	(0%)	17	3	1	0
Transport to RP for ground	1	(0%)	0	0	1	0
DNR patient transport w/o r	4	(0%)	0	0	2	2
Pt. transport by other grou	64	(0%)	47	9	8	0
Pt. transported by other Ai	151	(1%)	145	3	2	1
Pt. transport via law enfor	9	(0%)	5	4	0	0
Pt. transport via friend/fa	14	(0%)	12	2	0	0
Transport/Treatment refused	969	(5%)	859	91	17	2
Aid not necessary	26	(0%)	22	3	0	1
Dead on scene (DOA)	45	(0%)	45	0	0	0
DNR case no transport	45	(0%)	45	0	0	0
Dispatch terminated call	345	(2%)	209	62	74	0
Standby (No patient)	113	(1%)	2	11	100	0
Patient left scene	65	(0%)	47	6	12	0
Other	14	(0%)	10	2	2	0
Base stop resuscitation bef	4	(0%)	4	0	0	0
N/A	2	(0%)	0	1	1	0
Not recorded	1	(0%)	0	1	0	0
Unknown	298	(2%)	127	46	121	4
Totals	18653	(100%)	11462	3454	3554	183

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All EMS Calls (EMG & Transfer Calls)
from 01/01/98 through 12/31/98

Total number of EMS calls: 18608

Initial EMT assessment indexed by change in condition upon hospital

Initial EMT's Assessment	Change in patient condition on Hospital Arrival						Totals
	Save	Impr	No Ch	Det	UNK	N/A	
Immediate % of total	21 2%	358 33%	635 58%	41 4%	17 2%	25 2%	1097 (6%)
Delayed % of total	1 0%	588 21%	2101 75%	16 1%	56 2%	32 1%	2794 (15%)
Minor/Stable % of total	3 0%	261 5%	4879 88%	20 0%	122 2%	267 5%	5552 (30%)
DOA % of total	1 2%	0 0%	9 14%	0 0%	14 22%	41 63%	65 (0%)
Unable to cl % of total	0 0%	1 3%	14 41%	0 0%	1 3%	18 53%	34 (0%)
Unknown % of total	0 0%	20 0%	110 1%	3 0%	8917 98%	16 0%	9066 (49%)
Totals	26 0%	1228 7%	7748 42%	80 0%	9127 49%	399 2%	18608 (100% of n)

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Table 10: Resources Directory – EMS Agency Approved Training Programs

County: Solano
Reporting Year: 1998

Program Level: EMT-1 Training Institution Name /Address	Contact Person Telephone Number	Medical Director Course Director Principal Instructor	Date Approved
Solano Community College 4000 Suisun Valley Road Suisun, CA 94585	Program Director Elaine Norinsky R.N., Ed. (707) 864-7000	Charlotte McKeown, RN, MS D.S. Clement, RN M. Modrich, RN G. Burgess	01/98
Fiori & Associates 250 St. Augustine Drive Benicia, CA 94510	Pete Fiori, MICP (707) 747-9747	J. Dodini, RN P. Fiori, EMT-P K. Smith P. Davis S. Maiero, EMT-P	03/98
Vacaville Fire Dept. 650 Merchant Vacaville, CA 95688 (EMT-1 Refresher Only)	John Jansen, Captain (707) 449-1838	C. Courtemanche, RN R. Glanker, EMT-P	01/98
Samaritan Training 490 Merchant, Ste 201 Vacaville, CA 95688	Ted Peterson EMT-P	Ted Peterson, EMT-P E. Carlson, MD, FACEP (Medical Director) M. Reeves, EMT-P Wendy Cowan, EMT-P	4/97
Program Level: EMT-P Training Institution Name /Address	Contact Person Telephone Number	Medical Director Course Director Principal Instructor	Date Approved
Samaritan Training 490 Merchant , Ste 201 Vacaville, CA 95688	Ted Peterson, EMT-P (707) 451-8751	Ted Peterson, EMT-P E. Carlson, MD, FACEP (Medical Director) M. Reeves, EMT-P Wendy Cowan, EMT-P	07/92

Table 11: Resources Directory – Ambulance Services (Ground and Air)

