California's Trauma Care

Trauma Fund Utilization:
A Follow-up Report
to the California Legislature

Lessons Learned
and
Future Needs

June, 2004

CALIFORNIA'S TRAUMA CARE

TRAUMA FUND UTILIZATION: A FOLLOWUP REPORT TO THE CALIFORNIA LEGISLATURE

LESSONS LEARNED AND FUTURE NEEDS

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2000 California Trauma Map

2004 California Trauma Map

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Lessons Learned and Future Needs

Sierra-Sacramento Valley Emergency Medical Services Agency

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PREFACE:

The project oversight was provided by the Sierra-Sacramento Valley Emergency Medical Services Agency.

A Project Team comprised of professionals in the field of trauma care provided invaluable support, guidance, and input to the project.

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INTRODUCTION

Three reports(1) 1985 - *Injury in America: A Continuing Public Health Problem,* (2) 1989 - *Cost of Injury in the United States – A Report to Congress* and (3) 1999 - *Reducing the Burden of Injury: Advancing Prevention and Treatment* documented the extent of injuries on Americans, both in economic costs and in human suffering. Across the country, states and local jurisdictions began to look at methods to reduce injury and death. The American College of Surgeons took a leadership role in describing methods, both organizational and clinical, to improve the outcomes for victims of critical injury. Tremendous energy, enthusiasm, time, and resources have been poured into reducing the mortality and morbidity of critically injured patients. The medical literature is replete with evidence of improved outcomes for the injured.

However, in America trauma continues to be the leading cause of death of people ages one through thirty-four. Motor vehicle crashes are the leading cause of unintentional injury deaths in ages one through sixty-four (Appendix A).

TRAUMA FACT

In 2002, 22,926,000 persons were injured in motor vehicle crashes. The number killed was 42,815.

In 2000, a Preventive Health Care Block Grant from the CDC through the State of California Emergency Medical Services Authority (EMS 2063) awarded to the Sierra-Sacramento Valley Emergency Medical Services Agency, resulted in a report entitled, "*California's Trauma Care: In Crisis.*" This report, along with other key statewide efforts, resulted in Assembly Speaker Robert Hertzberg and Assembly Member Helen Thomson introducing milestone legislation to provide State funds for stabilization and expansion of the trauma care system. The Legislature and the Governor through budget allocations acknowledged the importance of trauma care by appropriating $27.5 million in funding for FY 2001/02 and $20 million for FY 2002/03. Due to California's critical budget shortfalls, trauma care funds were not included for the FY 2003/04 State budget.

This report will:

- Describe how the Trauma Care Funds were utilized.
- Analyze the impact the funds had on trauma care, including lessons learned from the analysis.
- Describe the current status of trauma care.
- Provide recommendations for improving trauma care.
- Explore further funding options and provide recommendations for continuing trauma care funding.

Note: The California Emergency Medical Services Authority (EMSA) contracted with the Department of Finance (DOF) to conduct a special review of selected Local Emergency Medical Services Agencies (LEMSAs) to review the processes and procedures used to disperse trauma care funds. This review includes:

- procedures established for distribution of funds
- processes used for compiling and reporting pertinent information
- definitions of trauma patients
- policies and practices of auditing hospital supplied information

The DOF review did not determine the appropriateness of hospital utilization of funds. The DOF review is not finalized as of the date of this report.

The Addendum contains additional detailed information.

EXECUTIVE SUMMARY

What We Learned:

- The goal of establishing a coordinated California trauma care system has **not** been achieved. However, the Trauma Care Fund provided for indigent care, physician on-call panels and trauma registries. This clearly stabilized some trauma care systems that were in danger of collapse (avoiding the domino effect to other trauma centers), thus allowing additional time to establish a statewide trauma system.

- **California continues to lack a statewide coordinated trauma system** largely due to insufficient funding for needed infrastructure, trauma hospital and physician readiness. Uncompensated and under compensated care also remain under funded.

    1. California and LEMSAs need significantly more funding to develop statewide and local infrastructure for trauma. A trauma system includes trauma registries, system monitoring/evaluation, education/continuing education of prehospital/hospital personnel, injury prevention, community outreach and planning. In many LEMSAs, trauma hospitals must assist in offsetting LEMSA infrastructure costs, an additional unfunded financial burden for trauma hospitals.

    2. Trauma hospitals do not have adequate funds to prepare for potential terrorist attacks. Preparedness funding to date has been largely directed to public health programs for bioterrorism preparedness, despite the fact that nearly all terrorist activities (including 9/11) have resulted in blast and explosive injuries. A health advisory from the CDC emphasized the need to implement precautions related to mass trauma (Appendix B).

        Congressional Representative Curt Weldon, a member of both the House Select Committee on Homeland Security and the House Armed Services Committee cited a recent report prepared by the National Foundation for Trauma Care (4). He stated in the Federal News, "Although approximately one billion dollars of federal funds has been authorized for state bioterrorism preparedness, the nation's trauma centers have received little or nothing" (5).

3. Funds are **not** available for maintaining trauma hospital "readiness." Readiness requires trauma hospitals on a 24 hours a day, seven days a week basis to maintain the capability to care for the critically injured. This includes the cost for availability of surgeons, anesthesiologists, nurses and other surgical team members. Readiness also includes the availability of operating rooms, laboratory and radiology services. Trauma hospitals incur readiness expenses despite a lack of reimbursement. As with public safety responders, i.e. law enforcement, fire and paramedics, trauma hospitals must be prepared to respond regardless of whether trauma services are utilized.

4. Hospital accounting methods often do not have the ability to capture "readiness" costs for inclusion in patient charges and subsequent billings.

5. A trauma hospital's financial viability is based upon the ability to bill and collect. The indicators of trauma program success include the number of patients, source of payment, and the rates paid by insurers or government programs. If patients have no third-party coverage or other financial resources, trauma hospitals absorb the costs.

- As previously mentioned a total of $27.5 million was appropriated for FY 2001/02 and $20 million was appropriated for FY 2002/03. EMSA withheld its administrative costs ($280,000) plus the mandated six percent in reserve, which resulted in an initial distribution of $23,220,000 in FY 2001/02 and $18,520,000 in FY 2002/03 (Chart I).

- The six percent reserve fund was subsequently distributed bringing the total distribution to $24,717,668 for FY 2001/02 and $19,720,001 for FY 2002/03 (Chart II).

- For the most part, LEMSAs utilized the Trauma Care Fund in the manner prescribed by statute and by written EMSA directive (Appendix C).

- Some LEMSAs and trauma hospitals (primarily Level I teaching hospitals) used the funds to meet infrastructure needs and additional responsibilities of Level I hospitals (refer to Matrices, page 29).

- The Trauma Care Fund dollars were essential for maintaining those trauma centers with large numbers of uncompensated patients. In some LEMSAs, funding assisted in maintaining the trauma systems. In others, the funding provided some essential basic equipment (survey, Appendix D).

- In FY 2001/02, the funding included $2.5 million for planning purposes to those LEMSAs that did not have an EMSA approved trauma plan (Chart III). Ten LEMSAs applied for and received planning funds, resulting in eight EMSA approved trauma plans. These plans are in varying stages of implementation (Chart IV).

- Ventura and Monterey did not apply for planning funds. The Local EMS agency for Monterey County has recently applied for an EMSA special projects grant. To date, no formal planning efforts are underway in Ventura County.

- Although, Solano County received planning funds there has been no plan submitted to EMSA to date.

- In FY 2001/02 the six percent held in reserve was slated to provide funding to new trauma hospitals that were implemented after January, 2002.

- The trauma care funds and the reserve fund resulted in the addition of seventeen trauma hospitals, primarily Level III's and Level IV's, during FY 2001/02 and FY 2002/03. (Chart V)

- Pediatric trauma hospitals are located in some metropolitan areas and remain a scarce resource statewide.

- Trauma system fragmentation is due largely to lack of a statewide trauma system. There is a lack of resources at local levels and inconsistent policies.

- There is minimal funding for rehabilitative services for critically injured patients. Funding is **not** earmarked for trauma rehabilitation.

The map included with this report entitled, ***"California Trauma Centers 2004,"*** reflects the levels of trauma hospitals and their locations. The white area reflects LEMSAs that have EMSA approved trauma plans. The orange area reflects LEMSAs with planning efforts underway as a result of the $2.5 million appropriation in FY 2001/02. The red area reflects the LEMSAs (Solano, Ventura and Monterey) that do not have a trauma plan. A map showing the status of trauma care prior to FY 2001/02 funding is included for comparison.

TRAUMA FACT
Traffic crashes are the leading killer of children age two and over.

RECOMMENDATIONS

What we still need to do in California

- **Identify funding sources**. Without adequate funding California trauma care will remain inconsistent across the state, with some areas lacking access to trauma care.

