

## Section 1

### EXECUTIVE SUMMARY

**A** great many changes have taken place in EMS within Merced County since the County was included as part of the last comprehensive EMS Plan submission by the Alpine, Mother Lode, San Joaquin EMS Agency (REMSA) in 1986. Over the past several years, Merced County has been amending their relationship with the REMSA, taking on more responsibility for the management of this county system with each annual contract revision. With the addition of two full-time EMS staff positions in the Health Department Administration in 1992, the County moved to formally withdraw from the REMSA, which became effective July 1, 1993. The County has executed a formal agreement with the REMSA which provides for a simplification of the administrative oversight of ALS ambulance providers operating within both jurisdictions, and affirms the coordination, cooperation and communication between the County and REMSA. We believe this move has allowed the County to involve the many agencies responsible for the delivery of prehospital EMS within this county in the planning, development and evolution of this system to a much greater degree than previously possible, while maintaining a cooperative and mutually beneficial relationship with the REMSA.

***IN ADDITION TO*** the administrative changes occurring in Merced County EMS within the last few years, the provision of specific services (e.g. ALS ground and air transportation, first responder roles, EMS dispatch center operations, etc.) have improved significantly. All EMS patient transportation's are provided by ALS (paramedic) ambulance providers operating under performance-based contracts with the County. Riggs Ambulance Service's areas of operations incorporate approximately 80% of the geographic area of the County, and 90% of the population. Turlock Ambulance Service's area of operations is in the north-central region of the County, while West Side Hospital District Ambulance Service's area of operations is the north-western region of the County. All three provider's areas of operation are depicted on the map at the end of this section (Addendum No. One). Each of these provider's compliance with the requirements of their contract is reviewed monthly by the Agency, bi-monthly and annually by the EMCC, and reviewed/amended annually by the Agency and Provider. While an occasional minor compliance deficiency has been noted on these reviews, overall, the requirements of their provider agreements are being met or exceeded. In addition to the three ALS ambulance providers referenced above, there also exists a fourth ALS ambulance service, which is attached to the 93d Medical Group,

Castle Air Force Base, Ca. The service area of this ambulance is Castle AFB proper and Off-base housing. This service operates under the Medical Control of Castle AFB Hospital, is under Federal jurisdiction, and falls outside of the area of responsibility of the EMS Agency. There are mutual aid agreements between Castle AFB and local providers in the case of disasters, both civilian and military.

**AIR AMBULANCES HAVE** become an integral part of the critical care component of EMS transportation services. While the local hospitals have made significant improvements in the number and quality of services provided over the last few years, the ability to manage critical patients (trauma, pediatric, burn, neurological) remains somewhat limited. To ensure that these patients receive the necessary critical care services expeditiously, air ambulances are now simultaneously dispatched to incidents in this County meeting specific criteria (falls > 20', penetrating trauma, critical burns, high speed MVAs, etc.). This mechanism has allowed us to reduce the event-to-specialty care time element by as much as 20-30 minutes, in many cases.

**PUBLIC ACCESS TO** the EMS system is state-of-the-art, with all areas of the County tied into the Enhanced 911 system. Medical emergencies are transferred from law enforcement-based PSAPs to the designated EMS dispatch center at Riggs Ambulance Service (RAS), which is a Level Two EMD operation. Through the interpretation services of Pacific Bell, the EMDs can access assistance for non-English speaking reporting parties. A county-wide PSAP Committee was recently formed, and provides a forum for the exchange of information, as well as problem solving activities. A sub-committee of this group recently completed a re-write of the Priority Dispatch and Pre-arrival Instruction Cards, used by the EMDs for all emergency calls. These new dispatch cards have significantly improved the accuracy of the dispatch priority, simplified the entire call-taking routine, and are now symptom-based, rather than requiring the dispatcher to "fit" a patient's symptoms into a diagnosis prior to establishing the priority and dispatching the appropriate resources. The functions of this dispatch center fall within the previously referenced performance-based agreement, between RAS and the County, and its operations are regularly audited to ensure compliance with the requirements of said agreement.

**THE TRACKING OF** EMS incidents has become greatly enhanced with the recent revision to the EMS Grid System, which is used by the County to identify the location of a particular event. The previous grid system was based on the township and range mapping designations, incorporated sixteen square mile grids, and did not lend itself to being easily integrated into the Computer Aided "mapping-on-the-fly" capabilities of the dispatch center. The new grids are one square mile in area and are based on longitude and latitude coordinates,

allowing us to more accurately and expeditiously locate incidents within a geographically definitive tracking area.

**PRIMARILY DUE TO** a lack of attention and sensitivity to their specific issues, some of the first response agencies in the County were finding it increasingly difficult to maintain their traditional, customary roles relative to EMS. One of the primary projects for the Agency, following the separation from the REMSA, was to coordinate with the four primary first response agencies (three fire and one law enforcement), for the development of first responder agreements, as well as to explore possible system amendments to address such concerns as ALS - BLS interface, revision of dispatch priorities, cost containment, training needs, etc. The aforementioned dispatch priority card revision accomplished many of the concerns regarding unnecessary responses and cost containment, and we currently have agreements with two of the four agencies which address operational interface with other system participants, as well as specific training to be provided by the Agency. We anticipate having agreements with the two remaining agencies within fiscal 93-94. We believe that these endeavors are representative of the type of multi-disciplinary/multi-jurisdictional cooperation and coordination that must exist, if we are to resolve issues in the current budgetary climate that all areas of government find themselves today, and in the foreseeable future.

**WITHOUT QUESTION**, there are many areas within this EMS system sorely in need of attention, and while we will not address specific methodology for resolving these areas of concern below, as they are addressed in detail in the standards and guidelines section of this plan, we will outline our assessment of the need in each area.

#### ❖ **PUBLIC EDUCATION**

There is a great need within this system for regular, coordinated public education in areas such as CPR, First Aid, system awareness and orientation, injury and illness prevention and wellness education. It has been estimated that the percent of the population in this County trained in CPR approximates 10%, and by any standard, this is a dispiriting figure that will require particular attention. At the September, 1993 EMCC meeting, a Public Education Sub-committee was implemented to develop specific goals and objectives, and proposed methodology for bringing these various objectives to fruition.

## ❖ **COMMUNICATIONS PLAN DEVELOPMENT**

There are many communications plans throughout the various public safety agencies, however, there is no comprehensive document identifying and integrating communications hardware, standards, frequencies, etc. to be used by all participating agencies during disasters, or simply during day to day operations. The Agency will be coordinating with the various system participants, during fiscal 93-94, in an effort to develop, disseminate and implement such a plan. In addition, there are currently no highway cellular phone sites within this County, and the Agency intends to coordinate with the County E-911 Coordinator, in an effort to obtain such cell phone access for the isolated regions of the County.

## ❖ **DISASTER / MULTI-CASUALTY MANAGEMENT**

As described in the System Guidelines section of the plan, most of the personnel within this system have been trained in the OES Region IV Multi-casualty Incident plan, as part of Merced County's obligation as a former member of the REMSA. While the field operations component of this plan has been utilized with success, the disaster control facility component has not been fully implemented, and there are no medical mutual aid agreements in place between Merced and surrounding Counties. It is the intent of the Agency to coordinate with OES Region V for the completion of their plan, and integrate the resulting language into the medical component of the County's Multi-Hazard Functional Plan.

## ❖ **CRITICAL CARE PLANNING**

Informally, many critical care services have been provided in coordination with tertiary care centers located outside of Merced County. While these informal arrangements eventually effect a transfer of critical patients to an appropriate facility (Trauma, Burn, Pediatric, etc.), they are often cumbersome and time-consuming, and could be improved with the development of formal agreements specifying the particulars for their execution. In the case of trauma, we often see inappropriate use of the helicopter for patients not requiring such services, due to the lack of comprehensive trauma triage guidelines.

Naturally, the local hospitals and physicians have several concerns about the development of formal agreements for critical care services, and the Agency must coordinate with all concerned individuals and facilities for the development of critical care agreements / guidelines, if these arrangements are to receive the support necessary for their development and implementation.

## ❖ **RECEIVING HOSPITAL AGREEMENTS**

Currently, there are no receiving hospital agreements in place within this system, and this has led to a less than desirable coordination of their services. Additionally, no current facility assessment

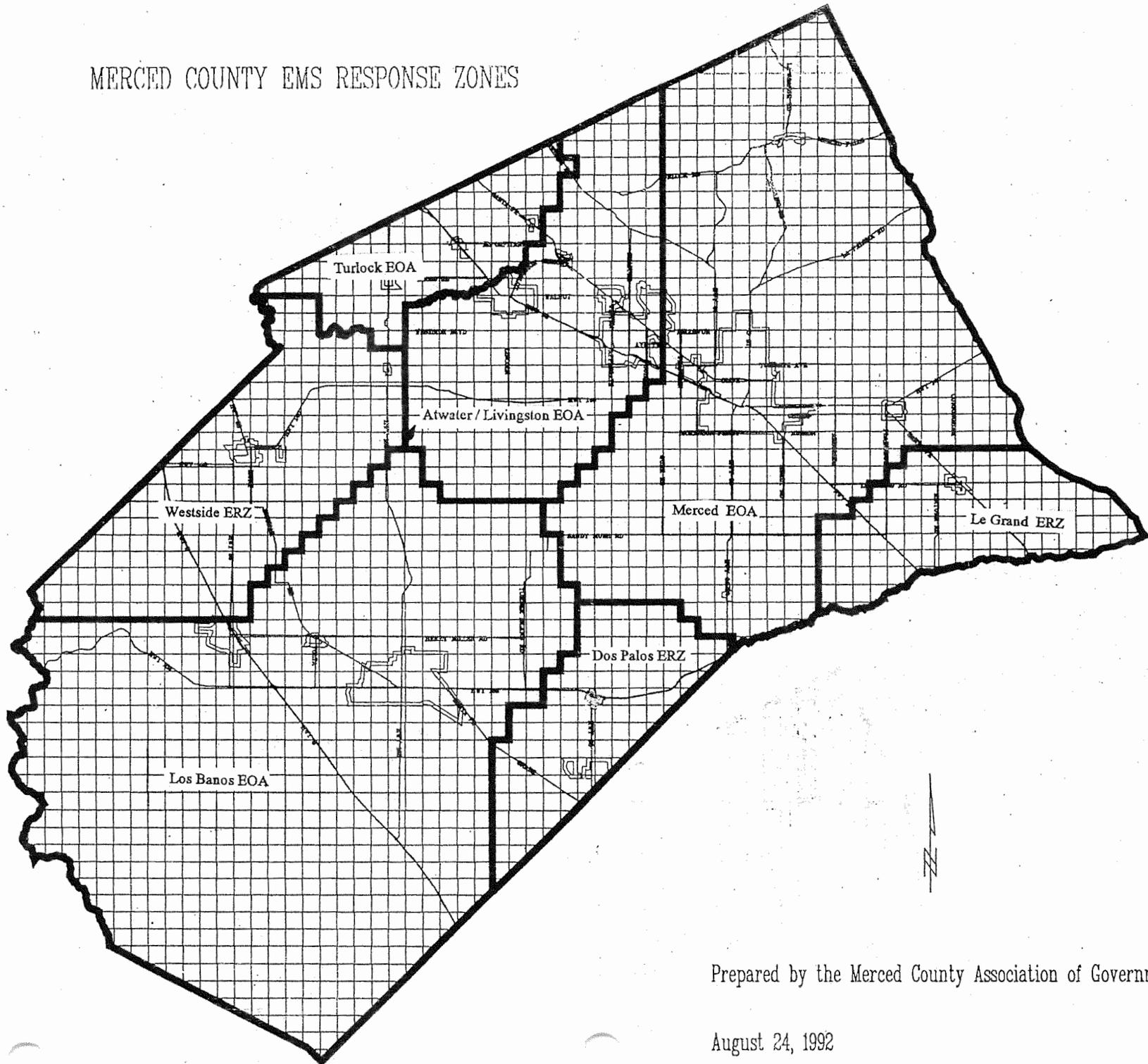
exists to allow the Agency to accurately designate the categories of ambulance patients to be received by each facility. While informal, staff level, incident-specific destination decisions are routinely made, this type of seat-of-the-pants "common sense" decision making lends itself to errors and potential liabilities, and needs to be definitively addressed by the Agency. We will be distributing a facility self-assessment document during fiscal 93-94, to all hospitals within this system, as a first step in the development of agreements and appropriate ambulance receiving facility designations.

### ***CONCLUSIONS***

While it is readily apparent that there remains much work to be done within this EMS system, we believe that the citizens of this County are well served during emergency medical incidents. We also believe that the pre-response operational system developments of the past few years have addressed many of the concerns regarding Merced County, as noted in the 1986 EMS Plan of the REMSA. This system has set a course for improvement that is comprehensive, obtainable and fiscally responsible, and this plan will result in; the continuous improvement of the provision of emergency medical services, and a public well served.

# MERCED COUNTY EMS RESPONSE ZONES

Executive Summary  
Addendum



Prepared by the Merced County Association of Governments

August 24, 1992

## Section II: Geographic / Demographic Information

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### ❖ **Geographic Characteristics**

Merced County is situated roughly in the center of the state and lies within the heart of the San Joaquin Valley. It is primarily a rural county consisting of approximately 2,000 square miles of predominately flat topography, drained by the San Joaquin River and its tributaries, of which, the Merced River predominates within the County. Major off-stream water storage is located at the San Luis Reservoir and O'Neil Forebay on the west side of the County, and provides a water-recreation site of significance for both tourists and residents alike. The County is bordered to the north by Stanislaus County, to the south by Fresno and Madera counties, to the east by Mariposa County and to the west by Santa Clara and San Benito Counties. The western border of the County lies within the Diablo Mountain Range, while the eastern border possesses the gently sloping terrain found at the entrance to the Sierra Nevada Foothills and Mountain Range.

Weather conditions are moderate with average temperatures ranging from 45° in the winter to 79° in the summer months. Average temperature extremes range from a low of 36° in the winter to a high of 96° in summer. Temperatures below freezing in the winter, and above 100° in the summer occur infrequently. Rainfall is also moderate with an annual average approximating 12 inches. Soil conditions range from heavy clay in several areas to sandy-loam in others. Winters in Merced County are marked by periods of extremely dense fog, seen intermittently from November through late February or early March.

Two major transportation corridors bisect the County at a generally north to south angle; those being Interstate 5 in the western portion of the County and State Highway 99 in the east. State Highway 140 runs in an east-west direction from Interstate 5 to the east County line, and courses through Mariposa County as a major route to the Yosemite National Park. State Highway 152 crosses the County in an east-west course beginning in the east at State Highway 99 and passing through the Diablo Mountain Range on toward the California Coast. During the spring, summer, and early fall months, the population of the county can swell from 180,000 to as much as 220,000, when one considers the volume of transient population within the county, and on the highways and Interstate at any given time.

Using the population density guidelines from the State EMS Authority, Merced County does not contain any metropolitan areas. The urban areas of the County cover approximately 9% of the total area; the rural designations approximate 59%; remote areas cover 16%, and the remaining 16% falls into the wilderness designation and is found primarily in the western Diablo Range area and the Kesterson Refuge.

### ❖ **Economic / Educational Characteristics**

Merced County residents are generally more economically disadvantaged than the State average. According to State statistics, the median family income in Merced County was \$33,606 in 1990, compared to the State average of \$46,247 for the same time period. Within the County, 15% of the population were AFDC (Aid to Families with Dependent Children) recipients, while the State showed a rate of 6.8%. Clearly 35% of the County's population received some form of public assistance (Medi-Cal, Food Stamps, General Assistance, etc.). The unemployment rate has risen steadily, and currently stands at approximately 19%, while the State rate approximates 7.5%.

The proportion of the County's population 25 years of age or greater that are not High School graduates is 36.9%, compared to a State figure of 23.8%.

### ❖ **Demographic Characteristics**

#### **POPULATION DISTRIBUTION**

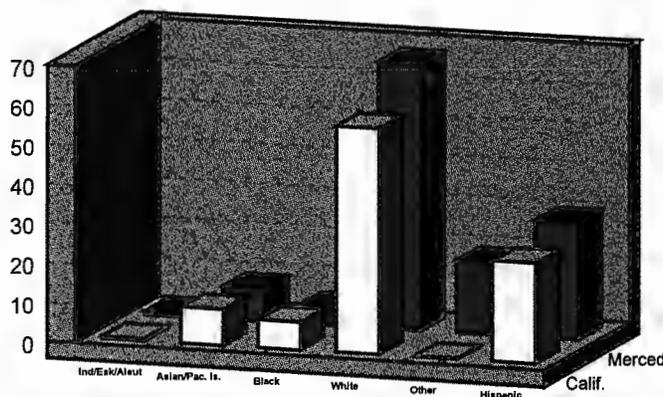
The total population for the County is approximately 180,000. The largest city within the County is Merced, with a population of approximately 60,000. The majority of the County's population resides along the State Highway 99 corridor, with smaller population centers distributed throughout the County (see map, addendum No. 1).

This population distribution has created one of the more challenging aspects of planning and implementing a responsive EMS System in this County. While the vast majority of the emergency requests occur within the incorporated areas, on many occasions, the patients with the greatest need, relative to the timely delivery of services, are those victims of

high speed motor vehicle accidents occurring on the state highways and two-lane county roads.

Of the 180,000 total population, 135,900 (75.5%) live within urban areas, with 44,100 (24.5%) living within the rural, remote and wilderness areas of the County. This total population is an increase of 33.8%, compared to the 1980 census, or an increase of approximately 45,442. There are slightly more males (50.5%) than females (49.5%) in the county, compared to the state figures (49.3% and 50.7%, respectively), and may be attributable to the presence of Castle AFB. The table and chart below is compiled from the 1990 census, and describes the various percentages of the County's population by race, compared with the State. Merced County is currently classified as the seventh most ethnically diverse community in the United States, according to Federal Census Data.