County: Solano
Reporting Year: 1998

Ambulance Service	Contact Person	Communities Serviced	EMS Service Level	Exclusive Zone	MOA
AMR	Douglas Petrick Managing Director (707) 552-6212	Vallejo, Fairfield, Suisun, Rio Vista, Benicia, Vacaville	ALS/BLS	No	Yes
MEDIC Ambulance	Rudy Manfredi Owner (707) 644-8980	Vallejo, Fairfield, Suisun, Rio Vista, Benicia, Vacaville	ALS/BLS	No	Yes
Vacaville Fire Department	Jeff Ringleman Division Chief (707) 449-1838	Vacaville	ALS/BLS	No	Yes
Mare Island Fire Dept.	Russell Tomms Fire Chief (707) 646-0169	Mare Island	BLS	No	No
CALSTAR	Joe Cook President (510) 887-3063	Entire Solano County	ALS	No	Yes
REACH	John McDonald MD Medical Director (707) 575-6886	Entire Solano County	ALS	No	Yes
CHP	Captain T. Miller Supervisor (707) 257-0103	Entire Solano County	ALS	No	Yes

Table 12: Resources Directory – Non-Transporting ALS Agencies

County: Solano

Reporting Year: 1998

Non-Transporting ALS Service	Contact Person	Communities Serviced	EMS Service Level	Exclusive Zone	MOA
Benicia Fire Dept.	Gene Gantt Fire Chief (707) 746-4275	Benicia	ALS	No	Pending
Fairfield Fire Dept.	Ron Tougas (707) 428-7878	Fairfield	ALS	No	Yes

Table 13: Resources Directory – First Response Agencies

Page 1 of 2

County: Solano

Reporting Year: 1998

First Responder EMS Service	Contact Person	Communities Serviced	EMS Service Level	Defib Cap.	MOA
American Canyon Fire 225 James Road Vallejo, CA 94590	Keith Caldwell Fire Chief (707) 624-2747	Vallejo, Napa, Unincorporated Areas	BLS	No	No
Benicia Fire Dept. 150 Military West Benicia, CA 94510	Gene Gantt Fire Chief (707) 746-4275	Benicia	ALS	Yes	Pending
Cordelia Fire District 2155 Cordelia Rd. Suisun, CA 94585	Jim Campi Fire Chief (707) 864-0468	Cordelia, Fairfield Unincorporated Areas	BLS	No	No
CMF Fire Dept. PO Box 2000 Vacaville, CA 95688	John Macaffee Fire Chief (707) 864-0468	CMF	BLS	No	No
Dixon Fire Dept. 140 N. Jackson St. Dixon, CA 95620	Richard Dorris Fire Chief (707) 678-7060	Dixon and Unincorporated Areas	BLS	Yes	No
Exxon Fire Dept. 2400 E. Second St. Benicia, CA 94510	Mark May Fire Chief (707) 745-7693	Exxon Refinery	BLS	No	No
Fairfield Fire Dept. 1000 Webster St. Fairfield, CA 94533	Ron Tougas Fire Chief (707) 429-7373	Fairfield	BLS	No	No
Gordon Valley Volunteer Fire 6060 Gordon Valley Rd Suisun, CA 94585	Don Gordon Fire Chief (707) 425-1822	Gordon Valley	BLS	No	No

Table 13: Resources Directory – First Response Agencies

Page 2 of 2

County: Solano

Reporting Year: 1998

First Responder EMS Service	Contact Person	Communities Serviced	EMS Service Level	Defib Cap.	MOA
Mare Island Fire Dept. Bldg. 235, Code 32 Vallejo, CA 94592	Russell Tomms Fire Chief (707) 646-0156	Mare Island	BLS	Pending	Pending
Montezuma Fire Dept. 21 North 4 th Street Rio Vista, CA 94571	Stan Simi Fire Chief (707) 374-5962	Montezuma Fire District	BLS	No	No
Rio Vista Fire Dept. 350 Main Street Rio Vista, CA 94571	Keith Tadewald Fire Chief (707) 374-2233	Rio Vista and Unincorporated Areas	BLS	No	No
Suisun City Fire Dept. 701 Civic Center Dr. Suisun, CA 94585	Michael O'Brien Fire Chief (707) 425-9133	Suisun	BLS	Yes	Yes
Suisun Fire Protection District 445 Jackson Street Suisun City, CA 94585	Richard Lanza Fire Chief (707) 425-3605	Suisun Fire Protection District	BLS	No	No
Travis Fire Dept. 60 th Stop CES/DEF Travis AFB, CA 94535	Ray Stokes Fire Chief (707) 425-5886	Travis Air Force Base	BLS	Unk	No
Vacaville Fire Protection District 420 Vine Street Vacaville, CA 95688	Howard Wood Fire Chief (707) 447-2252	Vacaville Rural Fire District	BLS	No	No
Vallejo Fire Dept. 1220 Marin Street Vallejo, CA 94590	M. Kirchner Asst.Fire Chief (707) 648-4526	Vallejo and Unincorporated Areas	BLS	Yes	Yes