- Establish a statewide adult and pediatric trauma system. This recommendation is consistent with the EMSA's Trauma Advisory Committee recommendation. The committee is exploring a regionalized model for a state trauma care system. Each region would include all the necessary components of a trauma system (adult and pediatric care, Level I teaching hospitals, rehabilitation, etc.). The transportation infrastructure needs to be improved and expanded.

- Identify sources to fund designated trauma hospitals for "readiness" costs.

- Fund "readiness" based upon hospital financial data.

- Identify appropriate payor sources and funding levels of hospital and physician payment for all patients sustaining major injuries.

- Fund trauma hospitals proportionate to their designated level and need for reimbursement.

- Promote efforts to ensure that designated trauma hospitals receive a sufficient share of federal terrorism preparedness funds. These funds should be commensurate with threat levels observed from previous terrorists attacks that involved blast and explosive injuries.

- Establish statewide definitions of trauma terms in order to distribute funding in an equitable manner. These terms should include *trauma patient, indigent,*

non-pay, uncompensated care, trauma registry requirements, triage criteria, etc.

- Work with advocacy groups and legislative representatives to obtain trauma funding.

- Expand pediatric trauma care availability. This includes designating additional pediatric trauma hospitals, improving transportation and transfer capabilities. Minimize the need for children to be treated at adult trauma centers.

- Urge LEMSAs without approved plans to write and obtain EMSA trauma plan approval, then implement local trauma systems.

IMPLEMENTATION OF THE STATE TRAUMA CARE FUND

On August 9, 2001, the Governor signed Assembly Bill 430, thereby creating the Trauma Care Fund in the State Treasury (H&SC Sections 1797.198 and 1797.199).

The resulting appropriations marked a milestone by becoming the first time trauma funds, were included in the State budget specifically as a line item.

In FY 2001/02 six percent of the trauma fund was held in reserve for new trauma hospitals ($1.5 million) and EMSA withheld the allowable administrative costs ($280,000). The funding available for distribution through LEMSAs for designated trauma hospitals was $23,220,000. LEMSAs that did not have designated trauma hospitals located within their geographic boundaries did not receive funding, even though they had an EMSA approved Trauma Plan. These plans required transport of trauma patients to trauma hospitals located within other LEMSAs. LEMSA's were permitted to withhold one percent of their available funding for administrative costs. Not all LEMSAs utilized this option; some distributed all funds to designated trauma hospitals.

The FY 2001/02 Trauma Care Fund also provided one-time funding for the preparation and implementation of trauma care system plans in those LEMSAs that did not have an approved trauma plan. The California Trauma Care Fund included $2.5 million for planning, another major milestone in the effort to develop a statewide trauma hospital system.

In FY 2002/03 the Governor and Legislature appropriated $20 million to the Trauma Care Fund. After withholding the six percent reserve fund (1.2 million) and EMSAs allowable administrative costs ($280,000), $18,520,000 became available for distribution to LEMSAs. To review the methodology for distribution to LEMSAs, refer to the accompanying Addendum.

California still remains without a legislated statewide trauma system to care for victims of critical injuries (refer to enclosed map entitled, "California Trauma Hospitals 2004").

Chart I:

Trauma Care Fund Distribution	**2001/02**	**2002/03**
Total Trauma Care Fund	25,000,000	20,000,000
6% Reserve Fund Amount (subtract)	(1,500,000)	(1,200,000)
Subtotal	23,500,000	18,800,000
EMSA Administration Costs (subtract)	(280,000)	(280,000)
Total Trauma Care Fund for Initial Distribution	**$23,220,000**	**$18,520,000**

It was the Legislature's intent that trauma care funds be spent on trauma services. EMSA directed the LEMSAs to take the following factors into consideration when determining the formula for distribution of funds to each trauma hospital:

1. Volume of uninsured trauma patients.
2. The high number of uninsured trauma patients compared to the total number of trauma patients.
3. The severity of injury of uninsured trauma patients

The Interim Director of EMSA issued a memorandum, based upon consultation with the EMSA AB 430 Committee regarding recommendations for trauma care fund expenditures
(Appendix C).

- Hospital services for indigent trauma care
- Specialty physician on-call coverage
- Trauma registry improvements

How LEMSAs Utilized Their Trauma Care Funds

Chart II: **Total Dollars Allocated**

LEMSA'S Eligible for Funding	2001/02	2002/03
Alameda County EMS	1,679,539	1,072,046
Coastal Valleys Regional EMS (Napa, Sonoma & Mendocino)	450,592	329,107
Contra Costa County EMS	648,175	418,040
Fresno/Kings/Madera Regional EMS	564,576	634,987
Inland Counties Regional EMS (Mono, Inyo, San Bernardino)	219,702	1,487,145
Kern County EMS	75,000	588,150
Los Angeles County EMS	7,223,611	5,550,841
Marin County EMS	129,156	206,974
Northern CA Regional EMS (Siskiyou, Modoc, Trinity, Shasta, Lassen, Tehama, Glenn, Butte, Plumas, Colusa, Sierra)	485,151	611,846
Orange County EMS	1,612,892	1,188,128
Riverside County EMS	1,568,344	1,031,320
Sacramento County EMS	1,853,334	1,451,404
San Diego County EMS	4,900,196	2,782,223
San Francisco EMS	938,085	587,035
Santa Barbara EMS	405,167	329,815
Santa Clara EMS	1,494,068	1,038,760
Sierra-Sacramento Valley EMS (Placer, Yolo, Yuba, Sutter, Nevada)	470,080	412,180
TOTAL:	**$24,717,668 (1)**	**$19,720,001**

Note 1: Includes remaining funds from 6% unused reserve fund. EMSA retained $280,000 each fiscal year for administrative costs, as permitted by statute. EMSA utilized the funds in the following manner: trauma personnel, fiscal contract services, AB 430 committee support expenses, equipment, and supplies.

Following a review of each LEMSA's annual utilization report, the trauma care funds were divided into seven categories: indigent care, on-call physicians, equipment, education, trauma registries, other medical personnel, and injury prevention. These categories represent the spending patterns of the LEMSA's.

MATRIX I details the expenditures by trauma hospital in each LEMSA for FY 2001/02. The accompanying Addendum contains detailed information on significant variations or when additional explanations are noteworthy.

MATRIX II compares FY 2001/02 spending categories and patterns by level of trauma hospital (Level I, II, III, and IV) and stand-alone pediatric trauma hospitals.

- **Level I Trauma Hospitals:**

  University Medical Center (Fresno) spent 94% on indigent care and 6% on registry.

  Los Angeles County-USC Medical Center, King-Drew Medical Center, Harbor-UCLA Medical Center, UCLA Medical Center, Cedars-Sinai Medical Center and University of California Irvine Medical Center expended all funds on indigent care and physician on-call panels.

  The remaining Level I teaching hospitals used funds for equipment, education, registry, and other medical personnel, i.e., to assist with endowing a Chair in Trauma Outcomes and Prevention Research, a psychiatric nurse for trauma clinics, nurse practitioners and physician assistants. Although teaching hospitals cared for large numbers of uninsured trauma patients, some reported that systems were not in place to ensure that available funds, in fact, were directed to trauma programs within those hospitals. Additionally, in some teaching hospitals, residents are available in-house to provide 24 hour physician coverage; therefore, teaching hospitals generally do not have all the costs associated with maintaining specialty physician on call panels.

  Trauma programs should begin with trauma prevention efforts, (often the last element to be funded). Some Level I hospitals determined that indigent trauma patients were best served by implementing and improving trauma prevention efforts. Accordingly trauma funds were spent to enhance and formalize trauma prevention programs.

  The expenditures by some Level I hospitals, while valid and important, can lead one to conclude that funding indigent care and physician call panels was not a major issue. All Level I hospitals reported caring for a significant number of indigent patients. These hospitals determined that there was a greater need to fund trauma infrastructure, i.e., paging systems, telephone systems, injury prevention, education, and consultants for helipad construction.

- **Level II Trauma Hospitals:**

With three exceptions, Level II trauma hospitals used funding for indigent care and on-call physician issues.

- **Level III and Level IV Trauma Hospitals:**

Of the fifteen Level III and Level IV trauma hospitals, seven used all available funding for indigent care and physician on-call panels. Four used funds for a combination of equipment, trauma registry costs, indigent care and physician call panels. In some hospitals, the funds covered the purchase of a variety of needed equipment, i.e., fluid/blood warmers, blanket warmers, ECG monitors, etc.

One Level III used all the funds for a trauma injury prevention program.

- **Pediatric Trauma Hospitals (Stand-alone):**

The three stand-alone pediatric trauma hospitals utilized funding for indigent care, on-call physicians, and a small portion for equipment.

MATRIX III details the expenditures by each trauma hospital in each LEMSA for FY 2002/03. The accompanying Addendum contains detailed information where variations occurred or when additional explanations are noteworthy.

MATRIX IV compares FY 2002/03 spending categories and patterns by level of trauma hospital (Level I, II, III, IV) and stand-alone pediatric trauma hospitals.