Race	Merced	Calif.
Ind/Esk/Aleut	0.9%	0.6%
Asian/Pac. Is.	8.5%	9.1%
Black	4.8%	7%
White	67.4%	57.2%
Other	18.4%	0.2%
Hispanic	29.6%	25.5%



## TOURIST AND TRANSIENT POPULATIONS

Tourists and other motorists regularly use one of the two major transportation corridors (Interstate 5 and State Highway 99) that run in a generally north-south direction through the County, as well as the many two-lane highways running through the County, and there is a significant increase in usage during the summer months. Of particular concern is the motorist population on Interstate 5 and the somewhat isolated highways, as incidents occurring along these transportation routes exhibit inconsistent and sometimes lengthy delays in accessing the EMS system, due to their isolated location.

As described in brief earlier, Merced County has a significant, but often difficult to quantify, transient and tourist population. Due to the agricultural economic base in the valley, transient farm labor is extensive during the late spring through fall months, and has been estimated to increase the County's population by as much as 3 - 5,000. While this represents

a small percentage of the overall population, care for illness and injury within this population group can often be delayed due to fear of discovery, and can often result in unnecessarily exacerbated conditions.

## **SEASONAL IMPACT**

The late Fall and Winter months see the onset of periods of extremely dense fog, with its attendant hazardous driving conditions and occasional multi-vehicle traffic accidents. In addition, the delivery of EMS to critically injured individuals during these foggy months is complicated due to the frequent inability to utilize helicopter transportation for these victims. As the hospitals within the County do not have the ability, at present, to provide the level of care required to properly manage these critically injured patients, these helicopter transportations are of significant importance .

The Spring, Summer and early Fall months see a considerable increase in both seasonal agricultural workers and the transient tourist population within the County, with a concomitant increase in the demand for services.

## **GEOGRAPHIC IMPACT**

The majority of the County's population is located in the eastern one-third of the County, along the State Highway 99 corridor. With the exception of the City of Los Banos (Pop. ~ 15,000) on the west side of the County, the remaining population is either located in small townships (Pop. ~ 2,000 - 5,000) or incorporated cities, or is widely distributed throughout the rural and remote regions of the County. This population distribution creates a significant challenge to ensuring the efficient and effective provision of advanced life support prehospital care and transportation to all of the County's citizens.

In addition, the distribution of small population centers throughout the County, connected by two-lane roads, results in frequent high-speed motor vehicle accidents in isolated areas, creating additional challenges to the delivery of critical care services.

## **EMS HIGH RISK GROUPS**

Groups which may be considered at greater risk than the general population would include;

- ❖ New Immigrants
- ❖ Migrant farm workers
- ❖ Tourists
- ❖ Elderly
- ❖ Pregnant Women (Mother and Child)
- ❖ Non-english Speaking Population

## **NEW IMMIGRANTS**

There has been a significant increase in the number of new immigrants to the United States which have settled in Merced County. As anticipated, the Asian/Pacific Islander category increased significantly from the 1980 census of 3.0% to 8.5% in 1990. The Hispanic category had a marked increase of 4.3%, to a 1990 census level of 29.6% of the total County population. Due to poor orientation to the health care system, and a carry-over of customary practices in their homeland, this group has had a significant impact on EMS, particularly related to perinatal care.

## **MIGRANT FARM WORKERS**

This group of individuals has been identified as potentially being at risk due to a number of reasons, ranging from system unfamiliarity to proximity to potentially hazardous agricultural chemicals. In addition, the driving habits of this group, which is a carry-over from less restricted traffic requirements in their native country, lends itself to high-speed motor vehicle accidents on the two lane county roads and state highways.

## **TOURISTS**

The tourists' group would include individuals traveling to local and nearby attractions such as Yosemite National Park in Mariposa County and San Luis Reservoir in Merced County, as well as those persons passing through the County on one of the previously mentioned major thoroughfares. These traffic patterns increase significantly during the late

Spring through early Fall months, with an attendant increase in the number of emergency requests for service.

## **THE ELDERLY**

The elderly population in this County is at particular risk due a tendency to remain in the quiet, peaceful, and more remote smaller communities within the County. While efforts have been made to address such issues as Early Defibrillation for the areas with extended ALS provider response times, those programs are not currently in place. In addition, with limited mass transit services, transportation to health care facilities in the incorporated areas can present restrictions to access, and subsequent exacerbation of emerging medical conditions.

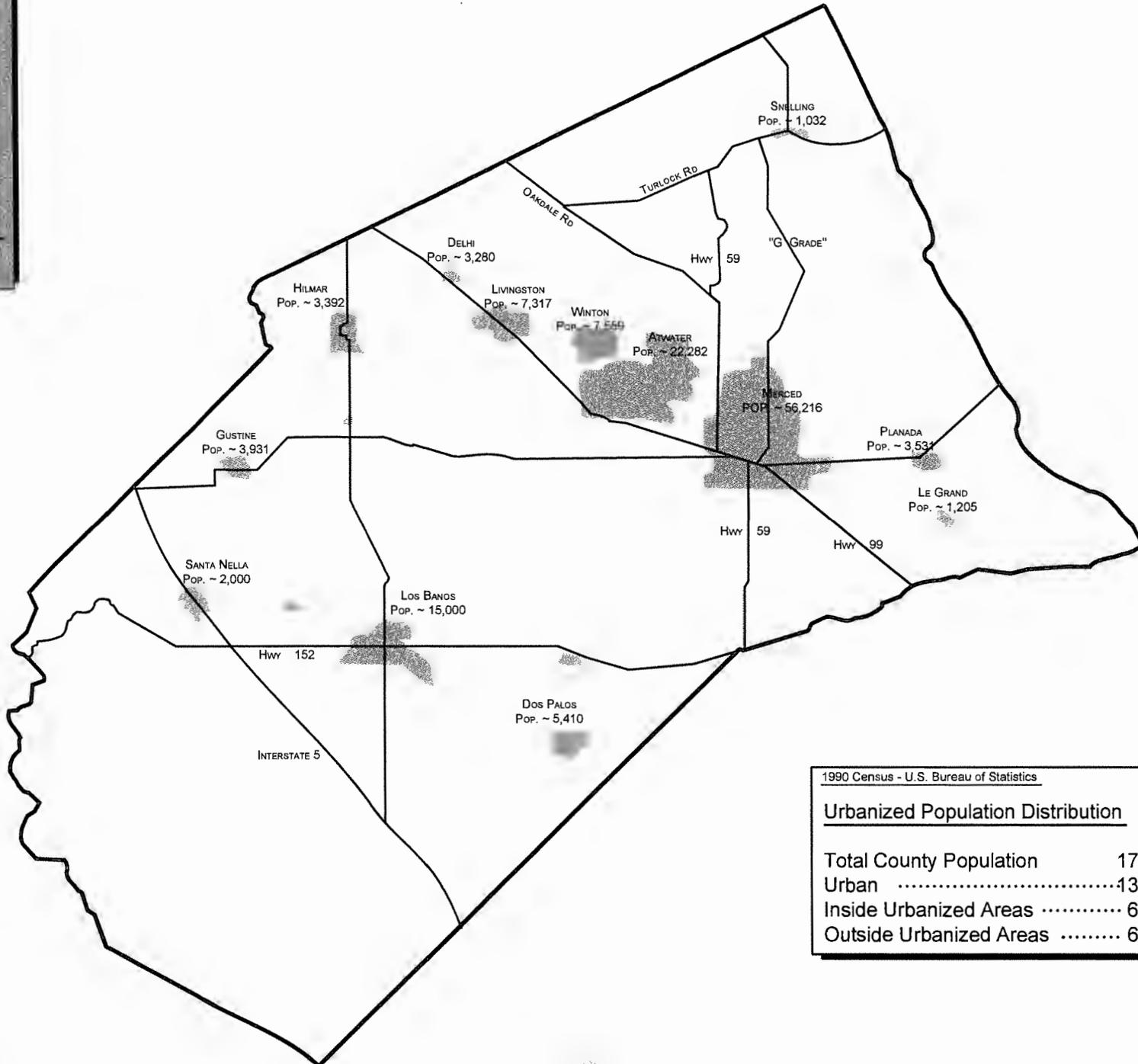
## **PREGNANT WOMEN**

Perinatal issues continue to be an area with substantial patient risk within Merced County. Late perinatal care contributes significantly to the overall risk of pregnancy, is defined as the initiation of physician care after the first trimester of pregnancy, and 41.4% of all pregnancies within Merced County were defined with late perinatal care, compared to the state average of 27.4%. In addition, adolescent pregnancy has been associated with increase risk factors, and this rate is also higher in Merced County (63.9/1000 live births) than the state average (43.1/1000 live births). Interestingly, even with the increased risk factors just identified, the infant mortality rate for Merced County is listed as 7.1/1000 live births, compared to the statewide average of 7.9/1000 live births.

## **LANGUAGE BARRIERS**

While the Enhanced 911 system has provided EMS system access to a wide variety of non-english speaking groups, the responding paramedics are most often dependent upon individuals at the scene of emergencies to provide translation. In the absence of translation, a great deal of vital information is often unavailable to the EMS response teams, which may have an overall negative impact on patient care. In an effort to address this problem, the EMS Agency will be developing a "Point and Talk" styled laminated translation card, specifically targeting the various languages commonly encountered within this County.

**A d d e n d u m**  
**Population Distribution**



1990 Census - U.S. Bureau of Statistics

**Urbanized Population Distribution**

Total County Population	178,403
Urban .....	134,382
Inside Urbanized Areas .....	64,671
Outside Urbanized Areas .....	69,711

# EMS PLAN

## SYSTEM ORGANIZATION AND MANAGEMENT

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**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.

### METHODOLOGY:

1. Staff all positions within the Health Department Administration consistent with established job descriptions. Update job descriptions and additional staff positions as need/funding is identified.
2. Develop advisory committees and task forces as required, or as need is identified.
3. Develop and distribute organizational chart including staff, any extended staff and all advisory bodies.
4. Ensure the designation of Base Hospital and Receiving Hospital Liaisons through agreements with each facility.
5. Ensure the designation of training officers and liaisons at each ambulance service provider through agreements with each provider.
6. Coordinate with law enforcement and fire services for advisory committee membership to ensure the continued system input of first response/PSAP agencies.

### CURRENT STATUS:

#### Current agency staff:

1. Public Health Director	0.05 FTE
2. Health Department Office Administrator	0.05 FTE
3. EMS Medical Director	0.1 FTE
4. EMS Coordinator	1.0 FTE
5. EMS Specialist	1.0 FTE
6. Agency Clerk	0.5 FTE
7. Data Transcription	0.25 FTE

#### Non-agency resources:

1. Merced County EMCC
2. Base Hospital Medical Director
3. Base Hospital Nurse Liaison

# EMS PLAN

4. Receiving Hospital Nurse Liaisons
5. EMS Policy and Procedure Sub-Committee
6. Merced County PSAP Committee
7. Ambulance Provider Liaisons and Training Officers
8. Fire Service and Law Enforcement Training Officers
9. Various contacts through the Emergency Medical Services Administrators Association of California.

The Receiving Hospital Liaison positions will be staffed upon completion of the Receiving Hospital Agreements, which is targeted for fiscal 93-94. All ambulance providers operating within this County have designated liaisons and training officers, as contractually required by the Agency.

## **NEEDS AND OBJECTIVES:**

Future annual updates to the EMS Plan will reflect any changes within the organizational structure that are deemed appropriate and necessary. We will need to assess the efficiency and effectiveness of the current organizational structure over the course of the next fiscal year to determine needed changes, and update Agency staffing and/or Advisory structure as funding and/or need dictates.

### ***Annual Plan***

***1.02 Each local EMS Agency shall plan, implement, and evaluate the EMS System. The agency shall use its quality assurance/evaluation process to identify needed system changes.***

## **METHODOLOGY:**

1. Develop and submit the Merced County EMS Plan to the State EMS Authority after distribution and recommendation from the advisory committees and approval by the Board of Supervisors, and update the plan annually with input from the advisory committees and other effected groups.
2. Develop action plan for the annual objectives delineated in the EMS Plan. Submit annual action plans to the Director of Public Health for approval.
3. Develop and implement, through the policy development process, policies, procedures, treatment guidelines and protocols for patient treatment, triage, transportation, destination, communication requirements, training, and management of multi-casualty incidents/disaster management.
4. Evaluate the system utilizing the following:
  - A. Monitor ambulance provider agreements for compliancy on a monthly and annual basis and submit reports to the EMCC regularly. Ensure providers develop peer-review quality improvement programs approved by the Agency.

# EMS PLAN

- B. Negotiate Base and Receiving Hospital Agreements bi-annually and ensure on-going quality improvement utilizing retrospective review of field care by Base Hospital Nurse Liaison.
- C. Monitor emergency medical dispatch operations monthly utilizing the Dispatch Audit Policy. Incorporate dispatch tapes and emergency room patient dispositions into the Base Hospital Tape Reviews.
- D. Conduct ambulance inspections monthly to ensure compliance with the ALS Unit Equipment and Drug Inventory Policy.
- E. Establish a formal Quality Improvement Program consistent with the State EMS Authority Model QI Program, when available.

## CURRENT STATUS:

Fiscal 93-94 will be the initial year for the submission of an EMS Plan, as Merced County has previously been included as part of the Alpine, Mother Lode, San Joaquin EMS Agency Plan, which was developed in 1986. Objectives will be identified for this fiscal year, as well as future projects, and this initial plan will be updated annually thereafter.

All policies and procedures have been developed/amended through the Policy and Procedure sub-committee of the EMCC, and local participant involvement has been extensive.

Ambulance provider agreements are in place with each of the three providers servicing the Merced County EMS Area. Compliance monitoring is in place for each contracted ambulance provider and regular reports are submitted to the EMCC. The Base Hospital agreement is in place with Merced Community Medical Center and retrospective field care audits by the Nurse Liaison are on-going. EMD (Emergency Medical Dispatch) center audits are on-going, and inclusion of the dispatch tapes and emergency room dispositions should be included in the base hospital tape reviews within early fiscal 93-94. Ambulance inspections are conducted monthly. Two of the ambulance providers are in the process of developing and implementing a peer review field care report audit, and should be submitting these QI programs for approval in fiscal 93-94. System problems are investigated through the Unusual Occurrences and Reportable Situations Policy.

## NEEDS / OBJECTIVES:

1. The EMS Agency has yet to negotiate Receiving hospital agreements, and this effort is targeted for completion in Fiscal 93-94. **Annual Plan**
2. There are many components of a Quality Improvement system in place, however, this concept must be formalized, and the CQI concept advanced throughout this EMS System. **Annual Plan**

# EMS PLAN

3. Once the Receiving hospitals have agreements in place and Nurse Liaisons identified, we will explore the development of a Hospital Liaison Committee, to provide a forum for the exchange of ideas and information, and assist in quality improvement and system development. **Annual Plan**

**1.03 Each local EMS agency shall actively seek and shall have a mechanism (including the EMCC and other sources) to receive appropriate consumer and health provider input regarding the development of plans, policies, and procedures, as described throughout this document.**

## METHODOLOGY:

1. Develop all policies, procedures and guidelines utilizing the Policy Development Process or the Policy Revision Process, as appropriate. Utilize the Policy and Procedure Sub-committee as well as the EMCC for development and review of all Agency policies prior to implementation.
2. Ensure all effected parties are mailed a copy of draft policies with the EMCC mailing, and are encouraged to submit comments.
3. Ensure all Agency meetings that are open to the public are clearly posted in all hospitals, First Responder Agencies, Ambulance Provider Offices and County Administrative Office for public review, well in advance of the meeting date.

## CURRENT STATUS:

The Policy and Procedure Sub-committee of the EMCC, which is made up of representatives from the various agencies and facilities within the EMS System, is an integral component of the EMS Agency policy development process, as is the EMCC. In addition, if particular policies may have an impact on an agency that is not regularly represented on the Policy and Procedure Sub-committee (e.g. law enforcement, educational facilities), these agencies are encouraged to send a representative to these policy development meetings for their input into this process.

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

## METHODOLOGY:

Using established County contracting standards, secure the services of a physician for the duties of the EMS Medical Director. Within the constraints of this primarily rural area, ensure that the Medical Director has substantial experience in the practice of emergency medicine, and is committed to a leadership role in the Continuous Quality Improvement of this EMS System.

# EMS PLAN

## CURRENT STATUS:

The Agency contracts for a 0.1FTE Medical Director, and current experience suggests that this should be adequate for developmental committee attendance and other duties of the Medical Director, but will have to be evaluated during fiscal 93-94.

## NEEDS AND OBJECTIVES:

To ensure adequate oversight and direction of the medical component of the EMS system. The Agency will evaluate the current time commitment of the Medical Director for adjustments in the next contract period. *Annual Plan*

**1.05** *Each local EMS agency shall develop an EMS plan and shall submit it to the EMS Authority. The plan shall: a) assess how the current system meets these guidelines, b) identify system needs for patients within each of the clinical targeted groups, c) provide a methodology and timeline for meeting these needs.*

## METHODOLOGY:

1. Develop an assessment of the current system utilizing the State EMS Authority planning guidelines and input from the system participants. From this assessment, develop short and long term planning objectives and a time frame for implementation.
2. Collect demographic, geographic, and historical information for inclusion in the plan as required by the EMS Authority. Research and include all available medical and operational resources within and without the County.
3. Submit the EMS Plan to, and request an endorsement from, the Merced County Board of Supervisors, for inclusion with the Plan when it is submitted to the State EMS Authority.
4. Complete all required appendices, and submit the EMS Plan to the State Authority for approval.

## CURRENT STATUS:

As stated in Section 1.02, this will be the initial submission of an EMS Plan by the Merced County EMS Agency, as this County was included in the Alpine, Mother Lode, San Joaquin EMS Agency Plan developed in 1987. This plan, and subsequent annual updates will be submitted as required.

# EMS PLAN

## NEEDS AND OBJECTIVES:

Hold frequent staff meetings to ensure objectives are being addressed in a timely fashion. In conjunction with the EMCC and the Policy and Procedure Committee, reassess objectives and timelines for the annual update to the EMS Plan. **Annual Plan**

**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.*

## METHODOLOGY:

Establish an EMS Assessment Task Force annually made up of the EMCC and Policy and Procedure Committee, to review the current EMS Plan, revise the objectives and timelines as needed, and submit, through the EMCC, to the Board of Supervisors for approval. Submit the approved update to the EMS Plan, with its attendant action plans, to the State EMS Authority annually.