Table 14: Resources Directory – Public Safety Communications Centers

County: Solano
Reporting Year: 1998

911 Communication Dispatch Center	Contact Person	Communities Served	PSAP Level	Directly Disp. Grnd Ambulance	Directly Disp. Air Ambulance
Solano County Sheriff's Department 530 Union Ave., Ste. 100 Fairfield, CA 94533	Alex Ruffin (707) 421-7094	Dixon, Rio Vista, and Unincorporated Areas	Primary	Yes/No	Yes
Benicia Police Dept. 200 East L Street Benicia, CA 94510	Gene Gantt Fire Chief (707) 745-3412	Benicia	Primary	No	No
Fairfield Public Safety 1000 Webster Street Fairfield, CA 94533	Greg Miraglia (707) 428-7335	Fairfield	Primary	No	No
Suisun City Police Department 701 Civic Center Blvd. Suisun, CA 94585	Dee Dee Golden (707) 421-7350	Suisun	Primary	No	No
Vacaville Police Dept. 630 Merchant Street Vacaville, CA 95688	Randi Clements (707) 448-5200	Vacaville	Primary	Yes/No	No
Vallejo Police Dept. PO Box 1031 Vallejo, CA 94590	Joann West Lieutenant (707) 648-4540	Vallejo	Primary	No	No
CHP Dispatch Center 3050 Travis Blvd. Fairfield, CA 94533	Steve Wilkins (707) 428-2100	Entire County	Primary	No	No
CHP Helicopter Napa Airport Napa, CA 94558	T. Miller Captain (707) 257-0103				
Mare Island Dispatch	TBA	Mare Island	Primary	Yes/No	No
Travis AFB	TBA	Travis AFB	Primary	Yes/No	No

Solano County EMS Plan
Section 5

Special Note: Yes/No means that the PSAP (Public Safety Answering Point) directly dispatches some ground ambulances to medical emergencies in its service area.

Table 15: Resources Directory Trauma Centers

County: Solano
Reporting Year: 1998

None

Table 16: Resources Directory – Medical Control Facilities

County: Solano
Reporting Year: 1998

Organization Name/Address	Contact Person	Medical Director Primary Liaison R.N.
Sutter-Solano Medical Center 300 Hospital Drive Vallejo, CA 94590 (707) 554-5212	Lois Husted, R.N.,BSN	Allen Morini, D.O. Medical Director Lois Husted, R.N., PLN
NorthBay Medical Center 1800 Pennsylvania Avenue Fairfield, CA 94533 (707) 429-3600	Debra Dorrough, R.N., BSN (707) 429-3600	Gary Tamkin, M.D. Medical Director TBA

Table 17: Resources Directory – Disaster Medical Responders

County: Solano
Reporting Year: 1998

Organization Name/Address	Contact Person	Primary Service CISD/Haz-Mat Resp/Dmat Team
Rod Kennedy Solano County MH 2101 Courage Drive Fairfield, CA 94533 24-hour phone	Lisa Dubnoff, EMT-P (707) 421-6631	CISD

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Table 10: Resources Directory – EMS Agency Approved Training Programs