The patterns observed among the various levels of trauma hospitals were nearly identical to those observed during FY 2001/02. University Medical Center (Fresno), Los Angeles County-USC Medical Center, King-Drew Medical Center, Harbor-UCLA Medical Center, and Cedars-Sinai Medical Center expended all funds on indigent care and physician on-call panels. The remaining Level I teaching hospitals used funds to support trauma hospital infrastructure, including continuing education, helipad studies, staffing, and to enhance other trauma program requirements, such as injury prevention and outreach programs. Loma Linda University Medical Center, however, expended 66% of its funds on indigent care, unlike FY 2001/02 when no funds were spent on indigent care.
(Addendum)

How LEMSAs Utilized the $2.5 Million Planning Fund and How It Impacted Trauma Care

Trauma planning grants were available to those LEMSAs that did not have an approved trauma plan. Ten LEMSAs representing 16 counties received funding to develop a trauma care system.

CHART III: LEMSAs Receiving Trauma Planning Funds FY 2001/02:

Local EMS Agencies that submitted Trauma Plans	Amount Funded
Imperial County	210,000.00
Mountain Valley Region (Alpine, Amador, Calaveras, Mariposa, Stanislaus)	353,657.00
North Coast Region (Del Norte, Humboldt, Lake)	310,345.00
San Benito County	231,064.00
San Joaquin County	365,695.00
San Luis Obispo County	265,178.00
Santa Cruz County	281,717.00
Solano County *	45,050.00
Tulare County	219,800.00
Tuolumne County	110,494.00
TOTALS:	**$2,393,000.00**

*Note – Solano County did not submit a trauma plan to EMSA.

Chart IV provides the current status of LEMSA planning efforts to date:

CHART IV: Status of LEMSAs Planning Efforts 2001 – 2002

Trauma Planning & Implementation Progress						
EMS Agency		**Trauma Plan**			**Implementation**	
	Submitted	**Approved**	**Pending**	**Partially**	**Fully**	**Anticipated**
Imperial		11/03			4/2/04	
Mountain Valley		6/03		X(1)		
North Coast		7/03		X(2)		7/05(3)
San Benito		7/03		X(3)		
San Joaquin		6/04	X			11/04
Santa Cruz	9/03	10/03	X	X(4)		1/05
San Luis Obispo	5/04					6/04
Tuolumne	3/03	3/04				5/04
Tulare		3/04				

On February 4, 2004, Mountain Valley EMS Agency activated Doctors Medical Center and Memorial Medical Center, both in Stanislaus County, as Level II trauma hospitals.

On April 1, 2004, Imperial County EMS Agency activated two Level IV hospitals: El Centro Regional Medical Center and Pioneer's Memorial Health District.

1. Mountain Valley EMS: Two Level II's designated; application for two Level IV's and one Level III being reviewed.
2. North Coast EMS: Designation site visits need to be conducted; without additional funding, trauma system cannot be implemented.
3. San Benito EMS: Designation of a Level IV will occur in April, 2005.
4. Santa Cruz EMS: Trauma policies implemented January, 2004.

CHART V

Trauma Hospitals Added in Fiscal Years 2001-02 & 2002-03		
Fresno County EMS Agency – Children's Central Valley	Level II Peds	October, 2002
Imperial County EMS Agency – Pioneers Memorial Healthcare District	Level IV	March, 2004
Imperial County EMS Agency – El Centro Regional Medical Center	Level IV	March, 2004
Kern County EMS Agency – Kern Medical Center	Level II	November, 2001
Mountain Valley EMS Agency – Stanislaus County – Doctors Medical Center	Level II	February, 2004
Mountain Valley EMS Agency – Stanislaus County – Memorial Medical Center	Level II	February, 2004
Northern CA EMS Agency - Siskiyou County – Fairchild Medical Center	Level III	December, 2001
Northern CA EMS Agency – Shasta County – Redding Medical Center	Level III	December, 2001
Northern CA EMS Agency – Tehama County – St. Elizabeth Medical Center	Level III	December, 2001
Northern CA EMS Agency – Shasta County – Mercy Medical Center	Level IV Level III	December, 2001 June, 2002
Northern CA EMS Agency – Butte County – Oroville Medical Center	Level IV Level III	December, 2001 June, 2002
Northern CA EMS Agency – Shasta County – Mayers Memorial District Hospital	Level IV	December, 2001
Northern CA EMS Agency – Plumas County – Indian Valley Health District	Level IV	December, 2001
Northern CA EMS Agency – Colusa County – Colusa Regional Medical Center	Level IV	December, 2001
Northern CA EMS Agency – Glenn County – Glenn County Medical Center	Level IV	July, 2002
Northern CA EMS Agency – Plumas County – Seneca District Hospital	Level IV	December, 2002
Sierra-Sacramento Valley EMS Agency – Yuba County – Rideout Memorial Hospital	Level III	December,2001

The following LEMSAs are in the process of updating their previously approved trauma plans to comply with revised State Trauma Regulations that were adopted in 1999:

El Dorado EMS
Merced EMS
San Mateo EMS

TRAUMA SYSTEM FUNDING

Trauma hospitals decrease mortality and morbidity resulting from critical injuries. Medical literature is replete with studies documenting successes of trauma hospitals and trauma systems. Yet many trauma hospitals/systems continue to struggle financially. In order to maintain a state of readiness for trauma care, the costs far exceed that of a basic emergency department. Readiness must be maintained regardless of revenue.

Local, regional and state trauma systems incur significant expense to maintain the system. These expenses include trauma registries, physician on-call panels, quality assurance programs, monitoring and evaluation, communications, and education. The public considers trauma hospitals to be part of the public safety network (law enforcement, fire and paramedic.) In California, there exists no permanent funding source for trauma.

In the 1970's federal transportation dollars served as the impetus for states to begin trauma system development. Federal funding has decreased. Since 9/11, with the increased threat of terrorism by blast and explosive means, the federal government has included limited amounts of terrorism preparedness funds specifically for trauma and burn services. The majority of available preparedness funding has been directed to public health programs to prepare for bioterrorism events although experience tells us that future terrorists' events are most likely to involve blasts and explosives.

The costs of planning and implementing trauma care have been borne largely by counties and participating hospitals. Unfortunately, due to severe budget shortfalls, the State has not provided any additional funding for implementing the trauma plans in those areas that received initial trauma planning funding.

The cost of maintaining trauma systems is not fully documented. Some trauma hospitals, largely through their trade associations, provide actual cost information, both direct and indirect. Yet, this information is considered proprietary by many and, as a result, there is no statewide trauma cost data.

Trauma hospitals can identify payor groups, although not all LEMSA's collect this information. Generally, trauma hospitals group expenditures into direct and indirect categories noted in Appendix E. A recent report prepared by the National Foundation for Trauma Care states that, collectively, trauma hospitals in the nation experience a one billion dollar loss (6).

The following are examples of cost and financial information:

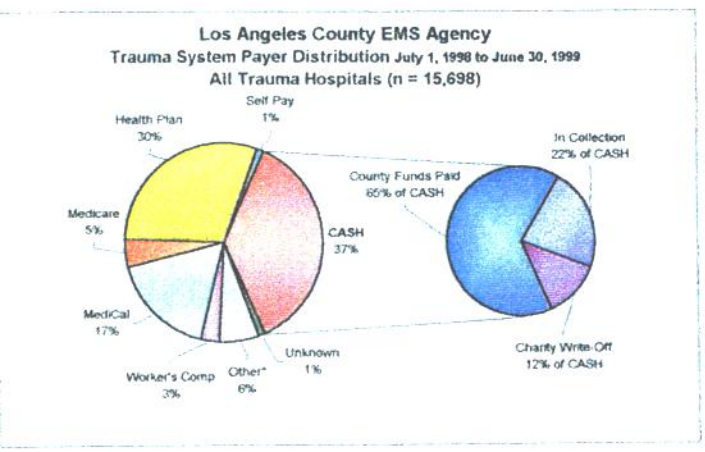
Trauma Hospital Readiness Costs (Florida)

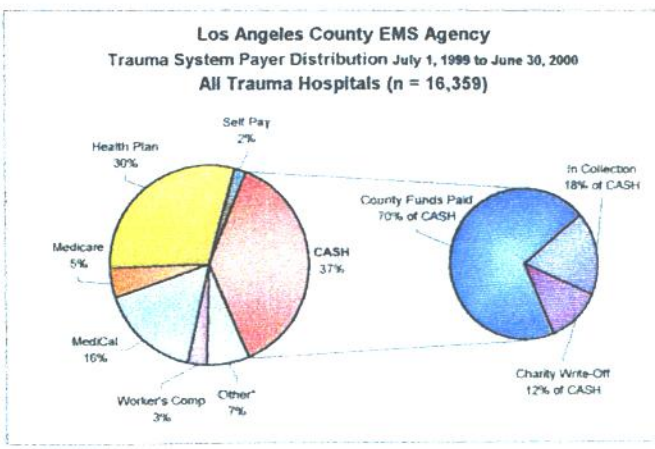
A recent scientific paper entitled, "The Cost of Trauma Center Readiness" acquired data from ten out of twenty trauma hospitals in Florida. Ninety percent of the responding trauma centers pay for on-call physician coverage. The median annual compensation for on-call physician coverage is approximately $2.1 million. The total median cost of readiness for each trauma center is approximately $2.7 million annually (7).