## CURRENT STATUS:

The Merced County EMCC established an EMS Assessment Sub-committee for Fiscal 91-92, which reviewed the status of the EMS System in Merced County for submission as required to the State EMS Authority. This mechanism will be utilized, with an addition review by the Policy and Procedure Committee, for the development of this annual update to the EMS System Plan.

## NEEDS AND OBJECTIVES:

The above referenced mechanism for EMS Plan updates should provide adequate input from the system participants to ensure that the operational and medical components of the Merced County EMS System remain focused on continual improvement in the delivery of emergency medical care. **Annual Plan**

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

## METHODOLOGY:

See Section 1.26.

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

# E M S P L A N

## METHODOLOGY:

1. Evaluate and establish Exclusive Operating Areas (EOA) and non-exclusive Emergency Response Zones (ERZ) to include all areas within the County, and negotiate with the ALS Ambulance Providers for assignment of these areas as provided in the California Code of Regulations and the Merced County Ordinance No. 1301.
2. Establish ALS Ambulance Provider Agreements designating Paramedic-Level care as the standard for patient care in Merced County.
3. Review each ambulance provider agreement annually, and amend these agreements as needed, consistent with the objectives and goals outlined in the Agency EMS Plan. Review each designated area for demographic changes at least bi-annually, for possible changes in configuration.
4. Coordinate with Merced Community College for the continued funding of local personnel for ALS (paramedic and pre-paramedic) training.

## CURRENT STATUS:

All areas of the County have been designated as either an EOA or an ERZ, as defined above, and all areas of the County receive paramedic-level care from ALS Ambulance Providers under contract with the County. In addition, Stanislaus and Merced Counties have entered into an agreement which allowed Merced County to negotiate with Westside Hospital for the provision of ALS ambulance services, within that portion of their hospital district which falls within Stanislaus County. These above referenced agreements are reviewed and updated annually, reflecting desired improvements to the service requirements of each provider.

Merced College continues to provide ADA funding for local individuals to attend paramedic training, however, this funding may be reduced or eliminated, depending on the outcome of budget revisions, in light of the recent proposed reductions in state funding of higher education.

## NEEDS AND OBJECTIVES:

1. All Ambulance Provider Agreements are relatively new, and compliancy monitoring is on-going. Future updates to the transportation plan will need to evaluate the configuration of the areas, relative to demographic changes within each of them, for possible redevelopment of these areas.  
**Annual Plan**
2. The Agency will need to work with the local ambulance providers to identify alternate funding resources for paramedic training in light of recent impact of state funding reductions. **Long-Range Plan**

# EMS PLAN

**1.09 Each local EMS agency shall develop a detailed inventory of EMS resources (e.g. personnel, vehicles, and facilities) within it's area and, at least annually, shall update this inventory.**

## METHODOLOGY:

1. Develop and distribute a survey instrument to all law enforcement agencies, fire services, hospitals, ambulance providers, transportation services (Bus service, etc.), refrigeration services and medical and specialty equipment suppliers for access to needed resources in the event of a disaster.
2. Request personnel inventory annually from all public safety agencies within the County, for inclusion in the resource document.
3. Require updates to personnel lists from all ambulance providers in the County.

## CURRENT STATUS:

The Agency distributed the above referenced survey instrument in May, 1993. The results of this survey are presented in Sections Four and Five of this plan.

All Ambulance providers regularly update the Agency regarding personnel changes.

## NEEDS AND OBJECTIVES:

1. Develop a current, detailed resource inventory for inclusion in the EMS Plan and local Multi-Hazard Functional Plan. Update this resource list annually. **Annual Plan**

**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)**

## METHODOLOGY:

1. Review demographic information to identify the above referenced population groups and develop action plans to address these specific needs.
2. Based on these action plans, develop specific training and /or implement programs aimed at accomplishing the intended goals.

## CURRENT STATUS:

### Non-English Speaking

# EMS PLAN

Through the addition of the enhanced 911 system, non-english speaking individuals have access to emergency care through interpretation services. Riggs Ambulance Service has instituted a two hour multi-media CPR/First aid course for the public, and has a Spanish-speaking instructor available.

## **Pediatrics**

The Agency treatment protocols include pediatric intubation, rectal valium and intra-Osseous infusion.

The above referenced primary ambulance provider conducts a "Junior Paramedic" EMS System awareness/access class for elementary schools within the County, and to date has trained approximately 10,000 students as "Junior Paramedics".

The EMS Agency is in the process of developing a booklet for parents on the management of childrens emergencies. This booklet will cover common medical emergencies specific to children, as well as traumatic injuries and the "what to do until the ambulance arrives" scenario. This booklet will be mass produced and available at no charge to the public.

## **Elderly**

The Agency is currently working with the Merced County Fire Department, and the Merced City Fire Department on the development of an Early Defibrillation program for their respective jurisdictions. Both departments are exploring the feasibility of implementing such a program, and the EMS Agency will work with these agencies to identify start-up funding for the program.

## **NEEDS AND OBJECTIVES:**

### 1. Non-English Speaking

Encourage prehospital care providers to attend courses of instruction in a second language through the application of continuing education credits, as applicable.

#### ***Long-Range Plan***

Develop a multi-language EMS communications translator, "Point and Communicate" type card, specific to the various dialects found in Merced County, and distribute to the prehospital care providers as a required element on all ALS ambulances within Merced County. ***Annual Plan***

### 2. Pediatrics

Complete the parents booklet on childrens emergencies, and effect as wide a distribution as possible. ***Long-Range Plan***

# EMS PLAN

Through the Policy Development Process, develop triage and treatment guidelines for pediatric critical care and transportation, and coordinate development with the Pediatric Critical Care Network. As the State EMS Authority guidelines for the management of pediatric critical care becomes available for reference, ensure that the local plan conforms to those guidelines.

## ***Annual Plan***

Coordinate with the local hospitals and the Pediatric Critical Care Network in the implementation of pediatric receiving facility standards (Emergency Department Approved for Pediatrics, or EDAP).

## ***Long-Range Plan***

### 3. Elderly

Finalize the Early Defibrillation programs with the County and City of Merced Fire Departments and implement. ***Annual Plan***

In coordination with the Area Agency on Aging, develop a comprehensive training program for prehospital care personnel on the assessment of, and appropriate intervention with, victims of elder abuse. Develop specific policies regarding the necessary reporting of suspected cases. ***Long-Range Plan***

### ***1.11 Each local EMS agency shall identify the optimal roles and responsibilities of system participants.***

#### **METHODOLOGY:**

Based on EMS System evaluations conducted by the EMCC, Policy and Procedure Committee, and the Agency identify the optimal role of each of the component parts of the Merced County EMS System, and develop policies, procedures, guidelines and formal agreements to ensure the coordinated effort of each participant so as to maximize the effectiveness and efficiency of prehospital emergency medical care within this system. To this end, conduct the following:

1. Ensure that all ALS Ambulance Providers have a formal performance-based written agreement with the Agency for their operations in this EMS Area, and identify and execute exclusive operating areas and non-exclusive emergency response zones, as appropriate.
2. Ensure that all hospitals receiving ambulance patients have executed a formal agreement with the Agency delineating their role and responsibilities within the EMS System.
3. Ensure that there exists an emergency medical dispatch center, approved and under contract with the Agency.
4. Develop first responder agreements with the various first responder agencies and delineate their roles and responsibilities, relative to EMS, within their area of jurisdiction.

# EMS PLAN

## CURRENT STATUS:

Exclusive operating areas (EOA) and emergency response zones (ERZ) have been designated and are currently under contract with one of three ALS ambulance provider. Monthly and annual compliancy evaluations are conducted in conjunction with these agreements, and the EMCC receives regular reports on these ambulance operations.

The Agency has a contract with Merced Community Medical Center for it's role as the County Base Hospital. This agreement is reviewed bi-annually.

There are no receiving hospital agreements in place in this County.

The Agency has completed first responder agreements with the Merced County Fire Department and the City of Atwater Fire Department. We anticipate that agreements with the remaining two agencies will be completed within fiscal 93-94.

## NEEDS AND OBJECTIVES:

1. Finalize negotiations with the receiving hospitals, and identify their roles and responsibilities within this EMS Area. **Long-Range Plan**
2. Finalize negotiations with the remaining first response agencies. **Annual Plan**

## Regulatory Activities

**1.12 Each local EMS agency shall provide for review and monitoring of EMS system operations.**

## METHODOLOGY:

1. Monthly and annual ALS Ambulance Provider compliancy reports.
2. Retrospective prehospital care report audits conducted by the Base Hospital Nurse Liaison and Provider-Based Quality Improvement Coordinators.
3. Conduct monthly ambulance inspections.
4. Conduct monthly EMS dispatch center audit.
5. Investigate all Situation Reports and effect resolution.

# E M S P L A N

6. Coordinate with each ambulance provider for the development and approval of a provider-based peer review chart audit.
7. Continue to compile prehospital run report information in database for system evaluation.

## CURRENT STATUS:

Each of the three ALS ambulance providers serving this County are under contract and performance standards are monitored on an on-going basis. The Base Hospital agreement is reviewed bi-annually, and retrospective chart audit by the Base Hospital Nurse Liaison is on-going. Ambulance inspections and dispatch center audits are performed monthly, and corrective actions taken. Each Situation Report is investigated by the Agency, and appropriate action taken as required. The ambulance providers are currently in the process of developing quality improvement programs within their operations, and these should be submitted to the Agency in Fiscal 93-94. In the absence of clear direction for database field entries, the Agency will be capturing each element of the prehospital report form, and will incorporate a report generator to extract specific information, as needed.

## NEEDS AND OBJECTIVES:

In an effort to formally adopt a Continuous Quality Improvement model for EMS in this County, we will need to establish a Quality Improvement Committee and task that body with the development of the policies and procedures necessary to move this system towards addressing system needs prospectively, as well as making retrospective system analysis a much improved learning environment, and a much less punitive environment, for all involved. **Annual Plan**

### **1.13 Each local EMS agency shall coordinate EMS system operations.**

## METHODOLOGY:

1. Develop and revise policies and procedures utilizing the Policy and Procedure Committee and the EMCC. Strictly adhere to the Policy Development Process.
2. Ensure that system changes are driven by identified needs, with input from the Quality Improvement Committee, EMCC, and other system participants.
3. Mail all draft policies to each potentially impacted group for review and input.

## CURRENT STATUS:

The Policy Development Process is strictly adhered to, and the system participants are well represented in system development. Draft policies are now regularly mailed to all affected parties for their review and input into the development and revision process. The Quality Improvement

# E M S P L A N

Committee is targeted for establishment during Fiscal 93-94, and once in place should help provide the Agency with clear directions for the overall improvement of system monitoring and quality assurance, and move this EMS system toward addressing issues prospectively.

## **NEEDS AND OBJECTIVES:**

Formally establish a Quality Improvement Committee. ***Annual Plan***

Closely coordinate the QI Committee activities with the developmental objectives for the Policy and Procedure Committee. ***Annual Plan***

***1.14 Each local EMS agency shall develop a policy and procedure manual which includes all EMS agency 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.***

## **METHODOLOGY:**

1. Utilize the Policy Development Process for the development and implementation of all Agency policies, procedures and protocols.
2. Setup and prepare Policy and Procedure manuals using the chapters designated in the State EMS Authority's Guidelines, and prepare for distribution to all system participants.
3. Distribute new and revised policies and procedures to the policy manual with an updated table of contents to all manual holders as needed.

## **CURRENT STATUS:**

The Merced County EMS Policy Manual has been completed, and distribution has been effected to all system participants.

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

## **METHODOLOGY:**

See Sections; 1.02 and 1.12

## **System Resources**

***1.16 Each local EMS agency shall have a funding mechanism which is sufficient to ensure it's continued operation and shall maximize use of it's Emergency Medical Services Fund.***

# EMS PLAN

## METHODOLOGY:

1. Identify annual action plans based upon the EMS system assessment and the annual update to the EMS Plan, and submit a budget request to the Director of Public Health, reflecting the resources required to administer the EMS program.
2. Annually evaluate the EMS fund and ambulance provider licensing fees to determine if any additional resources are required from the Health Department general fund to maintain funding of the EMS office operations.
3. Maximize appropriate utilization of non-agency resources.

## CURRENT STATUS:

Currently, utilization of the 17% of the EMS Fund (SB12) available for EMS activities, the 10% of that fund available for administrative purposes, and the licensing fees from the contracted ambulance providers, adequately fund the staff positions, EMS Medical Director, travel expenses, training and testing, professional subscriptions, and outside committee dues. With the current funding mechanisms, we should be able to maintain current staff levels, remain flexible enough to contract for temporary staff as needed for specific projects, and allow for the natural increases in program costs for the next several years.

## NEEDS AND OBJECTIVES:

Prepare appropriate grant proposals for available State and Federal Block Grant funds annually.

### ***Annual Plan***

Future updates will reflect the success of coordination with the local service organizations for additional funding of public education programs. ***Long-Range Plan***

## ***Medical Direction***

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***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 alternate base hospitals and the roles, responsibilities and relationships of prehospital and hospital providers.***

## METHODOLOGY:

1. Develop a Base Hospital designation process which takes into consideration system need, geographic barriers to communications, as well as hospital resources to assist in EMS personnel

# EMS PLAN

educational programs and willingness on the part of hospital administration to comply with Agency policies and procedures.

2. Based on the above process, complete formal designation and negotiate Base Hospital Agreements, as deemed appropriate.

## CURRENT STATUS:

No formal designation process has been established, however, Merced Community Medical Center has been contracted with as the Merced County Base Hospital. Due to the historical quantity of EMS activity in this County, a single base hospital has been informally determined to be optimal, as this permits an adequate volume of prehospital medical direction to maintain the skills and effectiveness of the emergency room personnel. In addition, there will be future movements within this system to unencomber the field personnel by increasing the number of off-line standing orders used in the pre-hospital environment, thereby decreasing the need even further for additional base-hospital functions.

## NEEDS AND OBJECTIVES:

Formalize the Base Hospital designation process to ensure a fair and equitable opportunity for qualified hospitals to apply for base hospital status, as the need is identified. **Long-Range Plan**

**1.18 Each EMS agency shall develop a quality assurance/quality improvement program to ensure adherence to medical direction policies and procedures, including a mechanism to review compliance with system policies. This may include use of provider-based programs which are approved by the local EMS agency and which are coordinated with other system participants.**

## METHODOLOGY:

1. See Sections 1.02 and 1.12
2. Assist the prehospital care providers in the implementation of a provider-based, peer-review chart audit process, and encourage active participation through continuing education allowances.

## CURRENT STATUS:

Sections 1.02 and 1.12 address many of the Quality Improvement processes currently in place. The Agency is currently working with Riggs Ambulance Service for the implementation of the provider-based QI program referenced above. Once in place, this QI process will incorporate the activities of EMD, first responder, ambulance, and eventual emergency room disposition/diagnosis into the overall review process to ensure the continuity of patient care.

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## NEEDS AND OBJECTIVES:

Develop and implement the above referenced Quality Improvement process into the existing system evaluation. *Annual Plan*

**1.19** *Each local EMS agency shall develop written policies, procedures, and/or protocols including, but not limited to; a) triage, b) treatment, c) medical dispatch protocols, d) transport, e) on-scene times, f) transfer of emergency patients, g) standing orders, h) base hospital contact and, i) on-scene physicians and other medical personnel.*

## METHODOLOGY:

1. Utilize the Policy Development Process for the development and/or revision of all required policies, procedures and protocols.

## CURRENT STATUS:

The Policy and Procedure Committee and the Agency utilizes the Policy Development Process for the development and implementation of all policies. Policies for each referenced section have been implemented.

## NEEDS AND OBJECTIVES:

Ensure that all required policies are implemented through the Policy Development Process or the Policy Revision Process. *Annual Plan*

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

## METHODOLOGY:

1. Utilize the Policy Development Process for the development and implementation of a DNR policy consistent with the State EMS Authority guidelines.

## CURRENT STATUS:

The Merced County EMCC designated a sub-committee of that body for the purpose of developing a DNR policy for the County, and Policy No. 570.10, Do Not Resuscitate was implemented on October 1, 1991. In this development process, it was determined that there was a need to address the signatory requirements in the event that the patient was unable to sign, in an effort to ensure that the execution of this advanced directive accurately reflected the wishes of the patient. To that end, the individuals allowed to sign for the patient were restricted to the individual

# EMS PLAN

named in a Durable Power of Attorney For Health Care Decisions, or the court appointed Conservator.

## **NEEDS AND OBJECTIVES:**

Provide for regular review of this policy, and if deemed appropriate, alter the policy to provide for consistency and standardization of these advanced directives statewide. ***Annual Plan***

***1.21 Each local EMS agency, in coordination with the County Coroner shall develop a policy regarding determination of death, including deaths at the scene of apparent crimes.***

## **METHODOLOGY:**

Prior to the implementation of the Policy Development Process, the Health Department, in conjunction with the EMCC and the County Coroner, developed and implemented Policy No. 570.20, Determination of Death in the Prehospital Setting, which addresses the above issue.

## **CURRENT STATUS:**

There have been occasional incidents as a result of this policy, primarily in the setting of possible homicides or suicides, and the policy will be submitted to the Policy and Procedure Committee for possible revisions to address the concerns of the law enforcement agencies.

## **NEEDS AND OBJECTIVES:**

As stated above, this policy needs to be reviewed by all affected parties, to ensure that it's application is not problematic for law enforcement, while maintaining the integrity of the patient care concerns. ***Annual Plan***

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

## **METHODOLOGY:**

1. Through coordination with the Area Agency on Aging, develop a training workshop on the assessment and appropriate intervention in suspected cases of Elder Abuse.
2. Utilizing the Policy Development Process, develop and implement a policy regarding the reporting requirements in suspected cases of Elder Abuse.