County: Solano
Reporting Year: 1998

Program Level: EMT-1 Training Institution Name /Address	Contact Person Telephone Number	Medical Director Course Director Principal Instructor	Date Approved
Solano Community College 4000 Suisun Valley Road Suisun, CA 94585	Program Director Elaine Norinsky R.N., Ed. (707) 864-7000	Charlotte McKeown, RN, MS D.S. Clement, RN M. Modrich, RN G. Burgess	01/98
Fiori & Associates 250 St. Augustine Drive Benicia, CA 94510	Pete Fiori, MICP (707) 747-9747	J. Dodini, RN P. Fiori, EMT-P K. Smith P. Davis S. Maiero, EMT-P	03/98
Vacaville Fire Dept. 650 Merchant Vacaville, CA 95688 (EMT-1 Refresher Only)	John Jansen, Captain (707) 449-1838	C. Courtemanche, RN R. Glanker, EMT-P	01/98
Samaritan Training 490 Merchant, Ste 201 Vacaville, CA 95688	Ted Peterson EMT-P	Ted Peterson, EMT-P E. Carlson, MD, FACEP (Medical Director) M. Reeves, EMT-P Wendy Cowan, EMT-P	4/97
Program Level: EMT-P Training Institution Name /Address	Contact Person Telephone Number	Medical Director Course Director Principal Instructor	Date Approved
Samaritan Training 490 Merchant , Ste 201 Vacaville, CA 95688	Ted Peterson, EMT-P (707) 451-8751	Ted Peterson, EMT-P E. Carlson, MD, FACEP (Medical Director) M. Reeves, EMT-P Wendy Cowan, EMT-P	07/92

Solano County EMS Plan
Section 5

Table 11: Resources Directory – Ambulance Services (Ground and Air)

County: Solano
Reporting Year: 1998

Ambulance Service	Contact Person	Communities Serviced	EMS Service Level	Exclusive Zone	MOA
AMR	Douglas Petrick Managing Director (707) 552-6212	Vallejo, Fairfield, Suisun, Rio Vista, Benicia, Vacaville	ALS/BLS	No	Yes
MEDIC Ambulance	Rudy Manfredi Owner (707) 644-8980	Vallejo, Fairfield, Suisun, Rio Vista, Benicia, Vacaville	ALS/BLS	No	Yes
Vacaville Fire Department	Jeff Ringleman Division Chief (707) 449-1838	Vacaville	ALS/BLS	No	Yes
Mare Island Fire Dept.	Russell Tomms Fire Chief (707) 646-0169	Mare Island	BLS	No	No
CALSTAR	Joe Cook President (510) 887-3063	Entire Solano County	ALS	No	Yes
REACH	John McDonald MD Medical Director (707) 575-6886	Entire Solano County	ALS	No	Yes
CHP	Captain T. Miller Supervisor (707) 257-0103	Entire Solano County	ALS	No	Yes

Solano County EMS Plan
Section 5

Table 12: Resources Directory – Non-Transporting ALS Agencies

County: Solano
Reporting Year: 1998

Non-Transporting ALS Service	Contact Person	Communities Serviced	EMS Service Level	Exclusive Zone	MOA
Benicia Fire Dept.	Gene Gantt Fire Chief (707) 746-4275	Benicia	ALS	No	Pending
Fairfield Fire Dept.	Ron Tougas (707) 428-7878	Fairfield	ALS	No	Yes

Table 13: Resources Directory – First Response Agencies

Page 1 of 2

County: Solano

Reporting Year: 1998

First Responder EMS Service	Contact Person	Communities Serviced	EMS Service Level	Defib Cap.	MOA
American Canyon Fire 225 James Road Vallejo, CA 94590	Keith Caldwell Fire Chief (707) 624-2747	Vallejo, Napa, Unincorporated Areas	BLS	No	No
Benicia Fire Dept. 150 Military West Benicia, CA 94510	Gene Gantt Fire Chief (707) 746-4275	Benicia	ALS	Yes	Pending
Cordelia Fire District 2155 Cordelia Rd. Suisun, CA 94585	Jim Campi Fire Chief (707) 864-0468	Cordelia, Fairfield Unincorporated Areas	BLS	No	No
CMF Fire Dept. PO Box 2000 Vacaville, CA 95688	John Macaffee Fire Chief (707) 864-0468	CMF	BLS	No	No
Dixon Fire Dept. 140 N. Jackson St. Dixon, CA 95620	Richard Dorris Fire Chief (707) 678-7060	Dixon and Unincorporated Areas	BLS	Yes	No
Exxon Fire Dept. 2400 E. Second St. Benicia, CA 94510	Mark May Fire Chief (707) 745-7693	Exxon Refinery	BLS	No	No
Fairfield Fire Dept. 1000 Webster St. Fairfield, CA 94533	Ron Tougas Fire Chief (707) 429-7373	Fairfield	BLS	No	No
Gordon Valley Volunteer Fire 6060 Gordon Valley Rd Suisun, CA 94585	Don Gordon Fire Chief (707) 425-1822	Gordon Valley	BLS	No	No