Trauma Hospital Payor Source (Los Angeles County):

In *California's Trauma Care – In Crisis*, Los Angeles County provided payor source information for FY 1997-98 that indicated that thirty-two percent of trauma patients treated at private trauma hospitals had a minimal payor source through limited County funds from tobacco tax and Maddy Emergency Medical Services Funds. For FY 1998/99 and FY 1999/00, *Los Angeles County Trauma System Payor Distribution Reports* reflect that payor categories remain nearly identical from year to year (for all trauma hospitals, public and private).

CHART VI – LOS ANGELES COUNTY PAYER DISTRIBUTION





Summary of Project Income Trends for Trauma Hospitals (San Diego and Imperial Counties)

The *Healthcare Association of San Diego and Imperial Counties* commissioned a study to assess the financial position of six trauma centers in San Diego. The scope of the project was limited to the care of acute trauma patients from their admission into the trauma hospital through discharge. The scope of the study did not include emergency department services, prehospital transport, or post-hospital care.

The study utilized historical data from the San Diego trauma registry, estimates of population growth, projected payor sources, revenues and estimated increased operating costs. The study projects a 15% increase in population, a 22% increase in the senior population, a fairly constant number of inpatient admissions, and an increase in estimated revenues (30.8% over the study period) but a significant increase (45%) operating cost. (Chart VII & VIII)

The report concludes that the net trauma income is expected to decline, resulting in an estimated net operating loss of $4,106,607 in the year 2006. (8)

CHART VII:

Summary of Trends for the Six Trauma Centers Combined						
	Actual	Estimated				
	2001	2002	2003	2004	2005	2006
Trauma Cases	8892	9157	9351	9578	9800	10063
Net op. income (loss)	8,170,438	1,135,666	(996,848)	(1,921,677)	(2,960,259)	(4,106,607)
Net revenue/case	12,291	12,421	12,841	13,269	13,730	14,205
Operating exp./case	11,372	12,297	12,948	13,470	14,033	14,612
Net Income(loss)case	918.85	124.04	(106.61)	(200.66)	(302.07)	(408.09)

CHART VIII:

Summary of Changes in Trauma Center Operating Results				
	2001		2006	Percentage Change
Net Income (loss)	8,170,438		(4,106,607)	(150.3%)
Net revenue per case	12,290.96		14,204.72	15.6%
Operating expenses per case	11,372.11		14,612.81	28.5%
Net Income per case	918.85		(408.09)	(144.4%)

LOOKING FOR FUTURE TRAUMA FUNDING

In these times of critical State budget shortfalls, the prospect of State funding for trauma hospitals appears very dim. Therefore, we must explore other funding options to maintain trauma care in California.

The following are funding opportunities that have been implemented in other states and are being explored within California. Some of the possibilities involve establishing user fees on contributing factors of traumatic injuries. All require legislative and regulatory actions. Some are controversial ideas that may not appear feasible at this time. However, all options or combination of options should be explored.

POTENTIAL FUNDING SOURCES

LOCAL GOVERNMENT BALLOT MEASURES

Three counties in California have placed funding measures before their voters to assist in funding trauma and emergency services and county hospitals. Two of these measures passed with overwhelming success and one was narrowly defeated.

Los Angeles County

In November, 2002, Measure B was placed on the ballot. Measure B, entitled, *Preservation of Trauma Centers and Emergency Medical Services; Bioterrorism Response*, asked voters to impose an annual tax of three cents per square foot of improvements on developed property.

The ballot measure required a 2/3 "yes" vote. Measure B received 72% of the vote and was considered to be an overwhelming victory. The approval by voters clearly demonstrates that the public understands the importance of emergency and trauma services to them personally and are willing to tax themselves to ensure these programs stay intact. Other healthcare programs may fall to the budget axe.

Los Angeles County Measure B is projected to generate $174 million annually. (Addendum)

Alameda County

In Alameda County, Measure A, a half-cent sales tax, was passed by the voters. Measure A is estimated to generate $95 million annually, 75% of which would be allocated to Alameda County Highland Hospital, a trauma center. Twenty-five percent may be used for other purposes, such as clinic support, uncompensated care hospital, physician, public health and behavioral services. Alameda County, along with Los Angeles County, is pursuing a Medicaid State Plan Amendment to expand existing local tax support to trauma centers (refer to later discussion regarding Medicaid matching).

Monterey County

In 2000, Monterey County voters passed a measure to pay a special property tax to support the county-wide paramedic system. The special tax generates approximately $1.5 million annually. However, the City of Salinas in Monterey County recently attempted to pass a ballot measure specifically for Salinas to provide funding for paramedics. The measure failed to achieve the required 2/3 majority vote.

Passage of local/regional ballot measures may be successful in other jurisdictions if narrowed to emergency and trauma hospital programs. However, individual local funding measures do not necessarily contribute towards an ultimate goal of a stable statewide trauma hospital system.

STATE BALLOT INITIATIVES

9-1-1 Emergency and Medical Services Initiative

This Initiative, prepared by the California Chapter of the American College of Emergency Physicians, California Medical Association, the California Hospital Association, and the California Primary Care Association Coalition to Preserve Emergency Care, Emergency Nurses Association of California, California Professional Firefighters, seeks to increase the 9-1-1 surcharge to 3.7% on telephone calls made within California.

This Initiative will appear on the November, 2004 ballot and if approved is expected to generate $550 million annually to be distributed among hospitals, physicians, community clinics, and first responders. The Initiative requires a 2/3 vote by the electorate.

Recently, based upon polling results, the California Hospital Association has withdrawn from the coalition sponsoring the Initiative.

For more information on the 9-1-1 Emergency and Medical Services Initiative, refer to the accompanying Addendum.

SUPPLEMENTAL PAYMENT PROGRAM
MediCAL/MEDICAID MATCH

Los Angeles County is attempting to secure additional funding to improve access to private sector trauma hospitals by enhancing MediCAL funding through a State and Federal match, with the County putting up the State's share of the match.

The formula being pursued is based upon MediCAL outpatient utilization. Among other requirements, the State will require trauma hospitals to certify that MediCAL payments (regular plus enhanced) do not exceed the hospital's usual/customary charge for the trauma/emergency service. Enhanced MediCAL payments will not apply to the inpatient component of trauma services. Therefore, any trauma/emergency services that are paid under the hospital's MediCAL inpatient contract must be excluded from calculating enhancements. Los Angeles County is proposing to use funds from Measure B (see page 18) as the State's share of matching funds. To accomplish this enhanced funding, the County's State Plan Amendment must be approved by the State and Federal governments.

Alameda County is negotiating a similar match.

Although the California State budget did not include any funds specifically for trauma hospitals, the Senate increased the dollars payable from the Federal Trust Fund by $4.9 million which is intended to allow private hospitals to draw down a federal match, providing their local county is willing to enact an intergovernmental transfer. This fund is identified in the California State FY 2003/04 budget as Item No. 4260-101-0890. The Senate believes no additional statutory language is needed.

TERRORISM PREPAREDNESS FUNDING

Since 9/11, federal dollars have been available to states and three local jurisdictions, one being Los Angeles County, to upgrade the nation's ability to cope with potential terrorism threats. The majority of funds have been distributed to public health programs to upgrade public health surveillance and laboratory capacities which have seriously deteriorated over the past thirty years. A small amount has been made available to emergency medical services and hospitals. However, experience has shown that, except for isolated instances, terrorists have chosen explosives as the weapon of choice to kill, maim, and wreak havoc upon society. Per citation 4, government preparedness funding has not supported trauma hospital preparedness for responding to blast and explosive injuries.

In 2003, the Department of Health and Human Services identified improved trauma and burn care as a funding goal. Health Resources & Services Administration (HRSA) provided $498 million for states to develop surge capacity to manage mass casualty events, including the expansion of hospital beds, development of isolation capacity, identification of additional health care personnel, establishing hospital-based pharmaceutical caches, providing mental health services, trauma and burn care**,** chemical lab capacity, communications technology, and personnel protective gear. Eight-hundred and seventy-million dollars ($870,000,000) was made available to states by the CDC for strengthening public health preparedness.