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3. Through coordination with Child Protective Services and local law enforcement agencies, develop a training workshop on the assessment and appropriate intervention in suspected cases of child abuse, particularly in those cases where the child is not transported to an emergency department.
4. Utilizing the Policy Development Process, develop and implement a policy regarding the reporting requirements in suspected cases of child abuse.
5. In coordination with the County Coroners Office, ensure that the prehospital personnel are cognizant of the information, relative to the existing scene conditions and the findings upon their arrival on scene, in suspected cases of SIDS. Ensure that the transfer of vital information is effected to the Coroners Office in each such occurrence.

## **CURRENT STATUS:**

There are currently no specific training programs or policies in place regarding elder or child abuse, or suspected cases of SIDS, however, through the required SIDS training for prehospital personnel, the issue of reporting suspected cases has been addressed.

## **NEEDS AND OBJECTIVES:**

Develop the above referenced training programs and policies, to ensure proper intervention and reporting of suspected cases of elder and child abuse. *Long-Range Plan*

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

## **METHODOLOGY:**

Utilizing the Policy Development Process, implement an interfacility transfer policy addressing both the scope of practice of prehospital personnel during said transfers, as well as the responsibilities of receiving and transferring hospitals, relative to these transfers.

Utilize an approved interfacility transfer form for all such transfers, to include any written orders from the transferring physician.

## **CURRENT STATUS:**

Currently, Policy No. 440.10, Interfacility Transfers, addresses the issues regarding the responsibility of each agency in the transfer process, including the requirement for the transferring facility to properly staff and equip for the transfer, if the patient care requirements will exceed the scope of practice of the ALS transportation crew.

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## **NEEDS AND OBJECTIVES:**

The Agency will need to explore an expanded scope of practice for paramedics during interfacility transfers, as a cost saving mechanism for the transfer of procedures such as Nitroglycerin drips, heparin drips, etc. ***Long-Range Plan***

## ***Enhanced Level : Advanced Life Support***

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***1.24 Advanced Life Support services shall be provided only as an approved part of the local EMS system and all ALS providers shall have written agreements with the local EMS agency.***

## **METHODOLOGY:**

Through the EMCC, designate exclusive operating areas and emergency response zones, and negotiate performance-based ALS ambulance transportation agreements with each provider operating within this County.

## **CURRENT STATUS:**

Each area of the County has been designated as either an Exclusive Operating Area or an Emergency Response Zone, and an ALS ambulance transportation provider has been contracted for service in each of these designated areas.

## **NEEDS AND OBJECTIVES:**

All Objectives have been accomplished.

***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.***

## **METHODOLOGY:**

1. Utilizing a base hospital designation procedure, contract with a qualified hospital for the base hospital designation.
2. Require the base hospital to staff the emergency room in such a manner as to provide for physician and MICN staffing at all times to provide on-line medical control to prehospital care personnel.

# EMS PLAN

## CURRENT STATUS:

Merced Community Medical Center has been designated as the County Base Hospital, has executed a formal agreement with the Agency, and provides on-line medical control for prehospital care providers as required by the Agency.

### **1.26 The local EMS agency shall develop a trauma care system plan which determines:**

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

## METHODOLOGY:

1. Establish a Trauma Care Committee made up of local system participants as well as Trauma Care specialists from outside this County system to perform a trauma care evaluation. Based upon the findings and recommendations of this committee, develop a trauma care plan, consistent with the State EMS Authority Trauma Care Guidelines, to meet the identified needs of this County.
2. Submit the completed plan to the EMCC for their review and recommendations, and forward to the Board of Supervisors for approval.
3. Submit the locally approved plan to the State EMS Authority for approval.

## CURRENT STATUS:

No formal Trauma Care Plan exists within Merced County.

No Trauma Care Committee has been established at this time.

As a member of the Joint Powers Agreement which established the Alpine, Mother Lode, San Joaquin EMS Agency (REMSA), Merced County has been involved in the Trauma Plan development undertaken by that Agency over the last several years. Due to a number of political and financial issues, attempts at formally establishing a trauma system within REMSA's EMS Area have been unsuccessful. REMSA began a new six month trauma study in June 1992, to further evaluate the system needs, and the results of that study should be available in the spring of 1993.

Merced County regularly utilizes MediFlight of Northern California, which is owned and operated by Memorial Hospitals, and based out of Memorial North hospital in Modesto. In April, 1992 a simultaneous helicopter dispatch policy went into effect in this County, for emergency calls that suggest the possibility of critical injury (eg. falls > than 20 ft., MVA's with high speed potential, etc.). This policy has expanded the previous use of the helicopter, which was dispatched as a result of either on-scene requests, or by responding ambulances, if the paramedic felt the incident had a potential of critical injuries. The simultaneous dispatch policy established standardized dispatch

# EMS PLAN

criteria, rather than the previous "seat of the pants" decision-making process. As a result of this de facto partnership with Modesto area hospitals, regarding the management of critical trauma patients, and the inability of local hospitals to provide the needed level of care to these critical patients, Merced County believes that a mutually beneficial relationship has resulted, and we shall endeavor to maintain the good relationship with the Modesto area hospitals and physicians with whom consistent referral patterns have developed.

## **NEEDS AND OBJECTIVES:**

Realistically, Merced County is many years away from the development of a trauma system. There is neither the population base nor the specialty care abilities within this system to support such an endeavor. We will, however, develop comprehensive Trauma Care Guidelines for both the appropriate field triage of critically injured patients, as well as the management and rapid interfacility transfer of critical patients delivered to the local hospitals. These processes should be accomplished through the development of a Trauma Care Committee. **Long-Range Plan**

Develop a Trauma Care Committee, and charge this committee with the development of triage guidelines for the field management of critical trauma. **Annual Plan**

There are currently no facilities within Merced County eligible to apply for Trauma Center designation. Future designations will be addressed through the committee process described above. **Long-Range Plan**

## ***Enhanced Level : Pediatric Emergency Medical and Critical Care System***

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**1.27 The local EMS agency shall develop a pediatric emergency medical and critical care system plan which determines:**

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

## **METHODOLOGY:**

1. In coordination with the Pediatric Critical Care Network, develop a task force to explore the implementation of pediatric care standards, such as EDAP (Emergency Department Approved for Pediatrics), within the hospital emergency rooms.
2. Utilizing the above referenced task force, develop triage, treatment and transportation standards for pediatric patients, based upon the State EMS Authority Pediatric Critical Care Standards, when available.

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## **CURRENT STATUS:**

Within Merced County, critical care for pediatrics, like trauma care, is a function of expanded training and scope of practice for the field personnel, and triage and transportation guidelines to move the critical patients to appropriate specialty care facilities outside of the County, as there are no definitive care facilities within Merced County with the specialty care capabilities to manage critical children. Fortunately, Merced County has a good working relationship with Valley Childrens Hospital in Fresno, due to a large degree to the efforts of the Pediatric Intensive Care Unit (PICU) Network, and the fine coordinating efforts of the leadership within each of the hospitals housing these units. Definitive management of critical children will require the maintenance of these patient referral patterns, and continued coordination with pediatric specialists for the development of the above referenced triage and transportation guidelines.

## **NEEDS AND OBJECTIVES:**

Develop a Pediatric Critical Care Task Force, in coordination with the PICU Network, to develop the above referenced emergency department standards, field triage and transportation standards, as well as addressing desired changes and enhancement to the treatment protocols for pediatric patients, all of which will utilize the State EMS Authority Pediatric Guidelines, when available.

### ***Long-Range Plan***

## ***Enhanced Level : Exclusive Operating Areas***

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***1.28 The local EMS agency shall develop, and submit for state approval, a plan for granting Exclusive Operating Areas which determines: a) The optimal system design for ambulance service and advanced life support services in the EMS area, and b) The process for assigning roles to system participants, including a competitive process for implementation of exclusive operating areas.***

See Section Seven of this Plan, AB 3153 Compliance.

# EMS PLAN

## STAFFING AND TRAINING

**2.01** *The EMS agency shall routinely assess personnel and training needs.*

### METHODOLOGY:

1. Develop and regularly distribute a questionnaire regarding continuing education needs of the field personnel. Reference Questionnaires distributed at Base Tape Reviews for continuing education needs.
2. Utilize the Quality Improvement Committee to provide input for training needs based on chart audits and committee meetings.
3. Develop training workshops based on annual EMS system evaluation, and incorporate into annual plan.

### CURRENT STATUS:

Regular continuing education has been provided primarily by the Base Hospital Nurse Liaison and the training officer at Riggs Ambulance Service. This training has not been particularly targeted, and the Agency will work with these individuals in an effort to more succinctly target this training for identified needs. For Fiscal 93-94, the Agency will be including scope of practice, policy and protocol, and orientation training and testing.

### NEEDS AND OBJECTIVES:

Coordinate with the local training officer and the nurse liaison in an effort to target training for specifically identified needs. **Annual Plan**

Develop additional training for pediatric and geriatric needs as identified in Section 1.10.  
**Annual Plan**

Establish a Quality Improvement Committee, and task this committee with on-going evaluation of training needs. **On-Going Planning**

**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.*

# EMS PLAN

## METHODOLOGY

1. Utilizing the appropriate Sections of the California Code of Regulations, Title 22, develop the approval process for training programs for Early Defibrillation Technicians, EMT-1, and EMT-P.
2. Utilizing the standards as established by the State EMS Authority, develop the approval process for training programs for Emergency Medical Dispatchers functioning in a Level II Emergency Medical Dispatching environment.
3. Utilizing established re-certification/re-authorization standards, develop the approval process for continuing education providers proposing to offer continuing education credits for EMS personnel for specific programs/workshops.
4. Coordinate with each currently approved training program to review curriculum, training resources and staff qualifications to ensure compliance with the appropriate regulations and/or guidelines.
5. Issue an approval certificate bi-annually for each training program meeting the above referenced regulatory or guideline requirements. Ensure that any proposed changes to an approved training program are submitted to the Agency for review prior to implementation.

## CURRENT STATUS:

All above referenced program approval process/policies are in place.

## NEEDS AND OBJECTIVES:

Conduct periodic classroom evaluations to ensure compliance with all applicable regulations.

### ***Annual Plan***

Incorporate input from the training coordinators into the on-going Quality Improvement Committee's system training needs assessment. ***Long-Range Plan***

***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.***

## METHODOLOGY:

1. Utilizing the Policy Development Process, develop certification, accreditation and authorization policies for all levels of training, to include; EMD, Early Defibrillation Technician, EMT-1, EMT-P, and MICN.

# EMS PLAN

2. Using the above mechanism, develop policies for re-certification, re-accreditation and re-authorization for each appropriate category of personnel.
3. Develop all associated applications, checklists and forms for the above processes. Establish an appropriate fee schedule for each classification.
4. Develop a comprehensive data management tool for tracking certification status, skills maintenance, and quality improvement documentation.
5. Ensure all required certification/accreditation information is forwarded to the State EMS Authority within the established timeframe.
6. Issue appropriate cards for individuals that have completed their requirements, and notify employers of any individuals not satisfying the specified requirements for certification/accreditation/authorization.
7. Ensure, through written agreements with provider agencies, that the Agency will receive any information relative to the employment status of individuals certified, accredited, authorized by the Agency.
8. Develop and implement an Unusual Occurrences policy for the reporting of any issue of concern to the Agency.

## **CURRENT STATUS:**

All above referenced policies and procedures are in place. Any issue of concern can be reported to the Agency through the Reportable Situations and Unusual Occurrences Policy.

## **NEEDS AND OBJECTIVES:**

Using the Policy Development Process, develop and implement all above referenced policies.

### ***Annual Plan***

Develop all referenced forms, applications, processes, fee schedules, and required certification/accreditation training and/or testing. ***Annual Plan***

## ***Dispatchers***

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***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.***

# E M S P L A N

## METHODOLOGY:

1. Using the Policy Development Process, develop policies for EMD training, certification/re-certification.
2. Ensure the provision of Level II EMD training within the County provided by the Authorized EMS Dispatch Center Training Officer, and provide for course review to ensure compliance with the requirements for said training. Approve course of instruction once all requirements have been met.
3. Ensure through written agreements that the EMS Dispatch Center is staffed 24 hours a day with at least one individual trained to the above referenced standards.
4. Establish the required EMS Dispatch Center standards through a formal written agreement with said center, and require, through this agreement, the maintenance of the dispatch center according to the standards established by the Agency.

## CURRENT STATUS:

All EMD training in the County is conducted through the EMS Dispatch Center Training Officer, the program exceeds the standards established by the State EMS Authority, and is approved by the EMS Agency.

The EMS Dispatch Center performs to standards established through a formal agreement with the County, as a Level II EMD Center.

Certification for EMD personnel is provided by the Merced County EMS Agency, and the EMS Dispatch Center is staffed 24 hours a day with at least one individual trained and certified at the level II EMD Status.

The Agency, in coordination with the PSAP Committee, is re-developing the EMD Priority Cards to ensure that they accurately reflect current medical practice, are symptom-based rather than diagnosis-based, and establish the first responder dispatch mechanisms throughout the County, including each incorporated city.

## NEEDS AND OBJECTIVES:

Maintain the monthly dispatch center audit process. *On-Going planning*

Incorporate the EMD function into the base hospital tape reviews, and ensure representation from the dispatch center staff on the Quality Improvement Committee. *Annual Plan.*

# EMS PLAN

## First Responders

**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.*

### METHODOLOGY:

Through the development of First Responder Provider Agreements, establish the minimum staffing requirements for EMS first response personnel.

### CURRENT STATUS:

The Agency has recently completed negotiations with the Merced County Fire Department/CDF as well as the City of Atwater Fire Department for the development of first responder agreements, which exceed the above referenced requirements.

### NEEDS AND OBJECTIVES:

The Objectives have been exceeded.

**2.06** *EMS first responders (including 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.*

### METHODOLOGY:

1. Through the PSAP Committee, establish a sub-committee to review and amend the EMS Dispatch Center priority dispatch cards, to reflect an agreed upon priority response mechanism for each of the participating first response agencies.
2. Develop and execute first responder provider agreements with each primary first response agency within the County, identifying their role and responsibilities, to include their level of participation relative to the above referenced priority dispatching system.

### CURRENT STATUS:

A sub-committee of the PSAP Committee was established, and has completed the above referenced process. This process has vastly improved the assessment tools used by the EMD's in their dispatching role, as well as provided a mechanism to identify the level of participation of each of the first responder agencies. This priority dispatching of first responders also allows for fewer overall responses by the various first response agencies, thereby addressing one of their primary concerns regarding their role in EMS, which is that of cost containment.

# EMS PLAN

## NEEDS AND OBJECTIVES:

The above referenced standards have been exceeded.

**2.07 Non-transporting EMS first responders shall operate under medical direction policies, as specified by the local EMS agency Medical Director.**

## METHODOLOGY:

1. Develop First Responder Treatment Guidelines and a standardized First Responder Report Form.
2. Through First Responder Provider Agreements, establish the standard of care to be provided by the participating agencies, and incorporate the use of a standardized report form for documentation of care.
3. Through First Responder Provider Agreements, incorporate the first responder function into a system-wide Quality Improvement Process with the ALS ambulance providers and the area hospitals.

## CURRENT STATUS:

The Agency has completed negotiations with the Merced County and City of Atwater Fire Departments for the execution of First Responder Provider Agreements, which include treatment protocols, report forms, and addresses the issue of incorporating the first responder medical care into a comprehensive system-wide Quality Improvement process.

## NEEDS AND OBJECTIVES:

The above standards have been exceeded for two of the four primary first response agencies within the County.

Completion of agreements with remaining first responder agencies - **Annual Plan**

## Transport Personnel

**2.08 All emergency medical transport vehicle personnel shall be certified at the EMT 1 level.**

## METHODOLOGY:

Through County Ordinance and ALS ambulance transportation provider agreements as well as Agency Policy, specify one (1) EMT-P and one (1) EMT-1A as the minimum staffing requirement for ambulance transportation units in Merced County.

# EMS PLAN

## CURRENT STATUS:

All three ALS ambulance providers operating in Merced County have executed formal agreements which are consistent with the above referenced staffing requirements.

## NEEDS AND OBJECTIVES:

Annually review and amend, as needed, said ALS ambulance provider agreements. *Annual Plan*

## Hospital

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

## METHODOLOGY:

Include, as a part of Base and Receiving hospital agreements, the requirement that each individual involved in direct emergency patient care maintain certification in CPR.

## CURRENT STATUS:

The Base Hospital Agreement includes Section 4.6, which requires that the hospital ensure that each individual providing direct emergency patient care is certified in CPR.

No receiving hospital agreements are yet in place, however, this requirement will be a component of those agreements as well.

## NEEDS AND OBJECTIVES:

Negotiate and implement the above referenced receiving hospital agreements to include the CPR requirement. *Long-Range Plan*

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

## METHODOLOGY:

As part of the above referenced base and receiving hospital agreements, require that all physicians and registered nurses maintain certification in ACLS, and strongly encourage PALS and ATLS training.

# EMS PLAN

## **CURRENT STATUS:**

As a required component of MICN authorization, all MICN's within the County are required to maintain certification in ACLS.

All emergency room physicians at the base hospital are trained and certified in ACLS.

## **NEEDS AND OBJECTIVES:**

Develop standards into the hospital agreements that specify more stringent minimum standards for physician and MICN training. *Long-Range Plan*

### ***Enhanced Level : Advanced Life Support***

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***2.11 The local EMS agency shall establish a procedure for accreditation of advanced life support 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 enrollment into the local EMS agency's quality assurance process.***

## **METHODOLOGY:**

1. Develop all necessary policies and procedures, training and testing for accreditation of ALS personnel.
2. Develop and implement a local orientation process to include all policies and procedures, as well as system reviews with the various system participants.
3. Ensure that each ALS unit contains an Agency issued policy/procedure hand manual, to include guidelines for administering all undefined scope of practice procedures and medications.
4. Track the performance of all ALS personnel by utilization of an individual accreditation number, and require that this number is affixed to all patient care reports.