Table 13: Resources Directory – First Response Agencies

Page 2 of 2

County: Solano

Reporting Year: 1998

First Responder EMS Service	Contact Person	Communities Serviced	EMS Service Level	Defib Cap.	MOA
Mare Island Fire Dept. Bldg. 235, Code 32 Vallejo, CA 94592	Russell Tomms Fire Chief (707) 646-0156	Mare Island	BLS	Pending	Pending
Montezuma Fire Dept. 21 North 4 th Street Rio Vista, CA 94571	Stan Simi Fire Chief (707) 374-5962	Montezuma Fire District	BLS	No	No
Rio Vista Fire Dept. 350 Main Street Rio Vista, CA 94571	Keith Tadewald Fire Chief (707) 374-2233	Rio Vista and Unincorporated Areas	BLS	No	No
Suisun City Fire Dept. 701 Civic Center Dr. Suisun, CA 94585	Michael O'Brien Fire Chief (707) 425-9133	Suisun	BLS	Yes	Yes
Suisun Fire Protection District 445 Jackson Street Suisun City, CA 94585	Richard Lanza Fire Chief (707) 425-3605	Suisun Fire Protection District	BLS	No	No
Travis Fire Dept. 60 th Stop CES/DEF Travis AFB, CA 94535	Ray Stokes Fire Chief (707) 425-5886	Travis Air Force Base	BLS	Unk	No
Vacaville Fire Protection District 420 Vine Street Vacaville, CA 95688	Howard Wood Fire Chief (707) 447-2252	Vacaville Rural Fire District	BLS	No	No
Vallejo Fire Dept. 1220 Marin Street Vallejo, CA 94590	M. Kirchner Asst.Fire Chief (707) 648-4526	Vallejo and Unincorporated Areas	BLS	Yes	Yes

Table 14: Resources Directory – Public Safety Communications Centers

County: Solano
Reporting Year: 1998

911 Communication Dispatch Center	Contact Person	Communities Serviced	PSAP Level	Directly Disp. Grnd Ambulance	Directly Disp. Air Ambulance
Solano County Sheriff's Department 530 Union Ave., Ste. 100 Fairfield, CA 94533	Alex Ruffin (707) 421-7094	Dixon, Rio Vista, and Unincorporated Areas	Primary	Yes/No	Yes
Benicia Police Dept. 200 East L Street Benicia, CA 94510	Gene Gantt Fire Chief (707) 745-3412	Benicia	Primary	No	No
Fairfield Public Safety 1000 Webster Street Fairfield, CA 94533	Greg Miraglia (707) 428-7335	Fairfield	Primary	No	No
Suisun City Police Department 701 Civic Center Blvd. Suisun, CA 94585	Dee Dee Golden (707) 421-7350	Suisun	Primary	No	No
Vacaville Police Dept. 630 Merchant Street Vacaville, CA 95688	Randi Clements (707) 448-5200	Vacaville	Primary	Yes/No	No
Vallejo Police Dept. PO Box 1031 Vallejo, CA 94590	Joann West Lieutenant (707) 648-4540	Vallejo	Primary	No	No
CHP Dispatch Center 3050 Travis Blvd. Fairfield, CA 94533	Steve Wilkins (707) 428-2100	Entire County	Primary	No	No
CHP Helicopter Napa Airport Napa, CA 94558	T. Miller Captain (707) 257-0103				
Mare Island Dispatch	TBA	Mare Island	Primary	Yes/No	No
Travis AFB	TBA	Travis AFB	Primary	Yes/No	No

Solano County EMS Plan
Section 5

Special Note: Yes/No means that the PSAP (Public Safety Answering Point) directly dispatches some ground ambulances to medical emergencies in its service area.