CHART IX:

2003 FEDERAL FUNDING FOR HEALTH PREPAREDNESS		
	Total CDC/Public Health	**Total HRSA/Hospital**
	870,000,000	**498,000,000**
California:	55,589,662	38,773,726
LA County:	24,531,232	16,183,364
TOTALS:	**$80,120,894**	**$54,957,090**

On March 16, 2004, the CDC issued a Health Advisory concerning public health precautions related to incidents of mass trauma. The advisory regarding explosive terrorism events in Spain and Pakistan raise concerns about similar attacks that may result in mass trauma in the United States (Appendix B).

Concerted effort should be made by California leaders to secure additional funds as promptly as possible. Funding must be provided to designated trauma and burn hospitals in order to ensure provision and expansion of trauma and burn services.

PAY OR PLAY

One of the two trauma hospitals in Oklahoma closed, heavily impacting the remaining trauma hospital in Oklahoma City. Oklahoma has been innovative in passing legislation and regulations in an attempt to compensate for emergency department closures. Playfully referred to by some as "pay or play," the legislation and regulation implemented by the Oklahoma Department of Health Services provide that each hospital **shall** participate in a functioning regional system of providing 24-hour emergency hospital care. If a hospital does not participate as a provider of emergency hospital care, the hospital shall **"make payment into a fund to reimburse hospitals providing emergency services in the system"** (emphasis added). For additional information on the Oklahoma "Pay or Play" program, refer to the accompanying Addendum. A model of mandatory participation by all hospitals in California's emergency and trauma hospital system should be explored.

STATE USER/SURCHARGE/FEES

User fees are often accepted as a means to offset costs associated with providing programs, i.e., park entrance fees, etc. Following are some user fees that singularly or collectively could provide trauma care resources. These sources, in some cases, can be linked to injury.

Driver's License Surcharge

Automobile crashes remain the major cause of injuries in California. Consideration should be given to affixing a surcharge each time a driver's license or identification card is issued or renewed. In Oklahoma, a driver's license surcharge is $3.50. Two dollars provides funding for Oklahoma State Troopers and $1.50 assists in funding emergency medical and trauma services.

There are approximately twenty million licensed drivers in California and a license is generally valid for five years.

Estimated annual revenue:	one dollar user fee: $4 million
	two dollar user fee: $8 million
	three dollar fee: $12 million

Automobile surcharge, added to the purchase price of a new car

Automobiles remain the major cause of injuries in California. In 2002, the United States Department of Commerce reported that 8,082,000 new cars were sold throughout the country (9).

Consumer:	4,486,000
Business:	3,434,000
Government:	163,000

Assuming five percent of those new vehicles were sold in California and that a $100 user fee was affixed to the selling price, $40,410,000 could be generated for trauma hospital funding.

These figures do not include the sale of used vehicles.

Vehicle Registration (cars, trucks, trailers, motorcycles)

There are 31,000,000 registered vehicles in California, all of which must be renewed each year. Affixing $1 to each registration could potentially generate $31,000,000 a year for trauma care.

Vessel Registration

Vessels are licensed by the Department of Motor Vehicles every other year. There 793,247 vessels licensed at a fee of $10 every other year. If a $5 user fee were attached to the two year license, estimated revenues for trauma care would be $1,983,155 annually.

Automobile Insurance Policy User Fee

Automobile insurance information is reported in terms of *California Market Share Report*. The number of new and renewed policies written each year has not been obtained. However, since proof of insurance must be shown to register a vehicle, calculations may be made based on the number of registered vehicles and/or licensed drivers. For example, assuming five registered vehicles are on one policy and a $10 dollar user fee was attached to each policy each year, $62 million could be generated for trauma care.

User Fee on all fire arms and ammunition

Currently in California, ammunition is subject to a combined sales tax and use tax rate of 7.25% to 8.50%, depending upon where the ammunition is sold. Studies have placed the average cost of care for a gunshot victim to be between $17,000 and $18,500 (reference, JAMA, August, 1999.)

Imposing a fee of ten percent on the retail sale of every munition and a five percent fee on the retail price of every handgun would raise $4,000,000 million according to an analysis of such legislation conducted by Assembly Member Mark-Ridley Thomas (10).

Alcohol Surcharge/Nickel a Drink

Senator Gloria Romero has drafted legislation (SB 108) proposing a "nickel a drink" surcharge on alcohol and wine. The draft legislation finds and declares that, among other things, alcohol related incidents on California roads cost over three billion dollars per year in monetary costs and that alcohol is a factor in nearly one-third of all vehicle crashes in the State.

Estimated annual revenue:	$700 million (including wine)
	$500 million (excluding wine)

Additional Taxes on Tobacco Products

Although not generally associated as a trauma related causal effect, taxes on tobacco products are seen as an effective way to raise monies for emergency medical and trauma services. In past years, the California Healthcare for Indigents Program (CHIP) played a major role in sustaining emergency and trauma care throughout the State. The funds appropriated to CHIP have basically evaporated over the years due to fewer smokers and, therefore, fewer taxes collected and administrative reallocation of funds to other health care programs.

In addition to raising funds for emergency and trauma services, additional taxation is considered to be a deterrent to smoking.

Housing Unit Permits/Developer Fees

Developers usually address certain infrastructure costs, such as schools, streets, fire and law enforcement services, when building new developments. Emergency services and trauma hospital care should be considered part of the public safety infrastructure when housing/developer permits are issued.

A report prepared by the Construction Industry Research Board reports that in 2003 California housing permits totaled 194,956. Twenty eight percent were multi-family units. The report further indicates that over the past ten years the number of housing permits has increased, with the exception of one year (1995) (11). Additionally, consideration of a fee for each new housing unit begins to acknowledge that trauma hospital care is an essential public service as law enforcement, fire, paramedics, and utility availability.

Estimated Revenue @ $100/unit:	$19,495,600
Estimated Revenue @ $1,000/unit:	$190,495,600

While there are other means for assessing user fees to support the California Trauma Care system, those listed above appear to be most closely associated with injuries.

Hopefully some of the funding possibilities contained in this report will initiate a dialogue that will culminate in obtaining sufficient funding to ensure the highest level of trauma care for all California citizens.

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CHARTS

APPENDICES

APPENDIX A: Ten Leading Causes of Death by Age Group – 2001
Ten Leading Causes of Death by Age Group
Highlighting Unintentional Injury Death – 2001
Ten Leading Causes of Injury Death by Age Group
Highlighting Violence Related Injury Deaths – 2001

APPENDIX B: Centers for Disease Control Health Advisory:
"Precautions Related to Mass Trauma,"
March 16, 2004

APPENDIX C: Memorandum from Richard Watson, Interim Director, California Emergency Medical Services Authority, Subject: Trauma Care Fund, September 7, 2001

APPENDIX D: Survey: Impact of California Trauma Care Funds Within Each LEMSA

APPENDIX E: Trauma Hospital Costs by Category

APPENDIX A

10 Leading Causes of Injury Death by Age Group – 2001
Highlighting Unintentional Injury Deaths

Rank	Age Groups <1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	**Unintentional Suffocation 614**	**Unintentional MV Traffic 558**	**Unintentional MV Traffic 660**	**Unintentional MV Traffic 884**	**Unintentional MV Traffic 10,513**	**Unintentional MV Traffic 6,759**	**Unintentional MV Traffic 6,891**	**Unintentional MV Traffic 5,422**	**Unintentional MV Traffic 3,328**	**Unintentional Fall 11,623**	**Unintentional MV Traffic 42,443**
2	**Unintentional MV Traffic 139**	**Unintentional Drowning 458**	**Unintentional Drowning 168**	**Unintentional Drowning 165**	Homicide Firearm 4,200	Homicide Firearm 3,308	**Unintentional Poisoning 5,036**	**Unintentional Poisoning 3,547**	Suicide Firearm 2,083	**Unintentional MV Traffic 7,256**	Suicide Firearm 16,869
3	Homicide Other Spec., Class. 117	**Unintentional Fire/burn 230**	**Unintentional Fire/burn 164**	Suicide Suffocation 163	Suicide Firearm 2,130	Suicide Firearm 2,564	Suicide Firearm 3,030	Suicide Firearm 3,023	**Unintentional Fall 1,004**	**Unintentional Unspecified 5,806**	**Unintentional Fall 15,019**
4	Homicide Unspecified 107	Homicide Unspecified 146	Homicide Firearm 59	Homicide Firearm 121	**Unintentional Poisoning 1,362**	**Unintentional Poisoning 2,507**	Homicide Firearm 1,978	Suicide Poisoning 1,439	**Unintentional Poisoning 798**	Suicide Firearm 3,943	**Unintentional Poisoning 14,078**
5	**Unintentional Drowning 68**	**Unintentional Suffocation 138**	**Unintentional Other Land Transport 48**	Suicide Firearm 90	Suicide Suffocation 1,235	Suicide Suffocation 1,373	Suicide Poisoning 1,541	**Unintentional Fall 1,024**	Suicide Poisoning 578	**Unintentional Suffocation 3,204**	Homicide Firearm 11,348
6	**Unintentional Fire/burn 50**	**Unintentional Pedestrian, Other 81**	**Unintentional Suffocation 44**	**Unintentional Fire/burn 88**	**Unintentional Drowning 596**	Homicide Transportation-Related 842	Suicide Suffocation 1,534	Suicide Suffocation 952	**Unintentional Fire/burn 395**	Adverse Effects 1,995	**Unintentional Unspecified 7,218**
7	Undetermined Suffocation 47	Homicide Other Spec., Class. 80	**Unintentional Fall 33**	**Unintentional Other Land Transport 83**	Homicide Cut/pierce 481	Suicide Poisoning 753	Undetermined Poisoning 1,121	Homicide Firearm 934	Suicide Suffocation 392	**Unintentional Fire/burn 1,147**	Suicide Suffocation 6,198
8	Homicide Suffocation 40	Homicide Firearm 55	**Unintentional Pedestrian, Other 26**	**Unintentional Suffocation 68**	Suicide Poisoning 337	Undetermined Poisoning 549	Homicide Transportation-Related 1,061	Undetermined Poisoning 761	**Unintentional Unspecified 385**	**Unintentional Poisoning 722**	**Unintentional Suffocation 5,555**
9	Adverse Effects 26	Homicide Other Spec., NEC 49	**Unintentional Struck by or Against 25**	**Unintentional Firearm 39**	**Unintentional Fall 256**	Homicide Cut/pierce 472	**Unintentional Fall 647**	Homicide Transportation-Related 644	Adverse Effects 384	**Unintentional Natural/Env. 621**	Suicide Poisoning 5,191
10	**Unintentional Fall 23**	**Unintentional Natural/Env. 42**	**Unintentional Other Transport 22**	**Unintentional Pedestrian, Other 38**	**Unintentional Other Land Transport 250**	**Unintentional Drowning 374**	**Unintentional Drowning 462**	**Unintentional Suffocation 461**	**Unintentional Suffocation 381**	**Unintentional Other Spec., NEC 578**	**Unintentional Fire/burn 3,423**