## **CURRENT STATUS:**

All required policies and procedures are in place, and all new personnel within this system are required to complete an orientation process. All ALS personnel, in addition, are required to satisfactorily complete a test on any undefined scope of practice items for which they cannot document training and satisfactory testing from an approved training program.

# EMS PLAN

## NEEDS AND OBJECTIVES:

Review current accreditation practice to ensure that it conforms with the recent recommendations/clarification produced by EMSAAC. **Annual Plan**

**2.12** *The local EMS agency shall establish policies for local accreditation of public safety and other basic life support personnel in early defibrillation.*

## METHODOLOGY:

1. Develop required policies for accreditation and reaccreditation of Early Defibrillation Technicians, early defibrillation medical director contract, guidelines and all required forms for documentation of service.
2. Develop Early Defibrillation Provider Policy to address role and responsibilities for said provider, and the requirements for program approval.

## CURRENT STATUS:

All above referenced policies and forms are in place, and the Agency is currently negotiating with two first response agencies for the possible implementation of early defibrillation. Budget concerns on the part of these two agencies have slowed progress, however we are hopeful that we will see early defibrillation in this system within the near future.

## NEEDS AND OBJECTIVES:

1. Complete the negotiations with the first response agencies for the implementation of early defibrillation. **Long-Range Plan**
2. Monitor programs, once implemented, for quality improvement purposes.  
**Long-Range Plan.**

**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.*

## METHODOLOGY:

1. Ensure through Base Hospital Agreements that all personnel with prehospital on-line medical control responsibilities are oriented to Agency policies and procedures.

# EMS PLAN

2. Require through MICN Authorization orientation to system policies and procedures, ALS treatment guidelines, and ensure adequate training and testing in Radio use and procedures.

## CURRENT STATUS:

The Base Hospital Agreement has been executed, and the above referenced requirements are included.

All Authorized MICN's are required to undergo initial radio procedure training and testing through the training program, and with initial authorization testing, and all reauthorization requires documentation of frequent on-line participation as an MICN operating at a Base Hospital, or testing in radio case presentations, prior to re-authorization.

## NEEDS AND OBJECTIVES:

1. Ensure better compliancy of system orientation by base hospital physicians through base hospital agreement. *Annual Plan*

# EMS PLAN

## COMMUNICATIONS

**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 ALS responders, and acute care facilities and shall coordinate the use of frequencies in accordance with the EMS Authority's communications plan (when available).*

### **METHODOLOGY:**

1. Through written ALS provider agreements, require that all ALS units are equipped with adequate UHF and VHF radio capabilities to effect dispatch and medical control requirements, at a minimum.
2. Through receiving and base hospital agreements, ensure that all facilities receiving ambulance patients have the necessary radio capabilities to provide for communications with field units, as well as hospital to hospital communications, at a minimum.
3. Review the State EMS Authority Communications Plan, when available, and develop a communications task force to evaluate the current county capabilities, relative to the recommendations of the state plan.

### **CURRENT STATUS:**

All ALS providers and hospital facilities are meeting the identified minimum communications standards.

### **NEEDS AND OBJECTIVES:**

Develop and implement a local communications plan which is consistent with the recommended standard in the State EMS Authority Communications Plan, when available. **Long-Range Plan**

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

See Section 3.01 above.

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

# EMS PLAN

## METHODOLOGY:

1. Through written ALS provider agreements, require that all ALS units are equipped with adequate UHF and VHF radio capabilities to effect medical control requirements, at a minimum.

## CURRENT STATUS:

All interfacility transports are conducted by the contracted ALS providers, whose radio capabilities have been previously addressed. Cellular phones are not currently in use, and the Agency is working with the providers in exploring other communications technology which would be more reliable in the event of a loss of landline communications (e.g. earthquake affecting phonelines and cellular systems).

## NEEDS AND OBJECTIVES:

As part of the development of a county-wide communications plan, explore the practicality of incorporating cellular capabilities into the system. ***Long-Range Plan***

***3.04 All emergency medical transport vehicles where physically possible (based on geography and technology), shall have the capability of communicating with a single dispatch center or disaster communications command post.***

## METHODOLOGY:

1. Ensure through written provider agreements that all ALS providers shall be dispatched through an approved EMS Dispatch Center which shall be a level two EMD Center, at a minimum.
2. Through written agreement, ensure that a Level Two EMD Center is available in this jurisdiction, and that said center's function is overseen and approved by the Agency.

## CURRENT STATUS:

All transporting services are capable of communicating with the Merced County EMS Dispatch Center, and said center is under the jurisdiction and oversight of the Agency.

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

See Section 3.01

# EMS PLAN

**3.06** *The local EMS agency shall review communication linkages among providers (prehospital and hospital) in it's jurisdiction for their capability to provide service in the event of multi-casualty incidents and disasters.*

## **METHODOLOGY:**

1. Through written ALS provider agreements, require that all ALS units are equipped with adequate UHF and VHF radio capabilities to effect dispatch and medical control requirements, at a minimum.
2. Through receiving and base hospital agreements, ensure that all facilities receiving ambulance patients have the necessary radio capabilities to provide for communications with field units, as well as hospital to hospital communications, at a minimum.

## **CURRENT STATUS:**

All providers within this system have the ability to communicate via radio and landline. While cellular technology can be of value in some circumstances, cellular repeaters can go down in much the same fashion as standard landline communications.

## **NEEDS AND OBJECTIVES:**

The Agency will be working with the local system participants, as well as County General Services, to review the most effective means of providing for communications in this area in the event of a disaster. *Long Range Plan*

## **Public Access**

**3.07** *The local EMS agency shall participate in on-going planning and coordination of the 911 telephone service.*

## **METHODOLOGY:**

1. Ensure, through coordination with the County Office of General Services, access to a 911 emergency phone service for all citizens of the County.
2. Ensure, through contractual agreement, the existence of medical 911 to include prioritization of medical requests, and on-line prearrival instruction to calling parties.
3. Implement, and regularly attend, a committee made up of all PSAPs within the County to ensure an environment of coordination and problem solving between the system participants.

# E M S P L A N

## CURRENT STATUS:

Enhanced 911 is available to all citizens of the County, and the EMS Dispatch Center provides Level Two EMD functions for medical emergencies.

The EMS Agency has implemented a PSAP Committee, which now meets quarterly under the Chairmanship of the Director of General Services/E911 Coordinator for the County, and this committee has proven to be an effective catalyst for positive coordination and problem solving between system participants, and the promotion of improvements to the system.

**3.08** *The local EMS agency shall be involved in public education regarding the 911 telephone service, as it impacts system access.*

## METHODOLOGY:

1. Require, as part of the public service component of the ALS Provider Agreements, mandatory 911 access training at the elementary schools within the County.
2. In lieu of financial penalties for occasional contract non-compliance, require the ALS providers to perform additional 911 access training at the elementary schools within the area of non-compliance.

## CURRENT STATUS:

The above referenced components have been included in the ALS provider agreements, and to date approximately 10,000 elementary school age children have been trained in 911 system access.

**3.09** *The local EMS agency shall establish guidelines for proper dispatch triage, identifying appropriate medical response.*

See Section 2.04

**3.10** *The local EMS agency shall have a functionally integrated dispatch with systemwide emergency services coordination, using standardized communications frequencies which comply with the EMS Authority's communications plan (when it is available).*

See Section 2.04

In addition, the Agency shall review the State EMS Authority's Communications Plan, when available, to ensure local compliance.

# EMS PLAN

## RESPONSE / TRANSPORTATION

**4.01** *The local EMS agency shall determine the boundaries of emergency medical transportation service areas.*

### **METHODOLOGY:**

Develop and implement a County ordinance which identifies appropriate ambulance service zones consistent with historical, geographic and demographic considerations, and the mechanism to award contracts for said service areas consistent with State Statute and Regulations.

### **CURRENT STATUS:**

Merced County Ordinance 1301 is in place, and, consistent with the above referenced criteria, all areas of the County have been designated as an Exclusive Operating Area or an Emergency Response Zone, and each area is served by an ALS ambulance provider under a performance-based contract with the EMS Agency.

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

### **METHODOLOGY:**

1. Develop, enact, and enforce a County Ordinance which designates ambulance response areas and the authority to contract for services for each area.
2. Implement performance-based ALS Ambulance Transportation Provider Agreements for each area of the County, and ensure strict adherence to the performance criteria of said agreements.
3. Develop and implement all necessary policies, procedures and audit processes to monitor the provision of emergency care by the contracted ALS transportation provider services.

### **CURRENT STATUS:**

The above referenced County Ordinance is in place, and all ALS transportation services are under performance-based contract. All necessary policies and procedures are in place, as well as the necessary audit processes.

**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.*

# EMS PLAN

## METHODOLOGY:

1. Recommend a task force of the County PSAP Committee to review and amend the current emergency medical dispatch priority card system, relative to both the medical component and the dispatch priority assignment criteria.
2. Implement the amended card system after approval of the EMS Medical Director and all required dispatcher training for the new system.

## CURRENT STATUS:

The EMD priority card system has been amended and is currently under 60 day trial use, after which, any proposed changes recommended by the dispatch team will be reviewed and implemented, as appropriate. Final approval and implementation should be complete by October 1, 1993.

***4.04 Service by emergency medical transport vehicles which can be pre-scheduled without negative medical impact shall be provided only at levels which permit compliance with LEMSA policy.***

## METHODOLOGY:

1. Ensure through ALS provider contracts that utilization of ALS transportation units occurs only as allowed by the EMS Dispatch Center, taking into consideration historical system demands and available units.
2. Require, as a component of the ALS provider contracts, strict compliance with the response time requirements of the EMS Agency.

## CURRENT STATUS:

All above referenced contract requirements are in place with each ALS transportation provider, and monthly compliance reports are required. Any non-compliant area of a given provider requires a corrective action plan to define the cause of the non-compliance and the corrective steps to be implemented. In addition, all non-compliance requires mandated public education training in the area of non-compliance by the provider.

***4.05 Each local EMS 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 PSAP to the arrival of the responding unit at the scene, including all dispatch intervals and driving time.***

# EMS PLAN

## METHODOLOGY:

1. Develop and implement comprehensive performance-based ALS transportation provider agreements to include response time standards from the time of call until the time on-scene by the responding ALS unit.

## CURRENT STATUS:

Each ALS transportation provider operating within this County is under a performance-based contract with the Agency, and must report each time component of their system response for all priority one and two responses (code three) with their monthly compliance report. The EMS Dispatch Center has been designated as a secondary PSAP for medical emergencies, and all response times are based upon the time of call as received by that center.

### ***4.06 All emergency medical transport vehicles shall be staffed and equipped according to current state and local EMS agency regulations.***

1. Implement a County Ordinance identifying the minimum staffing standards for ALS ambulances.
2. Identify the minimum acceptable certification standards for staffing of ALS ambulances through the ALS transportation provider agreements.

## CURRENT STATUS:

All above referenced documents are in place, and the minimum required staffing level within this system is one EMT-P and one EMT-1A per ALS unit.

### ***4.07 All emergency transport vehicles shall be appropriately equipped for the level of service provided.***

## METHODOLOGY:

1. Require through written agreement and policy statement, compliance with Agency standards for the provision of ALS services and attendant equipment requirements.

## CURRENT STATUS:

All Ambulance providers are currently under performance-based contract which requires ALS as the only acceptable standard, with equivalent equipment standards.

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

# EMS PLAN

## METHODOLOGY:

1. Negotiate with all First Response Agencies within the County to establish minimum training standards for first responder personnel and system response criteria through first responder agreements.

## CURRENT STATUS:

Currently, all areas of the County are served by one of several public safety first responder agencies, which are responding to emergency medical calls through criteria established by the EMD Cards at the EMS Dispatch Center.

Two out of the four first response agencies in the County are under contract with the Agency for their role as a BLS first response agency, and we anticipate completing the remaining agreements within Fiscal 93-94.

## NEEDS AND OBJECTIVES:

Complete the above referenced first responder agreements. *Annual Plan.*

**4.09** *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, and*
- f) addressing and resolving formal complaints regarding EMS aircraft.*

## METHODOLOGY:

Establish an EMS Aircraft Policy which addresses each component above.

## CURRENT STATUS:

The above referenced policy is in place, as are appropriate aircraft authorizations, and each component identified in this section has been addressed.

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

# EMS PLAN

## **METHODOLOGY:**

Designate the Merced County EMS Dispatch Center as the EMS Aircraft Dispatch Center.

## **CURRENT STATUS:**

The above referenced Dispatch designation has been implemented, and the EMS Dispatch Center dispatches and coordinates all EMS aircraft flights into this jurisdiction.

***4.11 The local EMS agency shall identify the availability of medical and rescue aircraft for emergency patient transportation.***

## **METHODOLOGY:**

Established through the policy and authorization process identified in Section 4.09.

***4.12 In remote and rural areas, the local EMS agency shall identify the availability and staffing of fixed wing aircraft for emergency patient transport.***

## **METHODOLOGY:**

Identify the need and availability of fixed wing medical transport.

## **CURRENT STATUS:**

Due to the availability, proximity and usual and customary destinations of critical patients, helicopter transportation has been utilized within this system. There has been little, if any, need for fixed wing transportation identified.

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

## **METHODOLOGY:**

1. Evaluate the need for specialty access/rescue vehicles and define the available resources.

## **CURRENT STATUS:**

The only rescue vehicles of particular need in this system are water rescue vehicles. The Merced County Sheriff maintains water craft on the lakes in the County, however, patrols are limited and additional resources are warranted.

# EMS PLAN

## NEEDS AND OBJECTIVES:

1. In coordination with the Sheriffs' Office, identify other available resources for use in water-related accidents and rescue services. **Long-Range Plan.**

**4.14 The local EMS agency shall plan for mobilizing response and transport vehicles for disaster.**

## METHODOLOGY:

1. Develop and coordinate the execution of Mutual Aid Agreements between all ambulance providers within the County and adjacent areas to ensure an adequate response in the case of a disaster.
2. Establish a central location for the dispatching of all ambulances responding into this system for a disaster.

## CURRENT STATUS:

All ambulance providers within the County have executed mutual aid agreements, however, there needs to be a much wider distribution of these agreements with adjacent ambulance providers in surrounding counties.

The Merced County EMS Dispatch Center has been designated for communication, coordination and dispatching functions for all ambulances in the case of a disaster.

## NEEDS AND OBJECTIVES:

Coordinate with the local providers for the execution of mutual aid agreements with adjacent ambulance providers in surrounding counties. **Annual Plan**

**4.15 The local EMS agency shall develop agreements permitting intercounty response of emergency medical transport vehicles and personnel.**

## METHODOLOGY:

OES Region V is currently developing model mutual aid agreements to be executed between all counties of OES Region V, and this document should be the necessary tool to authorize the response, as well as identify financial responsibility for such responses.

## CURRENT STATUS:

The above referenced agreement is still being developed, but should be available for review during Fiscal 93-94.

# EMS PLAN

## NEEDS AND OBJECTIVES:

Execute the above referenced mutual aid agreements, when available. *Long-Range Plan.*

**4.16** *The local EMS agency shall develop multi-casualty response plans and procedures for on-scene medical management using the Incident Command System (ICS).*

## METHODOLOGY AND CURRENT STATUS:

OES Region IV and the Alpine, Mother Lode, San Joaquin EMS Agency (REMSA) have developed a Multiple-Casualty Incident (MCI) Plan under a state grant, and this plan has been informally adopted by Merced County for use in this system. Most of the field and base hospital personnel have been trained in the plan, but formal adoption of the plan into the County Multi-Hazard Functional Plan needs to be reviewed, once the OES Region V model is available for comparison.

## NEEDS AND OBJECTIVES:

We will need to coordinate with OES Region V for the development of their disaster medical plan, to ensure that our current MCI training is consistent with the components of their plan, when developed. *Long-Range Plan*

**4.17** *Multi-casualty response plans and procedures shall utilize state standards when they exist.*

As the current MCI Plan was developed under a state grant, we believe that this plan will be consistent with the state version, however, we will review the state standards, when available, to ensure consistency.

### *Enhanced Level : Advanced Life Support*

**4.18** *All ALS ambulances shall be staffed with at least one person certified at the ALS level and one person at the EMT-1 level.*

## METHODOLOGY:

Through ambulance provider agreements and Agency Policy, establish the minimum staffing level for ALS service to be that of one EMT-1 and one EMT-P.

# EMS PLAN

## CURRENT STATUS:

All ambulance providers are under performance based contracts which specify the above minimum staffing requirement, with the only exception to this requirement being for declared disaster situations.

**4.19 All emergency ALS ambulances shall be appropriately equipped for the scope of practice of it's level of staffing.**

## METHODOLOGY:

1. Through appropriate Agency Policy and the ambulance provider agreements, ensure that all ambulances are equipped according to Agency standards.
2. Perform monthly ambulance inspections to ensure compliance with the equipment standards.

## CURRENT STATUS:

Each ambulance provider agreement contains a section which requires the above referenced Agency standards, and the Agency standards have been established through policy. All ambulances operating within this system are inspected at least annually.

### ***Enhanced Level : Ambulance Regulation***

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

The above referenced provider agreements include requirements for compliance with all Agency standards, policies and procedures.

### ***Enhanced Level: Exclusive Operating Permits***

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**4.21 Any local EMS agency which desires to implement exclusive operating areas shall develop an EMS transportation plan which addresses:**

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

See Section Seven of this plan, AB 3153 Compliance.

# EMS PLAN

**4.22** *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 requirements for "grandfathering" under Section 1797.224, H&SC.*

While no formal transportation plan has been developed, EOA's were developed as defined in Section 1.28 and delineated in Annex 1, "Compliance with AB 3153".

**4.23** *The local EMS agency shall have a mechanism to ensure that EMS transportation and/or ALS agencies to whom exclusive operating permits have been granted comply with applicable policies and procedures regarding system operations and patient care.*

## **METHODOLOGY:**

Establish performance-based ALS provider agreements for all transportation providers, which require compliance with all Agency policies and procedures.