Table 15: Resources Directory Trauma Centers

County: Solano
Reporting Year: 1998

None

Table 16: Resources Directory – Medical Control Facilities

County: Solano
Reporting Year: 1998

Organization Name/Address	Contact Person	Medical Director Primary Liaison R.N.
Sutter-Solano Medical Center 300 Hospital Drive Vallejo, CA 94590 (707) 554-5212	Lois Husted, R.N.,BSN	Allen Morini, D.O. Medical Director Lois Husted, R.N., PLN
NorthBay Medical Center 1800 Pennsylvania Avenue Fairfield, CA 94533 (707) 429-3600	Debra Dorrough, R.N., BSN (707) 429-3600	Gary Tamkin, M.D. Medical Director TBA

Table 17: Resources Directory – Disaster Medical Responders

County: Solano
Reporting Year: 1998

Organization Name/Address	Contact Person	Primary Service CISD/Haz-Mat Resp/Dmat Team
Rod Kennedy Solano County MH 2101 Courage Drive Fairfield, CA 94533 24-hour phone	Lisa Dubnoff, EMT-P (707) 421-6631	CISD

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Annex 1 - Solano County Inclusive Trauma Plan

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- **Proposal Summary**
- **Parahospital Services Model**
- **SEMSC Organization**
- **Business Plan**

Annex 3 - Solano County EMS-MIS Productivity Reports

Annex 4 - Patient Outcome Monitoring Reports

EMERGENCY MEDICAL SERVICES AUTHORITY

1930 9TH STREET, SUITE 100
ACRAMENTO, CA 95814-7043
(916) 322-4336 FAX: (916) 324-2875



October 9, 2002

Michael Frenn, EMS Administrator
Solano County EMS Agency
1735 Enterprise Drive, Building 3, MS3-110
Fairfield, CA 94533

Dear Mr. Frenn:

We are trying to finalize approval of Solano's EMS plan. In order to do so, we will need additional information. According to the Exclusive Operating Areas EMS Plan-Zone Summary for the City of Vacaville (copy enclosed), the geographic description indicates "The city of Vacaville and its sphere of influence (recognized 201 city)." The form also indicates that Vacaville Fire Department is "grandfathered" into the zone.

Health and Safety Code 1797.201 allows public providers to continue services they provided as of June 1, 1980. It does not, however, confer exclusivity. Exclusivity is conferred only via the provisions of 1797.224 which allow entities that have provided services in the same scope and manner without interruption since January 1, 1981 to be grandfathered into a zone.

It is unclear whether the intention is to set up a single zone for the geographical location of the city including the "sphere of influence" or whether it is identifying a 201 city and a separate zone for the "sphere of influence". In either case, this should be clarified on the zone summary form (copy enclosed) and the geographic description should also be clarified by clearly defining the "sphere of influence".

Thank you for your assistance. If you have any questions, please contact Donna Nicolaus at (916) 322-4336.

Sincerely,

A handwritten signature in cursive script that reads "Maureen McNeil".

Maureen McNeil, Manager
EMS Division

Enclosures

**EXCLUSIVE OPERATING AREAS
EMS PLAN-ZONE SUMMARY**

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually.

Local EMS Agency or County Name: Solono EMS Cooperative (SEMSC)
Area or subarea (Zone) Name or Title: City of Vacaville and sphere of influence (map on file)
Name of Current Provider(s): Include company name(s) and length of operation (uninterrupted) in specified area or subarea. Vacaville Fire Department; continuous since before 1981
Area or subarea (Zone) Geographic Description: The city of Vacaville and its sphere of influence (recognized 201 city)
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6): Include intent of local EMS agency and Board action. The Vacaville Fire Department provides exclusive service for 9-1-1 activity. Non-emergency (ALS and BLS) is open market.
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85): Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.). This exclusivity covers all 9-1-1 ambulance requests (ALS and BLS); ALS and BLS non-emergent is open market.
Method to achieve Exclusivity, if applicable (HS 1797.224): If <u>grandfathered</u> , pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If <u>competitively-determined</u> , method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers. The Vacaville Fire Department's exclusivity is grandfathered with continuous service in same scope and manner since before 1981.

**EMS PLAN
AMBULANCE ZONE SUMMARY FORM**

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name:
Area or subarea (Zone) Name or Title:
Name of Current Provider(s): Include company name(s) and length of operation (uninterrupted) in specified area or subarea.
Area or subarea (Zone) Geographic Description:
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6): Include intent of local EMS agency and Board action.
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85): Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Method to achieve Exclusivity, if applicable (HS 1797.224): If <u>grandfathered</u> , pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If <u>competitively-determined</u> , method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.

**EMS PLAN
AMBULANCE ZONE SUMMARY FORM**

In order to evaluate the nature of each area or subarea, the following information should be compiled for each zone individually. Please include a separate form for each exclusive and/or nonexclusive ambulance zone.