Note: Homicide and suicide counts include terrorism deaths associated with the events of September 11, 2001, that occurred in New York City, Pennsylvania, and Virginia. A total of 2,926 U.S. residents lost their lives in these acts of terrorism in 2001, of which 2,922 were classified as (transportation-related) homicides and 4 were classified as suicides.

Source: National Center for Health Statistics, (NCHS) Vital Statistics Systems.

Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.

10 Leading Causes of Injury Death by Age Group – 2001
Highlighting Violence-Related Injury Deaths

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Unintentional Suffocation 614	Unintentional MV Traffic 558	Unintentional MV Traffic 660	Unintentional MV Traffic 884	Unintentional MV Traffic 10,513	Unintentional MV Traffic 6,759	Unintentional MV Traffic 6,891	Unintentional MV Traffic 5,422	Unintentional MV Traffic 3,328	Unintentional Fall 11,623	Unintentional MV Traffic 42,443
2	Unintentional MV Traffic 139	Unintentional Drowning 458	Unintentional Drowning 168	Unintentional Drowning 165	**Homicide Firearm 4,200**	**Homicide Firearm 3,308**	Unintentional Poisoning 5,036	Unintentional Poisoning 3,547	**Suicide Firearm 2,083**	Unintentional MV Traffic 7,256	**Suicide Firearm 16,869**
3	**Homicide Other Spec., Class. 117**	Unintentional Fire/burn 230	Unintentional Fire/burn 164	**Suicide Suffocation 163**	**Suicide Firearm 2,130**	**Suicide Firearm 2,564**	**Suicide Firearm 3,030**	**Suicide Firearm 3,023**	Unintentional Fall 1,004	Unintentional Unspecified 5,806	Unintentional Fall 15,019
4	**Homicide Unspecified 107**	**Homicide Unspecified 146**	**Homicide Firearm 59**	**Homicide Firearm 121**	Unintentional Poisoning 1,362	Unintentional Poisoning 2,507	**Homicide Firearm 1,978**	**Suicide Poisoning 1,439**	Unintentional Poisoning 798	**Suicide Firearm 3,943**	Unintentional Poisoning 14,078
5	Unintentional Drowning 68	Unintentional Suffocation 138	Unintentional Other Land Transport 48	**Suicide Firearm 90**	**Suicide Suffocation 1,235**	**Suicide Suffocation 1,373**	**Suicide Poisoning 1,541**	Unintentional Fall 1,024	**Suicide Poisoning 578**	Unintentional Suffocation 3,204	**Homicide Firearm 11,348**
6	Unintentional Fire/burn 50	Unintentional Pedestrian, Other 81	Unintentional Suffocation 44	Unintentional Fire/burn 88	Unintentional Drowning 596	**Homicide Transportation-Related 842**	**Suicide Suffocation 1,534**	**Suicide Suffocation 952**	Unintentional Fire/burn 395	Adverse Effects 1,995	Unintentional Unspecified 7,218
7	Undetermined Suffocation 47	**Homicide Other Spec., Class. 80**	Unintentional Fall 33	Unintentional Other Land Transport 83	**Homicide Cut/pierce 481**	**Suicide Poisoning 753**	Undetermined Poisoning 1,121	**Homicide Firearm 934**	**Suicide Suffocation 392**	Unintentional Fire/burn 1,147	**Suicide Suffocation 6,198**
8	**Homicide Suffocation 40**	**Homicide Firearm 55**	Unintentional Pedestrian, Other 26	Unintentional Suffocation 68	**Suicide Poisoning 337**	Undetermined Poisoning 549	**Homicide Transportation-Related 1,061**	Undetermined Poisoning 761	Unintentional Unspecified 385	Unintentional Poisoning 722	Unintentional Suffocation 5,555
9	Adverse Effects 26	**Homicide Other Spec., NEC 49**	Unintentional Struck by or Against 25	Unintentional Firearm 39	Unintentional Fall 256	**Homicide Cut/pierce 472**	Unintentional Fall 647	**Homicide Transportation-Related 644**	Adverse Effects 384	Unintentional Natural/Env. 621	**Suicide Poisoning 5,191**
10	Unintentional Fall 23	Unintentional Natural/Env. 42	Unintentional Other Transport 22	Unintentional Pedestrian, Other 38	Unintentional Other Land Transport 250	Unintentional Drowning 374	Unintentional Drowning 462	Unintentional Suffocation 461	Unintentional Suffocation 381	Unintentional Other Spec., NEC 578	Unintentional Fire/burn 3,423

Note: Homicide and suicide counts include terrorism deaths associated with the events of September 11, 2001, that occurred in New York City, Pennsylvania, and Virginia. A total of 2,926 U.S. residents lost their lives in these acts of terrorism in 2001, of which 2,922 were classified as (transportation-related) homicides and 4 were classified as suicides.

Source: National Center for Health Statistics, (NCHS) Vital Statistics Systems.

Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.

10 Leading Causes of Death by Age Group – 2001

Rank	Age Groups										
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Congenital Anomalies 5,513	**Unintentional Injury 1,714**	**Unintentional Injury 1,283**	**Unintentional Injury 1,553**	**Unintentional Injury 14,411**	**Unintentional Injury 11,839**	Malignant Neoplasms 16,569	Malignant Neoplasms 49,562	Malignant Neoplasms 90,223	Heart Disease 582,730	Heart Disease 700,142
2	Short Gestation 4,410	Congenital Anomalies 557	Malignant Neoplasms 493	Malignant Neoplasms 515	**Homicide 5,297**	**Homicide 5,204**	**Unintentional Injury 15,945**	Heart Disease 36,399	Heart Disease 62,486	Malignant Neoplasms 390,214	Malignant Neoplasms 553,768
3	SIDS 2,234	Malignant Neoplasms 420	Congenital Anomalies 182	**Suicide 272**	**Suicide 3,971**	**Suicide 5,070**	Heart Disease 13,326	**Unintentional Injury 13,344**	Chronic Low. Respiratory Disease 11,166	Cerebro-vascular 144,486	Cerebro-vascular 163,538
4	Maternal Pregnancy Comp. 1,499	**Homicide 415**	**Homicide 137**	Congenital Anomalies 194	Malignant Neoplasms 1,704	Malignant Neoplasms 3,994	**Suicide 6,635**	Liver Disease 7,259	Cerebro-vascular 9,608	Chronic Low. Respiratory Disease 106,904	Chronic Low. Respiratory Disease 123,013
5	Placenta Cord Membranes 1,018	Heart Disease 225	Heart Disease 98	**Homicide 189**	Heart Disease 999	Heart Disease 3,160	HIV 5,867	**Suicide 5,942**	Diabetes Mellitus 9,570	Influenza & Pneumonia 55,518	**Unintentional Injury 101,537**
6	Respiratory Distress 1,011	Influenza & Pneumonia 112	Benign Neoplasms 52	Heart Disease 174	Congenital Anomalies 505	HIV 2,101	**Homicide 4,268**	Cerebro-vascular 5,910	**Unintentional Injury 7,658**	Diabetes Mellitus 53,707	Diabetes Mellitus 71,372
7	**Unintentional Injury 976**	Septicemia 108	Influenza & Pneumonia 46	Chronic Low. Respiratory Disease 62	HIV 225	Cerebro-vascular 601	Liver Disease 3,336	Diabetes Mellitus 5,343	Liver Disease 5,750	Alzheimer's Disease 53,245	Influenza & Pneumonia 62,034
8	Bacterial Sepsis 696	Perinatal Period 72	Chronic Low. Respiratory Disease 42	Benign Neoplasms 53	Cerebro-vascular 196	Diabetes Mellitus 595	Cerebro-vascular 2,491	HIV 4,120	**Suicide 3,317**	Nephritis 33,121	Alzheimer's Disease 53,852
9	Circulatory System Disease 622	Benign Neoplasms 58	Cerebro-vascular 38	Influenza & Pneumonia 46	Influenza & Pneumonia 181	Congenital Anomalies 458	Diabetes Mellitus 1,958	Chronic Low. Respiratory Disease 3,324	Nephritis 3,284	**Unintentional Injury 32,694**	Nephritis 39,480
10	Intrauterine Hypoxia 534	Cerebro-vascular 54	Septicemia 29	Cerebro-vascular 42	Chronic Low. Respiratory Disease 171	Liver Disease 387	Influenza & Pneumonia 983	**Homicide 2,467**	Septicemia 3,111	Septicemia 25,418	Septicemia 32,238