## **CURRENT STATUS:**

All ALS transportation providers operate under a performance-based provider agreement, which contains the above referenced requirement for compliance with Agency policies and procedures.

**4.24** *The local EMS agency shall periodically evaluate the design of exclusive operating areas.*

## **METHODOLOGY:**

1. Conduct monthly compliance audits, and review response time compliance for the established response grids to ensure that the current system design continues to meet the expected standards.
2. Through the EMS Assessment Sub-committee of the EMCC, annually review the compliance data for possible changes to the current configuration.

## **CURRENT STATUS:**

All providers performance is reviewed by Agency staff for compliance on a monthly basis, and the EMS Assessment Sub-committee, as well as the entire EMCC, review the annual provider compliance reports.

# EMS PLAN

## FACILITIES / CRITICAL CARE

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

### **METHODOLOGY:**

1. Using a self-assessment tool currently under development by the REMSA under state grant, conduct facility assessment for future planning activities. Such assessment should be conducted with all facilities bi-annually, consistent with agreement renewals.

### **CURRENT STATUS:**

The REMSA conducted a similar facility self-assessment with facilities in this County in 1989, and this process needs to be updated. In conjunction with on-site inspections / assessments, this process should be used for future trauma planning, pediatric planning, etc.

**5.02** *The local EMS agency shall establish prehospital triage protocols and shall assist hospitals with the establishment of transfer protocols and agreements.*

### **METHODOLOGY:**

1. Through the development of a Helicopter Utilization Task Force, comprised of local participants and trauma specialists from Modesto area facilities, develop trauma triage guidelines to assist the field care personnel in these transportation decisions.
2. Using State standards/guidelines, establish model transfer agreements for use by local facilities and assist by facilitating said agreements.

### **CURRENT STATUS:**

The Helicopter Utilization Task Force met on May 25, 1993, and is currently working with local surgeons, facilities and system participants for the development of the above referenced trauma triage guidelines in an effort to clearly delineate those patients which should be moved directly to specialty care facilities outside of the County, as well as those that can appropriately be seen at the local facilities and evaluated for the need for further services.

Model transfer agreements are available, and the Agency is in the process of coordinating with the local facilities for the implementation of transfer agreements for specialty care provisions.

# EMS PLAN

## NEEDS AND OBJECTIVES:

Complete the above referenced trauma triage protocol, and amend as deemed appropriate following the completion of a comprehensive facility assessment process. **Annual Plan**

**5.03** *The local EMS agency 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.*

## METHODOLOGY:

See previous Section.

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

## METHODOLOGY:

1. Establish a receiving facility designation policy establishing the criteria for receiving ambulance patients.
2. Conduct Facility assessments for the purpose of receiving facility designation and specialty care capabilities.
3. Negotiate receiving facility agreements with all facilities outlining their role and responsibilities within this system.

## CURRENT STATUS:

The above referenced receiving facility designation policy is in place and the agency will begin conducting the facility assessments and agreement negotiations following completion of an updated version of the EMSA's facility assessment instrument.

## NEEDS AND OBJECTIVES:

Complete the above referenced facility assessments and receiving hospital agreements. **Long-Range Plan**

**5.05** *The local EMS agency shall encourage hospitals to prepare for mass casualty management.*

# EMS PLAN

## METHODOLOGY:

Coordinate with the local facilities for the implementation of a Multi-Casualty Incident Plan, and identify, through receiving facility agreements, the role and responsibilities of each facility in this system, relative to disaster planning.

## CURRENT STATUS:

See Section 8.14.

**5.06** *The local EMS agency shall have a plan for hospital evacuation, including it's impact on other EMS system providers.*

## METHODOLOGY:

1. Through the EMCC, designate a task force of appropriate members, including the Chief of OES, to develop evacuation plans for local facilities, to include plans for a variety of disaster scenarios and impacted facilities.

## CURRENT STATUS:

No such Agency evacuation plan exists.

## NEEDS AND OBJECTIVES:

Designate the above referenced EMCC task force for the development of the identified evacuation plans, and ensure inclusion in the County Multi-Hazard Functional Plan. ***Annual Plan***

### ***Enhanced Level: Advanced Life Support***

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**5.07** *The local EMS agency shall, using a process which allows all eligible facilities to apply, designate base hospitals or alternate base stations as it determines necessary to provide medical direction of prehospital personnel.*

## METHODOLOGY:

Develop a Base Hospital Designation Policy which allows for an appropriate request for proposal process or "grandfathering" of an existing base hospital, as appropriate.

# EMS PLAN

## CURRENT STATUS:

The above referenced policy is in place and the existing base hospital has been contracted for the base hospital function. Due to the volume of on-line medical control customarily seen in this system, a single base hospital has been deemed appropriate.

### *Enhanced Level: Trauma Care System*

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**5.08 Local EMS agencies that develop trauma care systems shall determine the optimal systems, including:**

- a) The number and level of trauma centers,**
- b) The design of catchment areas (including areas in other counties, as appropriate), with consideration of workload and patient mix,**
- c) Identification of patients who should be triaged or transferred to a designated center, including consideration of patients who should be triaged to other critical 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.**

No formal trauma care system has been established, to this point, in this system. The Agency is currently exploring the possibility of implementing a rural trauma care project for possible funding through the State EMS Authority for Fiscal 94-95. Future updates to the EMS Plan will delineate this proposal in detail.

**5.09 In planning its trauma care system, the local EMS agency shall ensure input from both providers and consumers.**

See previous Section.

### *Enhanced Level: Pediatric Emergency Medical and Critical Care Systems*

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**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 workload 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 critical 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,**

# EMS PLAN

- f) *The role of non-pediatric critical care hospitals including those which are outside of the primary triage area,*
- g) *A plan for monitoring and evaluation of the system.*

## **METHODOLOGY:**

Using the Emergency Medical Services for Children standards, when available, the Agency will designate a task force to begin the development of improved pediatric care capabilities within this system to include as many of the above referenced components as deemed practical and realistic, within the constraints of this system and its participants. **Long-Range Plan**

### **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, and*
- f) *data reporting to the local EMS agency.*

See previous Section.

### **Enhanced Level: Other Critical Care Systems**

### **5.12 Local EMS agencies developing speciality 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.*

Using a task force format, as identified in previous sections, the Agency will begin to develop system planning for the management of targeted clinical conditions. **Long-Range Plan**

# EMS PLAN

## Data Collection / System Evaluation

**6.01** *The local EMS agency shall establish an EMS quality assurance program to evaluate the response to emergency medical incidents and the care provided to specific patients. The program 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 when they exist. The program shall use provider based QA programs and shall coordinate them with other providers.*

### **METHODOLOGY:**

1. Establish performance-based ambulance provider agreements and require monthly compliance reports for response times, staffing, unusual situation reporting, vehicle failure, compliance with all Agency policies and procedures, etc. Include in these agreements a paramedic liaison/training officer to be responsible for coordinating with the Agency for the development of a provider-based QI program.
2. Establish first responder agreements with all primary first response agencies within the County, and identify their role and responsibilities as well as involvement in a system-wide QI process.
3. Establish base and receiving hospital agreements requiring compliance with all applicable policies and procedures, establishing roles and responsibilities and participation in a system-wide QI program.

### **CURRENT STATUS:**

All three ALS providers are operating under performance-based agreements with the above referenced requirements.

There are currently two first responder agreements which provide for QI involvement from first response personnel.

The base hospital agreement is in place with the above referenced requirements.

There are currently no receiving hospital agreements in place.

### **NEEDS AND OBJECTIVES:**

Complete the remaining first responder agreements with all primary first response agencies in the County. **Annual Plan**

Complete the receiving hospital agreements for each receiving hospital in the County. **Annual Plan**

# EMS PLAN

**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:**

All prehospital reports are submitted for the patient record at the receiving hospital and a copy forwarded to the Agency, as required by Agency policy.

**6.03** *Audits of prehospital care, including both clinical and service delivery aspects, shall be conducted.*

**CURRENT STATUS:**

All prehospital reports are audited by the provider-based QI Coordinator. All ALS transports, code three transports to the hospital, ALS without Base Hospital Contact, prehospital death, and reports wherein unusual circumstances are reported are audited by the base hospital liaison and the Agency.

All transportation providers operations are audited on a monthly basis for compliance with their contractual agreements.

**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 prearrival/post dispatch directions.*

**CURRENT STATUS:**

The Agency conducts monthly dispatch center audits to ensure compliance with Agency policy, procedure, and adherence to the County-approved EMD priority dispatch card system.

The Dispatch Center has not yet been formally included into the system tape review and QI Program.

**NEEDS AND OBJECTIVES:**

Include the EMS Dispatch Center into the monthly tape reviews and QI Program.

**Annual Plan**

**6.05** *The local EMS agency shall establish a data management system which supports it's systemwide planning and evaluation (including identification of high risk patient groups) and the QA audit of the care provided to specific patients. It shall be based on state standards (when they are available).*

# EMS PLAN

## CURRENT STATUS:

The Agency is building a database management system based upon the latest draft standards developed by the Alpine, Mother Lode, San Joaquin EMS Agency under State grant, and will evaluate this system for possible changes when the State Data Standards are completed and available.

**6.06** *The local EMS agency shall establish an evaluation program to evaluate EMS system design and operations. This shall include structure, process and outcome evaluations, utilizing state standards and guidelines when they exist.*

## CURRENT STATUS:

See Sections 1.02, 1.03, 1.10, 1.11, 1.12, and 1.13.

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

## CURRENT STATUS:

There are numerous examples throughout this document which refer to agreements with system participants requiring their compliance with Agency policies and procedures, which include their participation in system evaluation.

**6.08** *The local EMS agency shall periodically report on EMS system operations to the Board of Supervisors, provider agencies, and the EMCC.*

## CURRENT STATUS:

The Agency reports on EMS system operations on a bi-monthly basis through the EMCC, which is chaired by a member of the Board of Supervisors, and reports annually to the Board of Supervisors. The EMCC meetings are attended by all system participants.

### ***Enhanced Level: Advanced Life Support***

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

## CURRENT STATUS:

See Section 6.05.

# EMS PLAN

## Enhanced Level: Trauma Care System

**6.10** *The local EMS agency 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, and*
- c) A process of identifying potential improvements to the system design and operation.*

**CURRENT STATUS:**

No formal Trauma System as yet been developed for this County, however, the Agency will be pursuing Trauma System development beginning in the Fall of 1993, and will establish each requirement identified above as part of the trauma database.

**NEEDS AND OBJECTIVES:**

Formulate a Trauma System Development Task Force and coordinate with the State for possible funding for a Rural Trauma Project *Annual Plan*.

**6.11** *The local EMS agency shall ensure that the designated trauma centers provide required data to the EMS agency, including patient specific information which is required for QA and system evaluation.*

**CURRENT STATUS:**

See Section 6.10.

# EMS PLAN

## *Public Information and Education*

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**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.*

### **CURRENT STATUS:**

The Agency has worked with Riggs Ambulance Service in the dissemination of system access information and CPR/First aid training for the public. To date, approximately 10,000 elementary school children have been trained as "Junior Paramedics", signifying an understanding of EMS system access. The Agency has endorsed a two hour multi-media CPR and First Aid program in an effort to reach those adults unable to attend traditional training programs, due to the time commitment required.

As part of the ALS ambulance agreements, providers are required to meet minimum public training standards, as established by the Agency, in CPR/First Aid and system access. In addition, any provider out of compliance in one of their areas of responsibility, as assessed monthly, must perform CPR/First Aid training as well as elementary school system access training in the area of non-compliance. This training is in addition to any other training performed.

At the September 1, 1993 EMCC meeting, a Public Education Sub-committee was formed to explore methodologies for increasing training in CPR / First Aid, system awareness, etc.

### **NEEDS AND OBJECTIVES:**

The Agency will be working with other programs within the Health Department to ensure integration of EMS system education into other areas of public health preventative education.

#### ***Long-Range Plan***

Continue to evaluate high-risk groups for targeting training in injury and illness prevention, as well as self-help training. ***Long-Range Plan***

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

# EMS PLAN

## CURRENT STATUS:

See Section 7.01.

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

## CURRENT STATUS:

No formal coordination currently exists for this function.

## NEEDS AND OBJECTIVES:

Coordinate with the Office of Emergency Services for the development of a joint public disaster preparedness training program. ***Long-Range Plan***

**7.04** *The local EMS agency shall promote the availability of first aid and CPR training for the general public.*

## CURRENT STATUS:

See Section 7.01.

# EMS PLAN

## Disaster Medical Response

**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:**

Most of the EMS personnel in this County have been trained in the Multi-Casualty Incident (MCI) Plan developed by the OES Region IV, in conjunction with the Alpine, Mother Lode, San Joaquin EMS Agency. This plan is consistent with the ICS standards, and is designed to meet the challenges of a multiplicity of disaster/MCI sources, including hazardous materials. The plan includes training for field personnel, hospital personnel (including the designated Disaster Medical Control Facility), and a medical mutual aid agreement template.

It is the intent of the Agency to coordinate with OES for the inclusion of this MCI plan, with minor modifications, into the County Multi-Hazard Functional Plan as the medical component of said plan. As Merced County is part of OES Region V, this effort will require coordination with the Fresno, Kings, Madera EMS Agency, to ensure that the eventual medical disaster plan for Region V is reasonably consistent with the MCI plan, to provide for standardization of disaster response mechanisms and mutual aid agreements between Merced County and the other counties within OES Region V.

### **NEEDS AND OBJECTIVES:**

Formalize the MCI plan into the County Multi-Hazard Functional Plan, and coordinate same with OES Region V. Complete all field and hospital personnel training for said plan. **Annual Plan**

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

### **CURRENT STATUS:**

See Section 8.01.

**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:**

See Section 8.01.

# EMS PLAN

**8.04** *Medical response plans and procedures for catastrophic disasters shall use the Incident Command System as the basis for field management.*

**CURRENT STATUS:**

See Section 8.01.

**8.05** *The local EMS agency, using state guidelines when they are available, shall establish written procedures for distributing disaster casualties to the medically most appropriate facilities in its service area.*

**CURRENT STATUS:**

Currently, the responsibility for determining the distribution of patients in an MCI rests with the Base/Disaster Control Hospital. When the State standards are available, the Agency shall evaluate the current system for possible amendments.

**8.06** *The local EMS agency, using state guidelines when they are available, shall establish written procedures for early assessment of needs and resources and an emergency means for communicating requests to the state and other jurisdictions.*

**CURRENT STATUS:**

The County Multi-Hazard Functional Plan (MHFP) incorporates proper procedures to follow in the notification of various State and Federal agencies, and the EMS Agency will ensure that the MHFP is consistent with State standards, when available.

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

**CURRENT STATUS:**

No specific frequency has been identified for interagency communications and coordination during day to day operations or disaster incidents.

**NEEDS AND OBJECTIVES:**

Develop a comprehensive communications plan to be used for both day-to-day operations and disaster incidents. *Annual Plan*

**8.08** *The local EMS agency, in cooperation with the local OES, shall develop an inventory of disaster medical resources.*

# EMS PLAN

## CURRENT STATUS:

Disaster medical resources were last inventoried in 1991. The information is spread over several documents.

## NEEDS AND OBJECTIVES:

Coordinate with local OES and perform a complete inventory of all disaster medical resources within Merced County. Develop an inventory list available to key personnel. **Annual Plan**

**8.09 The local EMS agency shall establish and maintain relationships with DMAT teams in its area.**

## CURRENT STATUS:

Merced County has no formal or informal relationships with DMAT teams in this area.

## NEEDS AND OBJECTIVES:

Locate and develop a relationship with the closest DMAT team. **Annual Plan**

Conduct a feasibility study on the development of a local DMAT Team. **Long Term Plan**

**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:

OES Region V is in the process of developing a medical mutual aid plan. Merced County requires all contract ambulance providers to have mutual aid agreements with the surrounding ambulance providers.

## NEEDS AND OBJECTIVES:

Coordinate with OES Region V for the development of a region wide medical mutual aid plan. **Long Range Plan**

**8.11 The local EMS agency, in coordination with the local OES and county health officers (s), and using state guidelines when they are available, shall designate CCPs.**

# EMS PLAN

## CURRENT STATUS:

CCPs have been established, and these designations shall be reviewed for possible amendment when the state standards are available.

**8.12** *The local EMS agency shall develop plans for establishing CCPs and a means for communicating with them.*

## CURRENT STATUS:

The County's Multi-Hazard Functional Plan Medical Annex contains procedures for establishing and communicating with CCPs.

**8.13** *The local EMS agency shall review the disaster medical training of EMS responders in its service area, including the proper management of casualties exposed to and/or contaminated by toxic or radioactive substances.*

## CURRENT STATUS:

See Section 8.01.

**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).*

## CURRENT STATUS:

The EMS Agency has not assisted the local hospitals with internal or external disaster planning.

## NEEDS AND OBJECTIVES:

Encourage local hospitals to implement the Hospital Emergency Incident Command System and coordinate hospital disaster planning efforts with the EMS MCI/Disaster plan. Assist in the development of a training program for hospital personnel. **Long Range Plan**

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

## CURRENT STATUS:

All hospitals in Merced County are capable of radio communication on Med Channel 8. Also, the Disaster Control Facility has a dedicated phone line for communicating with other hospitals.

# EMS PLAN

## NEEDS AND OBJECTIVES:

See Section 8.07

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

## CURRENT STATUS:

See Section 8.01

**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:

There are no policies in place to allow advanced life support providers or mutual aid responders from other EMS system to respond and function during significant medical incidents.

## NEEDS:

Develop policies to allow advanced life support personnel from other system to perform under the scope of practice of their home county during significant medical incidents. **Annual Plan**

**8.18** *Local EMS agencies developing trauma or their critical 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:

There are no designated specialty care centers within Merced County. No trauma or critical care system has been developed.

**8.19** *Local EMS agencies which grant exclusive operating permits shall ensure that a process exists to waive the exclusivity in the event of a significant medical incident.*

# EMS PLAN

## CURRENT STATUS:

The Agency has amended the exclusive contract with Riggs Ambulance Service to include a waiver of exclusivity for multi-casualty incidents and disasters.