Local EMS Agency or County Name:
Area or subarea (Zone) Name or Title:
Name of Current Provider(s): Include company name(s) and length of operation (uninterrupted) in specified area or subarea.
Area or subarea (Zone) Geographic Description:
Statement of Exclusivity, Exclusive or non-Exclusive (HS 1797.6): Include intent of local EMS agency and Board action.
Type of Exclusivity, "Emergency Ambulance", "ALS", or "LALS" (HS 1797.85): Include type of exclusivity (Emergency Ambulance, ALS, LALS, or combination) and operational definition of exclusivity (i.e., 911 calls only, all emergencies, all calls requiring emergency ambulance service, etc.).
Method to achieve Exclusivity, if applicable (HS 1797.224): If <u>grandfathered</u> , pertinent facts concerning changes in scope and manner of service. Description of current provider including brief statement of uninterrupted service with no changes to scope and manner of service to zone. Include chronology of all services entering or leaving zone, name or ownership changes, service level changes, zone area modifications, or other changes to arrangements for service. If <u>competitively-determined</u> , method of competition, intervals, and selection process. Attach copy/draft of last competitive process used to select provider or providers.

EMERGENCY MEDICAL SERVICES AUTHORITY

1930 9TH STREET
 SACRAMENTO, CA 95814-7043
 (916) 322-4336 FAX: (916) 324-2875



July 2, 2003

Michael Frenn, EMS Administrator
 Solano County EMS Agency
 275 Beck Ave., MS 5-240
 Fairfield, CA 94533

Dear Mr. Frenn:

We have completed our review of *Solano's 1998 Emergency Medical Services Plan*, and have found it to be in compliance with the *EMS System Standards and Guidelines and the EMS System Planning Guidelines* with the exception of certain elements of Section 4.20 "Grandfathering". It is unclear from the documentation whether this section meets the "grandfathering" criteria.

According to the Exclusive Operation Area EMS Plan Zone Summary for the City of Vacaville, the geographic description indicates, "*The city of Vacaville and its sphere of influence (recognized 201 city).*" The form also indicates that Vacaville Fire Department is "grandfathered" into the zone. Health and Safety Code Section 1797.201 allows public providers to continue services they provided as of June 1, 1980. It does not, however, confer exclusivity. Exclusivity is conferred only via the provisions of 1797.224, which allows entities that have provided services in the same scope and manner without interruption since January 1, 1981 to be grandfathered into a zone.

Although the form indicates that the Vacaville Fire Department has been providing service in the same scope and manner since prior to 1981, it also indicates that it is "*a recognized 201 city*". Because Health and Safety Code Section 1797.201 does not confer exclusivity, this makes the agency's intention unclear. If the fire department has been providing service since prior to 1981 within the city in the same scope and manner, it appears that they could qualify for grandfathering under Health and Safety Code Section 1797.224. However, it is unclear what the county's intention is with regard to the "sphere of influence" since it is not defined. The form should clearly outline the exclusive operating area (i.e., city of Vacaville plus defining the "sphere of influence").

Our reviewers raised some additional concerns regarding certain sections of the plan. I have listed those sections along with the specific comment below.

SECTION**COMMENT**

1.08 ALS Planning

Please explain how this standard was met. Need more information in your annual update.

1.10 Special Populations

Need to identify population groups that require specialized EMS services.

SECTION	COMMENT
4.04 Prescheduled Responses	Current Plan does not meet this objective. Annual update should explain how EOA contract addresses this issue.
5.01 Assessment of Capabilities	The Plan refers to the transportation of patients to non-acute medical facilities as part of the Parahospital program. Health & Safety Code Section 1798.101 requires notification to the EMS Authority to include plan/protocols for utilization of alternate receiving facilities.
8.06 - 8.08, 8.10 - 8.16 & 8.18 Disaster Medical Response	Need to develop mechanism to upgrade status to minimum standard. Minimum standards are expected of all EMS agencies regardless of receiving additional funds.

These comments are for your information and should be addressed in your annual update. In your annual update please explain in detail the current status of the standard, not just that it has been attained. Your annual update, utilizing the attached guidelines, will be due one year from your approval date. If you have any questions regarding the plan review, please call Sandy Salaber at (916) 322-4336, extension 423.

Sincerely,



Richard E. Watson
Interim Director

REW:SS