Note: Homicide and suicide counts include terrorism deaths associated with the events of September 11, 2001, that occurred in New York City, Pennsylvania, and Virginia. A total of 2,926 U.S. residents lost their lives in these acts of terrorism in 2001, of which 2,922 were classified as (transportation-related) homicides and 4 were classified as suicides.

Source: National Center for Health Statistics, (NCHS) Vital Statistics Systems.

Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.

APPENDIX B

CDC HEALTH ADVISORY

Distributed via Health Alert Network

March 16, 2004, 11:54 EST (11:54 AM EST)
CDCHAN-00189-04-03-16-ADV-N

Public Health Precautions Related to Mass Trauma

Based on recent events in Spain and Pakistan, clinicians, hospitals, and public health agencies should ensure that they are prepared to respond to mass trauma related to terrorist bombings. On March 11, 2004, bombs detonated on commuter trains in Madrid, Spain, killing more than 200 people. On Monday, March 15, 2004, police successfully disarmed bombs in a van outside the U.S. Consulate in Karachi, Pakistan. These events raise concerns about the potential for similar attacks that may result in mass trauma in the United States.

Mass trauma is defined as the injuries, death, disability, and emotional stress caused by a catastrophic event, such as a large-scale natural disaster or a terrorist attack. In the event of mass trauma, clinicians, hospitals, and public health agencies should be prepared to treat injuries, disability, and psychosocial (individual and community) stress. Clinicians, hospitals, and public health agencies need to also be prepared for a large number of fatalities.

Public health and medical care systems (including physical and mental health, public information, and social services) are encouraged to develop and review protocols for the treatment of mass trauma. They are also encouraged to develop and review hospital plans for dealing with surges in demand for emergency care due to complex injuries, psychosocial distress reactions, and the acute aggravation of chronic diseases that may be triggered by the psychological terror of such events.

Information on injuries and stress related to mass trauma can be found on the CDC Mass Trauma website at www.cdc.gov/masstrauma. This site is designed to provide information and preparedness and response tools to help public health professionals and clinicians prepare for and respond to mass trauma events. The website also contains fact sheets in English and Spanish for the public. Additional information resources and descriptions of relevant research studies can also be found on the site.

APPENDIX C

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY

GRAY DAVIS, *Governor*

EMERGENCY MEDICAL SERVICES AUTHORITY
1930 9TH STREET
SACRAMENTO, CALIFORNIA 95814-7043
(916) 322-4336 FAX: (916) 324-2875

DATE: September 7, 2001

TO: EMS Agency Administrator

FROM: Richard E. Watson
Interim Director

SUBJECT: **Trauma Care Fund Data**

On August 9, 2001, Governor Davis signed Assembly Bill 430 (Chapter 171) into law. As a result, Sections 1797.198 and 1797.199 were added to the Health and Safety Code creating the Trauma Care Fund in the State Treasury. Included in the FY 2001-02 State Budget was an appropriation in the amount of $25 million for this fund.

Section 1797.199 (d) of the Health and Safety Code reads as follows (emphasis added):

> *Within 30 days of the effective date of this chapter, the authority shall request all local EMS agencies with an approved trauma plan, that includes at least one designated trauma center, to* ***submit within 45 days of the request*** *the* ***total number of trauma patients and the number of trauma patients at each facility*** *that were* ***reported to the local trauma registry*** *for the* ***most recent fiscal year for which data are available*** *pursuant to Section 100257 of Title 22 of the California Code of Regulations. However, the local EMS agency's report* ***shall not include*** *any registry entry that is in reference to a* ***patient who is discharged from the trauma center's emergency department without being admitted to the hospital unless the nonadmission is due to the patient's death or transfer to another facility.***

In compliance with the above statute, I am requesting each EMS agency with an approved trauma plan and at least one designated trauma center within its jurisdiction as of July 1, 2001, to **provide the EMS Authority the required data from Fiscal Year 1999/2000 on the attached form and send it to the address below by close of business day October 24, 2001**. Only eligible EMS agencies that submit data will receive funding.

Emergency Medical Services Authority
Attention: Bonnie Sinz
1930 9th Street
Sacramento, CA 95814-7043

Also, please provide your agency's trauma registry inclusion criteria policy including a description of trauma patients that are excluded from the registry. This will assist the EMS Authority in understanding the data being collected and in preparing for any audit

processes, since each local EMS agency develops its own trauma registry inclusion criteria. Data provided on the attached chart must be in compliance with the above referenced statute that excludes patients who are discharged from the trauma center's emergency department without being admitted to the hospital unless the non-admission is due to the patient's death or transfer to another facility.

Once all of the required data has been received, a letter will be sent to each agency advising of its allocated amount (based on the data) and requesting objectives and budget information necessary for inclusion in the contract. Within 30 days following receipt of the data from all participating local EMS agencies the EMS Authority will send a contract to each participating agency. Statute allows a very short turn around time for agencies to comply. **In preparation for this, I recommend you begin developing the required objectives and budget. I have attached a template to assist you with this requirement.**

An analysis of the first Trauma Care Fund allocation, illustrating how each trauma center utilized the funds to improve the delivery of trauma care, is going to be crucial to continued future funding. To that end, development of measurable objectives in your contract is critical. The following excerpt from Section 1797.199 (f) will assist EMS Agencies in the development of these objectives:

> *It is the intent of the Legislature that the funds distributed to eligible trauma centers be spent on trauma services. The local EMS agency may utilize a grant-based system, a reimbursement-based system, or other appropriate methodology to comply with this section. Local EMS agencies shall take the following factors into consideration when determining the distribution amounts for each trauma center:*
>
> *(1) The volume of uninsured trauma patients treated at the trauma center.*
>
> *(2) The existence of a high percentage of uninsured trauma patients relative to the total number of trauma patients treated at the trauma center.*
>
> *(3) The acuity mix of uninsured trauma patients treated at the trauma center.*

In addition, language addressing Level IV trauma centers is in Section 1797.199 (i):

> *Based upon qualifying patient volume figures and the distribution factors established in subdivision (f), a trauma center designated as a Level IV may receive funding as determined appropriate by the local EMS agency.*

When developing objectives and providing funding, the following are recommended expenditure guidelines (not in order of importance):

- Specialty physician on-call coverage
- Hospital services for indigent trauma care
- Trauma registry improvement

Upon receipt of a signed contract and invoice from an agency, funds will then be distributed within 30 days in accordance with Section 1797.199. The following excerpts from Section 1797.199 will dictate the authority's distribution of the funds to each agency [references added]:

> *(e) (1) The amount provided to each local EMS agency shall be in the same proportion as the total number of trauma patients reported to the local trauma*

registry for each local EMS agency's area of jurisdiction compared to the total number of all trauma patients statewide as reported under subdivision (d) [refer to statute excerpt on page 1 of this letter].

(j) Notwithstanding subdivision (e) [see above], *the authority shall reserve 6 percent of any funds appropriated to the Trauma Care Fund for distribution during the same fiscal year. The authority may spend these funds for the purposes specified in paragraphs (1) to (3), inclusive.*

(1) To provide to a local EMS agency, the amount that the agency needs to make up the full minimum amount specified in subdivision (i). [$150,000 per for each Level I/II and $50,000 for each Level III]

(2) To provide a minimum amount to a trauma center that was not designated on July 1 of the fiscal year as specified in subdivision (e) but which becomes designated by January 1 of any fiscal year in which funds are being distributed pursuant to this section. In the case of such a newly designated center, the minimum distribution shall equal one-half of the minimum distribution described in subdivision (i), provided the local EMS agency makes an application to the authority for this purpose by February 1 of the same fiscal year.