## NEEDS AND OBJECTIVES:

Add waiver of exclusivity for disaster incidents in the provider agreement with Turlock Ambulance Service in their contract review in October, 1993. *Annual Plan*

**TABLE 1: GEOGRAPHIC AND DEMOGRAPHIC DESCRIPTION**

1.	Population Served .....	180,000
2.	Number of counties served .....	1
3.	Number of incorporated cities .....	6
4.	Population density:	
	a. Urban .....	74.7%
	b. Rural.....	23.0%
	c. Remote/Wilderness .....	2.3%

**TABLE 2: SYSTEM RESOURCES AND OPERATIONS**

1. Percentage of population by level of care:
  - a. BLS ..... 0%
  - b. LALS ..... 0%
  - c. ALS..... 100%
  
2. Type of agency: ..... a
  - a = Public Health Department
  - b = County Health Services Agency
  - c = Other County Department
  - d = Joint Powers Agency
  - e = Private Non-Profit Entity
  - f = Other \_\_\_\_\_
  
3. The person responsible for day-to-day activities of the agency reports to: ..... d
  - a = Public Health Officer
  - b = Health Services Agency Director/Administrator
  - c = Board of Directors
  - d = Other:     **Director of Public Health**
  
4. Indicate the functions which are performed by the agency:
  - x Development of exclusive operating areas
  - Designation of trauma centers
  - Designation of pediatric facilities
  - Designation of other critical care centers
  - x Development of transfer agreements
  - x Enforcement of local ambulance ordinance
  - x Enforcement of ambulance contracts
  - Operation of ambulance service
  - x Operation/Oversight of EMS dispatch center
  - Non-medical disaster planning
  - x Other:       **First Responder Agreements**
  - x Other:       **Receiving Hospital Agreements**
  - x Other:       **EMS Aircraft Authorization**

5. EMS Agency Budget for Fiscal Year 93-94

Expenses

A.	Salaries and Benefits .....	\$112,833.00
B.	Services / Supplies .....	\$14,123.00
C.	Travel .....	\$2000.00
D.	Fixed Assets .....	*
E.	Contract Services .....	\$16,900.00
F.	Indirect Expenses (overhead)	
G.	Other	
H.	Total Expenses .....	\$145,856.00

Sources of Funding

I.	State General Fund	
J.	County General Fund .....	\$5182.00
K.	Other Local Tax Funds	
L.	County Contracts .....	\$35,450.00
M.	Certification Fees .....	\$3500.00
N.	Training Program Fees	
O.	Base Hospital Application Fees	
P.	Base Hospital Designation Fees	
Q.	Trauma Center Application Fees	
R.	Trauma Center Designation Fees	
S.	System Development Grant	
T.	Special Project Grant	
U.	Contributions	
V.	SB 12 .....	\$93,876.00
W.	Other .....	\$7848.00
X.	Total Revenues .....	\$145,856.00

6. Fee Structure for Fiscal Year 93 - 94

A.	EMT-1 Certification .....	\$30.00
B.	EMT-1 Recertification .....	\$30.00
C.	EMT-II Certification	0
D.	EMT-II Recerification	0
E.	EMT-P Accreditation .....	\$75.00
F.	EMT-P Re-Accreditation .....	\$75.00
G.	MICN Authorization .....	\$30.00
H.	MICN Reauthorization .....	\$30.00

\* Fixed assets included in budget unit of Health Department Administration - not seperately tracked.

- I. EMT-1 Training Program Approval
- J. EMT-II Training Program Approval
- K. EMT-P Training Program Approval
- L. MICN Training Program Approval
- M. Base Hospital Application
- N. Base Hospital Designation
- O. Trauma Center Application
- P. Trauma Center Designation
- Q. Ambulance Service License ..... Variable, Volume dependent
- R. Ambulance Vehicle Permits ..... \$100.00/vehicle
- S. Other:
- T. Other:

**TABLE 3: SYSTEM RESOURCES AND OPERATIONS**

EMT-1

1.	Total Certified EMT-1's .....	112
	a) EMT-1's employed by public agencies .....	72
	b) EMT-1's employed by private agencies .....	40
2.	Number of EMT-1's newly certified this year*	
3.	Number of EMT-1's recertified this year*	
4.	EMT-1 certificate reviews:*	
	a) Formal investigations	
	b) Suspensions	
	c) Revocations	
	d) Denials of certification	
	e) No action taken	
5.	EMT-II's - Merced County does not utilize or certify EMT II's.	
6-8		

EMT-P's

9.	Total Certified EMT-P's .....	41
	a) EMT-P's employed by public agencies .....	0
	b) EMT-P's employed by private agencies .....	41
10.	Number of EMT-P's newly certified this year*	
11.	Number of EMT-P's recertified this year*	
12.	EMT-P certificate reviews:*	
	a) Formal investigations	
	b) Suspensions	
	c) Revocations	
	d) Denials of certification	
	e) No action taken	

Other Personnel

13.	Number of MICN's employed .....	25
14.	Number of EMS dispatchers employed .....	7
	a) Number trained to EMSA standards .....	7
15.	Early Defibrillation:	
	a) Number of EMT-1(defib) employed .....	0
	b) Number of public safety (defib) employed .....	0

\*All certifications and certification actions occurring before July 1, 1993 were performed by Alpine, Motherlode, San Joaquin EMS Agency

Training Programs

16.	Number of Training Programs .....	2
a)	EMT-1 .....	1
b)	EMT-II .....	0
c)	EMT-P .....	0
d)	MICN .....	1

**TABLE 4: SYSTEM RESOURCES AND COMMUNICATIONS**

1.	Number of Primary PSAP's .....	6
2.	Number of Secondary PSAP's .....	1
3.	Number of Dispatch Centers directly dispatching ambulances .....	1
4.	Number of designated dispatch centers..... for EMS aircraft	1

**TABLE 5: SYSTEM RESOURCES AND OPERATIONS - RESPONSE AND TRANSPORTATION**

First Responder Agencies

1.	Number of fire department first response agencies	3
2.	Number of law enforcement first response agencies	1
3.	Number of other first response agencies	0
4.	Number of first response agencies providing BLS only	4
5.	Number of first response agencies providing limited ALS	0
6.	Number of first response agencies providing ALS	0
7.	Number of first response agency contracts	2

Transporting Agencies

8.	Number of fire service ground ambulance services	0
9.	Number of proprietary ground ambulance services	3
10.	Number of other ground ambulance services	1
11.	Number of ground ambulance services providing BLS only	0
12.	Number of ground ambulance services providing Limited ALS	0
13.	Number of ground ambulance services providing ALS	4
14.	Number of transport agency contracts	3
15.	Number of exclusive operating areas	4
16.	Percentage of population covered by EOAs	85%

Early Defibrillation programs

17.	Number of public safety defibrillation programs	0
	a) Automated	
	b) Manual	
18.	Number of EMT-Defibrillation programs	0
	a) Automated	
	b) Manual	

Air Ambulance Services

19.	Total medical helicopter services .....	0*
	a) Number classified as "Air Ambulances"	
	b) Number classified as "ALS Rescue"	
	c) Number classified as "BLS Rescue"	
	d) Number classified as "Auxiliary Rescue"	
20.	Total fixed wing medical services .....	0
	a) Number classified as "Air Ambulances"	
	b) Number classified as "ALS Rescue"	
	c) Number classified as "BLS Rescue"	
	d) Number classified as "Auxiliary Rescue"	
21.	Total number of responses .....	900
	a) Number of emergency response .....	Not tracked
	b) Number of non-emergency responses .....	Not tracked
22.	Total number of transports .....	163
	a) Number of emergency transports .....	Not tracked
	b) Number of non-emergency transports .....	Not tracked

Response Times (90th Percentile)

23.	BLS and CPR capable first responder	First Responder response times are not currently tracked
	a) Systemwide	
	b) Metro/Urban	
	c) Suburban/Rural	
	d) Wilderness	
24.	Early defibrillation capable responder .....	None in Merced County
	a) Systemwide	
	b) Metro/Urban	
	c) Suburban/Rural	
	d) Wilderness	
25.	ALS capable responder	
	a) Systemwide .....	Not tracked
	b) Metro/Urban .....	8
	c) Suburban/Rural .....	10/12
	d) Remote .....	15/22
	e) Wilderness .....	40
26.	EMS transport unit	
	a) Systemwide .....	Not tracked
	b) Metro/Urban .....	8
	c) Suburban/Rural .....	10/12
	d) Remote .....	15/22
	e) Wilderness .....	40

\* Currently no EMS Aircraft Providers geographically located within the jurisdiction of the Merced County EMS Agency. Agency performs authorization only.

**TABLE 6: SYSTEM RESOURCES AND OPERATIONS - FACILITIES/CRITICAL CARE**

Trauma Care System

1.	Total number of trauma centers .....	0
	a) Number of level 1 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
2.	Percentage of population within 30 minutes of a trauma center .....	0
3.	Trauma Patients .....	Not Tracked

Emergency Departments

4.	Total number of emergency departments .....	5
	a) Number of referral emergency departments .....	0
	b) Number of standby emergency services .....	2
	c) Number of basic emergency medical services .....	3
	d) Number of comprehensive emergency services .....	0
5.	Number of receiving hospitals with agreements .....	0

Medical Control Facilities

6.	Number of base hospitals .....	1
7.	Number of alternative base hospitals .....	0
8.	Total number of base hospital contacts	
	a) Emergency .....	7896 <sup>(annual)</sup>
	b) Non-emergency .....	*

Pediatric Facilities

9.	Number of pediatric critical care (non-trauma) centers .....	0
10.	Number of pediatric ICUs .....	0
11.	Number of emergency departments approved for pediatrics .....	0

Other facilities

12.	Number of emergency psychiatric facilities .....	0
13.	Number of burn centers .....	0
14.	Number of cardiac rehabilitation centers .....	1
15.	Number of spinal cord rehabilitation centers .....	0
16.	Number/type of other critical care centers .....	0

\* Base Hospital Contacts not currently tracked separately for emergency vs non-emergency

**Table 7: System Resources and Operations - Data/System Evaluation**

**TO BE ADDED**

**Table 8: System Resources and Operations - Public Info./Education**

**TO BE ADDED**

**Table 9: SYSTEM RESOURCES AND OPERATIONS--Disaster Medical**

1.	Number of casualty collection points .....	10
2.	Number of CISD teams .....	0
3.	Number of DMAT teams .....	0
4.	Number of HazMat teams .....	1
5.	Number of MCI responses .....	Not tracked
6.	Number of HazMat Responses .....	28
7.	Number of CISD team mobilizations .....	0

**Table 10: RESOURCES DIRECTORY--Training Programs**

Program Level: EMT-1

Training Institution	Contact Person	Med. Director Course Director Principal Instructor	Date approved
Merced College 3600 M St Merced CA 95348	Jo Ann Wyatt (209)384-6123	Jo Ann Wyatt Jo Ann Wyatt Michael Courtney	August 1, 1993

Program Level: MICN

Training Institution	Contact Person	Med. Director Course Director Principal Instructor	Date approved
Merced Community Medical Center 301 East 13th Street Merced, Ca. 95340	Renee' Teague (209)385-7000	George Nevatt, M.D. Renee' Teague, R.N., MICN Renee' Teague, R.N., MICN	August 1, 1993

**Table 11: RESOURCES DIRECTORY--Communications Center**

Organization Name/Address	Contact Person/ Telephone Number	Primary PSAP	Secondary PSAP	Designated Air Amb.
Riggs Ambulance Service 510 West 19th St Merced Ca 95340	Greg Bonifay (209)383-6606	NO	YES	YES

**Table 12: RESOURCES DIRECTORY--First Response Agencies**

Organization Name/Address	Contact Person/ Telephone Number	Service Level	Provider Agreement
Merced County Fire Dept./CDF 735 Martin Luther King Way Merced Ca 95340	John Robbins Division Chief (209)385-7344	BLS	YES
Merced Fire Dept 678 West 18th St. Merced Ca 95340	Richard Kleiman Division Chief (209)385-6891	BLS	NO
Atwater Fire Dept. 699 Broadway Atwater Ca 95301	Jack Junker Asst. Chief (209)357-6353	BLS	YES
Los Banos Police Dept. 945 5th St Los Banos CA 93636	William St. Marie Chief (209)827-7070	BLS	NO

**Table 13: RESOURCES DIRECTORY--Ambulance Services**

Ambulance Service Name/Address	Contact Person/ Telephone	Communities Served	Service level	Exclusive Agreement
Riggs Ambulance Service 510 West 19th St. Merced Ca 95340	Greg Bonifay (209)383-6606	Merced Atwater Livingston Le Grand Dos Palos Los Banos	ALS	YES YES YES NO NO YES
Turlock Ambulance Service 237 Locust Turlock Ca 95380	Roy Hirschhorn (209)632-2236	Delhi Hilmar Ballico Stevinson	ALS	YES
Westside Community Hospital District 151 South Highway 33 Newman Ca 95360	Chuck Koehlo (209)826-2951	Gustine Stevinson	ALS	NO

**Table 14: RESOURCES DIRECTORY--Trauma Centers**

<u>Organization Name/ Address</u>	<u>Contact Person/ Telephone Number</u>	<u>Chief of trauma and TNC</u>	<u>Level of Center</u>	<u>Date Designated</u>
0	0	0	0	0

No Trauma Center designations have occurred to this point in Merced County

**Table 15: RESOURCES DIRECTORY--Medical Control Facilities**

Organization Name/Address	Contact Person/ Telephone Number	Medical Director and PLN	Alternative Base Station?
Merced Community Medical Center 301 E 13th St Merced Ca 95340	Claude Weber (209)-385-7000	Steve Segerstrom MD Marcella Butts RN	No

# PLAN DEVELOPMENT PROCESS

## Section Six

Over the course of the past year, the Health Department has been in the process of completing the task of formally withdrawing from the Joint Powers Agreement which formed the Alpine, Mother Lode, San Joaquin EMS Agency (REMSA). Part of this process included a great deal of consensus building with the various political sub-divisions and agencies interested and/or involved in the provision of emergency medical services. In an effort to provide all parties with as much information as possible regarding the current status of EMS administration in this County, vis- -vis, what is being conducted locally vs. at the Regional level, the Health Department staff used the July, 1992 draft of the EMS Authority's System Guidelines as a tool for clarifying these questions. The resulting "EMS Proposal" constituted the initial groundwork for the development of the County's EMS Plan.

Many individuals and agencies were instrumental in the compilation of the information contained in this EMS Plan, and there are simply too many to list here. We would, however, like to publically thank the personnel within the various law enforcement agencies, fire departments, hospitals, OES, CHP, REMSA, and various departments within the County governmental structure for the information and assistance they provided, without which, this document would not exist.

As part of the official adoption of this plan by the County Board of Supervisors, the Health Department intends to send out copies of this draft to the State EMS Authority, the EMS Assessment Sub-committee of the EMCC, as well as County Administration. The Health Department will convene the EMS Assessment Sub-committee to evaluate any recommendations received from the above draft review, and revise the plan as deemed appropriate, prior to submission to the full EMCC and requesting their recommendation of approval to the Board of Supervisors.

BEFORE THE BOARD OF SUPERVISORS  
OF THE COUNTY OF MERCED

In the Matter of:

FORMAL ADOPTION OF THE  
EMERGENCY MEDICAL SERVICES PLAN  
FOR THE COUNTY OF MERCED

)  
)  
)  
)

RESOLUTION NO. \_\_\_\_\_

**WHEREAS**, pursuant to Merced County Ordinance 1301, The Board of Supervisors has designated the Department of Public Health as the Local Emergency Medical Services Agency, as provided for in Section 1797.200, Division 2.5 of the Health and Safety Code, and

**WHEREAS**, Section 1797.254, Division 2.5 of the Health and Safety Code requires local EMS agencies to submit an EMS Plan for their respective service areas annually, and

**WHEREAS**, the State EMS Authority requires, in said EMS Plan, the inclusion of a resolution formally adopting the EMS Plan from the Agency's Governing Board, and

**WHEREAS**, the Emergency Medical Care Committee, an advisory committee to the Board of Supervisors regarding emergency medical services issues, has reviewed said EMS Plan, prepared by the EMS Agency, and has recommended approval of same to this Board.

**NOW, THEREFORE, BE IT RESOLVED**, by the Board of Supervisors of the County of Merced that it hereby formally adopts the Emergency Medical Services Plan submitted by the Department of Public Health, and furthermore directs the Department to submit said Plan to the State Emergency Medical Services Authority for approval.

I, **KENNETH L. RANDOL**, County Clerk of Merced County and Ex-Officio Clerk of the Board of Supervisors of said County, do hereby certify that the foregoing resolution was regularly introduced, passed, and adopted by said Board at a regular meeting thereof on \_\_\_\_\_, by the following vote:

**SUPERVISORS:**

Ayes:

Noes:

Absent:

Witness my hand and the seal of this Board this

\_\_\_\_\_ day of \_\_\_\_\_, 1993.

**KENNETH L. RANDOL**, Clerk

By \_\_\_\_\_

Deputy

**ANNEX 1**  
**COMPLIANCE WITH AB 3153**  
(Establishment of Exclusive Operating Areas)

**Methodology for the  
Establishment of Ambulance Zones**

Following the implementation of Merced County Ordinance 1301, regarding ambulance regulations, the Health Department, in coordination with the Emergency Medical Care Committee (EMCC), was tasked with the evaluation and development of ambulance service planning areas, and the eventual establishment of ambulance response zones, both exclusive and non-exclusive. A sub-committee of the EMCC was established to carry out that directive, and after several organizational meetings, established the following criteria for consideration in the development of these ambulance response zones:

1. Use of the historical, existing emergency response zones as a beginning reference for this process.
2. EMS System demands and transportation patterns.
3. Desired pre-hospital standard of care.
4. Data collection using existing grid designations.
5. Hospital locations.
6. First responder locations.
7. Traffic patterns.
8. Demographics County-wide, and within each zone.
9. State EMS Guidelines.

The above criteria were used by this EMCC Sub-committee in the development of the ambulance response zones. The existing ambulance provider's emergency response zones were determined to be distributed in a fashion that provided for the most effective emergency response coverage, in

that they provided service to an adequate population base, for the most part, to support service in the more populated areas of the County as well as the sparsely populated regions, and were recommended for designation as either an Emergency Response Zone (ERZ) or an Exclusive Operating Area (EOA), depending on the existing ambulance provider's historical length of service to a particular zone as well as the manner and scope of the provision of prehospital care to this particular zone. As a result of this evaluation process, Riggs Ambulance Service and Turlock Ambulance Service were determined to be qualified for grandfathering as exclusive providers in four (4) of the seven (7) designated ambulance response zones. The remaining three zones have been designated as ERZ's, as the provision of care within these zones has substantively changed since January 1, 1981.

These ERZs encompass very sparsely populated areas and have historically been underserved by the EMS system. In an effort to ensure the quality of prehospital care in these areas, two of the zones were included in the performance-based provider agreement with Riggs Ambulance Service. Without their inclusion in this provider agreement, it would be impossible to attract a viable ambulance provider to service this area, due to their population base and isolated location. While some grids within these zones are allowed longer response times, due to their isolated locations, the populated areas retain the same stringent response time requirements as are found in the EOAs. In addition, all other standards for staffing, scope of practice, public education, etc., found in the provider agreement apply to these ERZs as well as the EOAs. The third ERZ is under a performance-based contract with the WestSide Hospital District Ambulance Service, which retains that provider since it is receiving District tax dollars to subsidize their operating costs. Again, this contract has the same stringent response time requirements for the populated areas within this ERZ, as discussed above. The established response zones are depicted on the map labeled as Exhibit - Annex 1, at the end of this Section.

as per  
EOA  
ERZ

On July 1, 1991, Riggs Ambulance Service (RAS) signed a performance-based, ALS ambulance provider agreement with the County, which identifies their role and responsibilities to their EOA's and ERZ's within this County, as discussed above. This agreement is reviewed and amended, as needed, annually.

On September 1, 1991, Turlock Ambulance Service (TAS) signed a performance-based ALS ambulance provider agreement for their EOA, and this agreement is also reviewed and amended annually.

RAS and TAS have undergone both monthly and annual reviews by the Agency, and are in compliance with all required standards, as set forth in their respective provider agreements.

The County has recently completed negotiations with Westside Hospital District for the development of a performance-based ALS ambulance provider agreement for their hospital district ERZ. This agreement took effect on May 1, 1993. Through a Memorandum of Understanding

between Merced and Stanislaus Counties, this ALS ambulance provider agreement includes that portion of Stanislaus County which falls into the Westside Hospital District boundary, and the Merced County EMS Agency will oversee compliance for this entire ERZ, including that portion which falls into Stanislaus County, and provide regular contract compliance reports to the Stanislaus County Director of Public Health.

Each of these performance-based ALS ambulance provider agreements was negotiated and executed without any provision for general County subsidy for any of these operations.

### **Applicability of Grandfathered EOA Providers**

During the latter part of 1989, phone conversations and written correspondence occurred between the County of Merced and the State EMS Authority, regarding the applicability of grandfathering the currently contracted EOA ambulance providers without a competitive process, due to the fact that a third ambulance provider had been in operation (on a rotational-call basis) in two of the proposed areas for approximately one and one-half years, between February, 1986 and July, 1987.

In a letter dated September 5, 1989, addressed to Barbara Green, the then Director of the Alpine, Mother Lode, San Joaquin EMS Agency, from John Huntley of the State EMS Authority, Mr. Huntley suggests that the intent of the County to grandfather the above referenced providers into specific areas of the County without a competitive process may be in conflict with the statutes regarding EOAs.

On October 17, 1989, Dr. Richard Welch, then Merced County Director of Public Health wrote a letter to Dr. Bruce Haynes of the State EMS Authority, in an effort to clarify the issues regarding the establishment of EOAs and the methodology by which the County arrived at its conclusions. In a letter of response dated December 11, 1989, again from John Huntley, the following is noted:

"Of importance in your situation, where an additional provider shared, on a rotational basis, prehospital response privileges, is the need to determine whether the county approved this action as an intentional aim to increase ambulance coverage within the affected area. If true, this would indicate that a planned change occurred and should require a competitive process to select an exclusive provider at this time."

In reviewing the events surrounding the brief inclusion of this third ambulance provider, it is clear that there was no intent on the part of the County to increase ambulance coverage within these specific areas, but rather, it was the opinion of the County that there was not a mechanism, at the time this provider applied for an ambulance license, to disallow the application as long as the applicant met the licensing requirements. Additionally, the rotational dispatching mechanism was instituted to avoid legal action on the part of this third provider, relative to an equitable share of emergency calls in their areas of operation. The County specifically avoided any re-zoning of

response areas, even though such re-zoning would have provided a better guarantee of responding the closest ambulance for any particular call. Clearly the County intended to preserve their option of future EOA development, and was convinced that this third provider would not be a long-term player in this future development. As stated previously, this provider discontinued operations after only one and one-half years.

Of greater importance, is the results of this EOA process by the County. Approximately 85% of Merced County residents reside within areas served by an EOA, and those which do not reside within these EOAs have benefited from the significant improvements in the delivery of prehospital care over the past two-three years, which is a direct result of the financial stability of the exclusive providers. The performance-based ALS ambulance provider agreements have improved the staffing levels of these providers and significantly reduced response times for all areas of the County (70% of all emergencies fall within an eight minute response time requirement, and 96% of all emergencies fall within a response time requirement of twelve minutes or less). The equipment standards have been improved dramatically, and the primary provider within the County regularly purchases new and improved diagnostic equipment (pulse oximeters, blood glucose monitors, Life-Pak 10 monitor-defibrillators, etc.). This same provider is under contract for the EMS dispatch center operations for the County, provides a Level Two EMD function and is designated as the secondary PSAP for medical emergencies for the County. This function alone saves the County hundreds of thousands of dollars annually for dispatching operations, which the County had to abandon in 1988 due to fiscal constraints.

In addition, this provider has trained over 10,000 elementary school children as "Junior Paramedics", signifying EMS system awareness and system access orientation. We believe that the long-term commitment and the public-private cooperation and coordination that has resulted from these exclusive provider agreements has greatly benefited the residents of this County and the EMS system as a whole.

## **Description of the Number and Type of Areas to be Covered**

### **Ground Ambulance Service**

As described above, the County has been divided into seven distinct ground ambulance service areas based on the criteria previously listed. As a mandatory component of the exclusive operating agreements, all ground ambulance services within the County are paramedic-level ALS transportation services. In fact, the only area that is allowed limited BLS back-up service is the West Side Hospital District (WSHD). This allowance was made due to: their isolated location; an area that supports only one ALS ambulance (with local tax subsidy); and regular patient transportations to the Modesto area approximately 35 miles from their area of responsibility. It

should also be noted that WSHD is not an exclusive operating area. The allowed use of a BLS ambulance response by this provider does not stop the ALS clock, relative to their response time compliance requirements, and they must concomitantly dispatch the closest ALS ambulance from an adjacent provider for transportation.

These traditional service areas incorporate both urban population centers (some of modest total population) and more sparsely populated rural areas, which attempts to provide both an adequate population-base to support the service, as well as Paramedic-level ALS transportation to rural areas that otherwise could not support such service.

### **Air Ambulance Service**

Air Ambulance Service became available to Merced County in 1979 through Medi-Flight of Northern California, operated by Memorial Medical Center in Modesto. Over the course of the last 14 years, Medi-Flight has been a very responsible, effective and efficient partner to the County of Merced in the management and transportation of critically injured and ill patients from this County, to critical care centers in Modesto, Fresno, Sacramento and the Bay Area. Due to the limited ability of the local hospitals to manage these critical patients, helicopter service has been crucial to the effective management of these patients.

In April, 1992 Merced County began utilizing a simultaneous helicopter dispatch policy for specific types of EMS incidents (e.g. falls greater than 20 feet, high speed MVAs, penetrating trauma, etc.). This policy requires the response of an air ambulance simultaneously with the responding ground units for incidents meeting the above referenced criteria.

In an effort to ensure the continuation of this invaluable service to this County, the Agency is currently pursuing several steps aimed at improving air ambulance utilization. It is felt by the Agency that the very expensive nature of this type of pre-hospital care requires on-going efforts on the part of the Agency to ensure both the effective and efficient use of air ambulances within this system. The simultaneous dispatch mechanism has been recently amended to decrease the cancellation rate of responding air ambulances, while maintaining their response for those areas and incidents with the greatest identified need. The Agency is currently in the process of establishing trauma triage guidelines to assist in the transportation decisions, relative to air ambulances, in an effort to ensure the appropriateness of these transports.

Additionally, the Agency is in the process of developing an exclusive air ambulance operating area with Medi-Flight of Northern California for the majority of Merced County. This step is important in the continued viability of their operations within this County, and is particularly prudent when one examines the operations of Medi-Flight, not only within this County, but within their entire service area.

Medi-Flight operates primarily within three EMS systems; the Alpine, Mother Lode, San Joaquin EMS jurisdiction, San Joaquin County EMS jurisdiction and the Merced County EMS jurisdiction. Within this operating area, Medi-Flight averaged 66 transports per month (14 per month with the Merced County system). This provider has two helicopters, one of which is 24 hours a day and the second operating 12 hours a day during the historical "peak" hours.

In the November, 1989 publication of The Journal of Air Medical Transport , it was noted that studies have shown that a single helicopter can effectively manage 70-90 transports per month (depending on the distance of response incidents and location of patient destinations) while maintaining an acceptable level of missed responses. It was also noted that a survey of air ambulance programs showed that an average of 74.5 transports per month were performed prior to the addition of a second helicopter. Using a figure of 70 responses per month as a maximum effective response volume for a single helicopter, Medi-Flight can be expected to effectively manage 105 transports per month (1.5 helicopters x 70). As noted above, the current volume of helicopter transports within the three previously referenced EMS jurisdictions averaged 66/month, well within the maximum effective transport volume of 105/month. Clearly, there is not now, nor in the foreseeable future, a need for additional helicopter providers within the proposed exclusive operating area (see map, exhibit 1). Additionally, an air ambulance consultant from Fitch and Associates recently presented an overview of trends in air ambulance operations nationwide to the Board of Directors of the Alpine, Mother Lode, San Joaquin EMS Agency. She described an industry that is in trouble in many areas of this country, primarily due to destructive, duplicative competitive practices of competing air ambulance operations. In at least one metropolitan area of this country, the two competing air ambulance operations closed their doors, leaving the EMS system without helicopter service.

A Sub-committee of the EMCC will be working with Agency staff, beginning in September, 1993, to begin preparations for the development and implementation of appropriate air ambulance EOA(s) within this system, as well as examining the possible development of non-exclusive response areas which may be better served by closer air ambulance operations.. As Medi-Flight has provided uninterrupted helicopter services within this County since 1979, it is anticipated that they will qualify for EOA grandfathering, and this process will not require a Request for Proposals process. The proposed minimum criteria for such an exclusive contract would include:

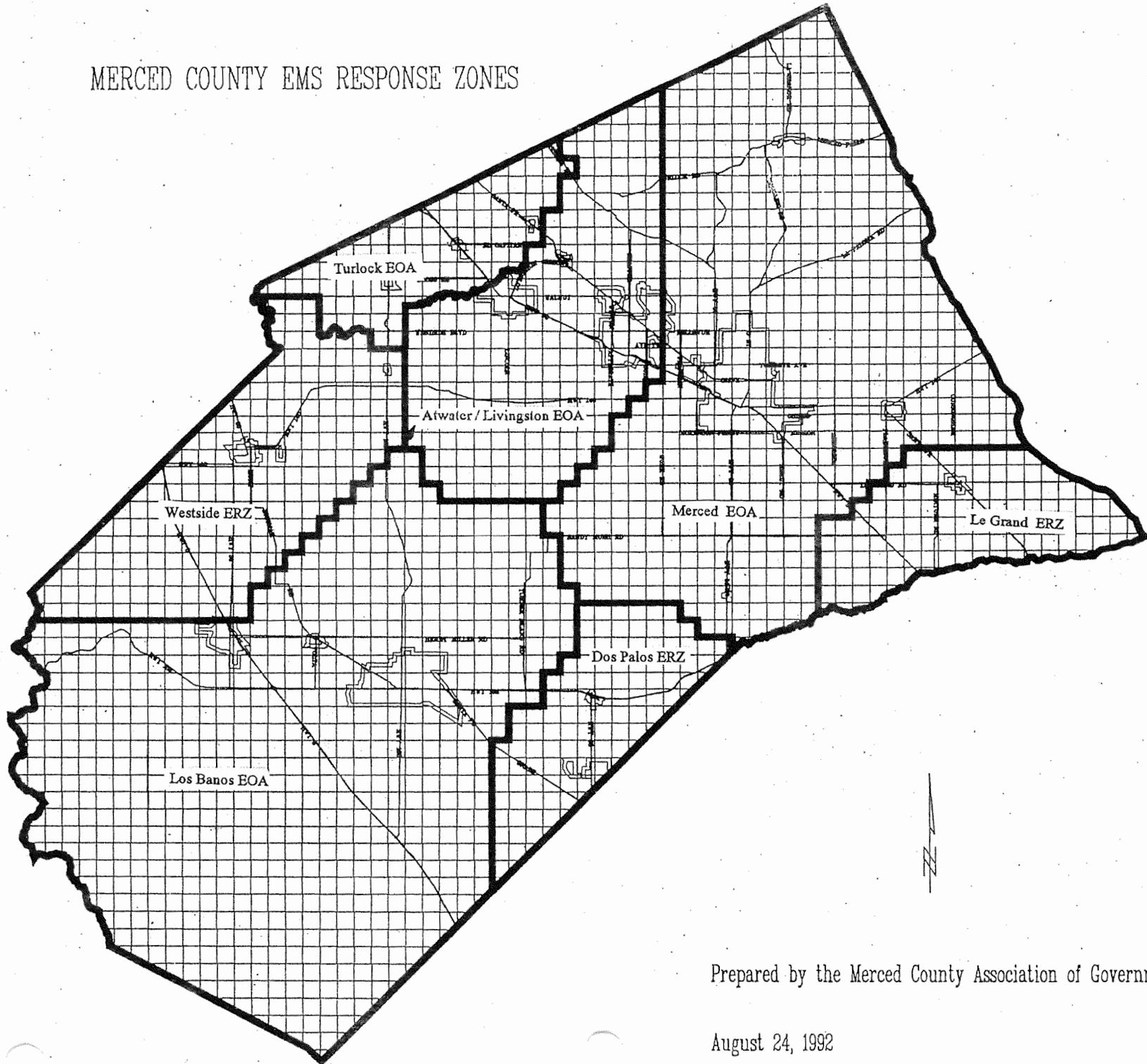
- ❖ Maximum lift-off times (90th percentile)
- ❖ Response time compliance based on concentric response time radials (90th percentile)
- ❖ Maintenance of their dispatch center and coordination of air ambulance mutual aid
- ❖ Compliance with all local, state and federal regulations, policies, etc.
- ❖ Compliance with all AAMS safety standards as a minimum
- ❖ Minimum staffing requirements
- ❖ Maintenance of their current scope of practice/standard of care, at a minimum
- ❖ Incorporation of provider into the Agency Quality Improvement process

- ❖ Standard indemnification/hold harmless language
- ❖ Liability and medical malpractice insurance coverage
- ❖ Maximum allowable rates for service
- ❖ Provision of regular public education presentations

By pursuing the development of an exclusive operating area(s), the agency will be providing for: the stabilization of services; continuation of a simple and efficient one-call dispatching mechanism; the financial viability of air operations relative to this County; the maintenance of high quality prehospital care for critical patients, including the continuation of the simultaneous dispatching arrangement; as well as the continued practice in this County of stringent regulation and oversight of the delivery of prehospital emergency medical services.

# MERCED COUNTY EMS RESPONSE ZONES

Map Exhibit - Annex 1



Prepared by the Merced County Association of Governments

August 24, 1992

## EMERGENCY MEDICAL SERVICES AUTHORITY

1930 9TH STREET, SUITE 100  
SACRAMENTO, CA 95814-7043  
6) 322-4336  
FAX (916) 324-2875



July 20, 1994

Chuck Baucom  
EMS Administrator  
Merced County EMS Agency  
P.O. Box 471  
240 East 15th Street  
Merced, CA 95340

Dear Mr. Baucom:

A review of *Merced County's Emergency Medical Services Plan: 1993-94* has found the plan to be in compliance with H&S Code Section 1797.250 and the *EMS System Planning Guidelines*.

As you are aware, this year the *EMS System Guidelines* have been finalized. The *EMS System Planning Guidelines* are in their final review stage at the Health and Welfare Agency. The anticipated release date is August 1994.

Merced County's plan has been prepared during the transitional period between the old and new guidelines. It is very apparent by the Plan's completeness in content and format that it was prepared based on a draft of the final *Guidelines*; however there have been a few changes in the final *Guidelines*. In order to avoid unnecessary duplication for Merced County, this Plan may be considered its five-year base plan. Merced County has the following options for its March 1995 submission:

1. Submit an entire five-year plan based on the final *EMS System Planning Guidelines*;
2. Use the FY 1993-94 plan as its five-year base plan and submit an update to the plan using the final *EMS System Planning Guidelines* annual update process.

If option two (2) is chosen, follow the instructions in Part 2 of the *EMS System Planning Guidelines, Annual Workplan Format and Contents*. The exception to those instructions is that the first update for Merced County would be due by March 1995 with the second update due October 1996. Please be sure to include those items requested in the final guidelines that were not included in the FY 1993-94 Merced County EMS Plan. A list of those items are attached.

Mr. Chuck Baucom  
July 20, 1994  
Page 2

If you have any questions, please call me at (916) 322-4336, extension 313.

Sincerely,

A handwritten signature in cursive script that reads "Laura Venegas". The signature is written in black ink and is positioned above the typed name and title.

Laura Venegas  
EMS Systems Planner

LV:jmd

Attachment