(3) To the extent that there are funds in the reserve after the distributions provided by paragraphs (1) and (2) of this subdivision, to provide additional amounts to a local EMS agency where the distribution under subdivision (f) does not provide an accurate reflection of its total trauma volume. Any local EMS agency that believes the distribution under subdivision (f) does not provide an accurate accounting of its total trauma patient volume may make application to the authority for an adjustment.

The EMS Authority looks forward to working with the EMS agencies on this important project to provide financial relief for California's trauma centers. I have attached the Trauma Care Fund section of the statute for your files. If you have any questions regarding the Trauma Care Fund data collection, please contact Bonnie Sinz at (916) 322-4336 extension 460.

Attachments (3)
REW:BS:bs
EMS Folders\Bonnie's Files\Trauma\AB 430 Data letter.doc

EMS Agency Distribution List
Alameda
Coastal Valleys
Contra Costa
Fresno/Kings/Madera
Los Angeles
Marin
Northern California
Orange
Riverside
Sacramento
San Diego
San Francisco
Santa Barbara
Santa Clara
Sierra-Sacramento Valley

APPENDIX D

SURVEY TO DETERMINE IMPACT OF CALIFORNIA TRAUMA CARE FUNDS

Local EMS Agency Administrators receiving California Trauma Care Funds were surveyed to determine their opinions on the impact that California Care Funds had on their trauma systems. Seventeen (17) LEMSA's received Trauma Care Funds and all seventeen responded to the survey.

LEMSA's were asked to rank the importance of the funds by placing a one (1) for the most important of the responses listed below.

1. **Essential to maintaining the trauma hospital system:** 4
   - **Alameda County**
   - **Fresno/Kings County/Madera Counties**
   - **Los Angeles County**
   - **San Diego County**

2. **Assisted in maintaining the trauma hospital system:** 6
   - **Coastal Valleys**
   - **Contra Costa County**
   - **Kern County**
   - **Riverside County**
   - **Santa Barbara County**
   - **Sierra-Sacramento Valley EMS**

3. **Allowed expansion of trauma hospital system by adding new trauma hospitals:** 1
   - **NorCal EMS Agency**

4. **Permitted EMS Agency to activate a trauma system:** 0

5. **Permitted infrastructure improvements/enhancements in the trauma hospital system, i.e., communication systems, education, trauma registry, personnel:** 6
   - **ICEMA**
   - **Marin County**
   - **Orange County**
   - **Sacramento County**
   - **San Francisco County**
   - **Santa Clara County**

APPENDIX E

TRAUMA COST BY CATEGORY*

Direct Patient Care Costs Include:

Room and board nursing care
Emergency services
Surgery (excluding surgeons' fees)
Medical supplies
Laboratory services
Blood products
Radiology services (including CAT scans, MRI, etc.)
Pharmacy and drug supplies
Respiratory therapy
Cardiology services
Other ancillary services rendered to patients
Ancillary costs do not include professional fees for physicians

Direct Trauma Costs Include:

On-call trauma physicians' panels
On call emergency department physicians panel
Trauma director's compensation
24-hour anesthesia coverage
Billing service fees (net of collections)
Salaries and benefits for trauma coordinator and assistant

Indirect Trauma Costs Include:

Depreciation and rental of hospital buildings and equipment
All utilities, including electricity, water, gas, telephone, etc.
Dietary food services
Laundry, linen, and other housekeeping services
Social services, including chaplain
All hospital administrative debts

* Generic category information – may vary from trauma center to trauma center

MATRICES

Matrix I - TRAUMA CARE FUND DISTRIBUTION 2001-2002

Local EMS Agency	Patient Volume	%of State	Total Allocation	1% Admin Costs	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention
Trauma Centers											
Alameda											
Eden Medical Center	1,516		554,254			43%	6%	3%		48%	
Childrens Hospital Medical Center	428		554,254			100%					
Highland Alameda County Medical Center Hospital	957		554,254		100%						
Totals	**2901**	**6.60%**	**$1,679,538**	**16,795**							
Coastal Vallleys											
Queen of the Valley Hospital	155		97,377			100%					
Santa Rosa Memorial Hospital	671		348,833		50%	50%					
Totals	**826**	**1.90%**	**$450,592**	**4,383**							
Contra Costa											
John Muir Medical Center	1,169		641,693		65%	32%			3%		
Totals	**1,169**	**2.70%**	**$648,175**	**6,481**							
Fresno/Kings/Madera											
University Medical Center Fresno	1,040		558,930		41%	53%			6%		
Totals	**1,040**	**2.40%**	**$564,576**	**5,646**							
Inland Counties											
Loma Linda University Medical Center			91,087				23%		4%	65%	8%
Arrowhead Regional Medical Center			127,115			100%					
Totals			**$219,702**	**1,500**							
Kern											
Kern Medical Center			75,000		100%						
Totals			**$75,000**	**Note 1**							
Los Angeles											
Cedars-Sinai Medical Center	762		930,375		100%						
Childrens Hospital Los Angeles	274		150,000		85%		15%				
Harbor/UCLA Medical Center	1,124		150,000		100%						
Henry Mayo Newhall Memorial Hospital	366		196,659		100%						
Huntington Memerial Hosptial	517		321,300		100%						
LAC+USC Medical Center	3,938		150,000		100%						
Long Beach Memorial Medical Center	683		801,273		100%						
Martin Luther King Jr./Charles Drew Medical Center	1,822		150,000		100%						
Northridge Hospital Medical Center	664		680,889		100%						
Providence Holy Cross Medical Center	714		908,193		100%						
St. Francis Medical Center	890		1,970,071		100%						
St. Mary Medical Center	304		439,243		100%						
UCLA Medical Center	730		375,608		100%						
Totals	**12,788**	**29.20%**	**$7,223,611**	**Note 1**							
Marin											
Marin General Hospital	244		129,156								**100%**
Totals	**244**	**0.60%**	**$129,156**	**Note 1**							
NORCAL											
Mercy Medical Center	395		165,058			100%					
Enloe Medical Center	366		165,058			100%					
Fairchild Medical Center			34,029		37%	37%	26%				
Colusa Regional Center			6,015		20%	58%	22%				
Indian Valley Health District			6,014			75%	25%				
Mayers Memorial Medical Center			6,014			100%					
Mercy Mt. Shasta Medical Center			12,044				94%		6%		
Oroville Medical Center			12,044		100%						
St. Elizabeth Community Hospital			37043			100%					
Redding Medical Center			37,043			58%	42%				
Totals	**761**		**$485,151**	**4,786**							

Matrix I - TRAUMA CARE FUND DISTRIBUTION 2001-2002

Local EMS Agency	Patient Volume	%of State	Total Allocation	1% Admin Costs	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention
Trauma Centers											
Orange											
University of California Irvine Medical	1,377		694,064		100%						
Mission Hospital & Regional Medical Center	608		386,791			100%					
Western Medical Center	962		516,403		75%	25%					
Totals		**6.70%**	**$1,597,258**	**15,633**							
Riverside											
Desert Medical Center	433		416,068		100%						
Inland Valley Medical Center	603		228,230			100%					
Riverside Communuty Hospital	624		375,987			100%					
Riverside County Regional Medical Center	1,198		532,898		50%	50%					
Totals	**2,858**	**6.50%**	**$1,553,183**	**15,161**							
Sacramento											
University of California Davis Medical Center	2,570		1,456,248				2%	9%	13%	3%	73%
Mercy San Juan Medical Center	710		378,553		61%	32%			7%		1%
Totals	**3,280**	**7.50%**	**$1,853,334**	**18,533**							
San Diego											
Childrens Hospital & Health Center	1,512		792,568		100%						
Scripps Mercy Hospital	1,849		952,644		100%						
Palomar Memorial Hospital	1,028		610,833		100%						
Scripps Hospital	1,239		725,358		100%						
Sharp Memorial Hospital	1,607		866,648		100%						
UCSD Medical Center	1,749		904,485		100%						
Totals	**8,984**	**20.50%**	**$4,900,196**	**47,659**							
San Francisco											
San Francisco General Hospital	1,720		938,085				95%	5%			
Totals	**1,720**	**3.90%**	**$938,085**	**Note 1**							
Santa Barbara											
Santa Barbara Cottage Hospital	735		340,167	.		100%					
Goleta Valley Cottage Hospital			25,000		.	100%					
Totals	**735**	**1.70%**	**$405,167**	**4,052**					**10%**		
Santa Clara											
San Jose Medical Center	969		524,671			100%					
Santa Clara Valley Medical Center	940		499,627		100%						
Stanford University Medical Center	805		455,373				46%	35%	3%		16%
Totals	**2,714**	**6.20%**	**$1,479,671**	**14,397**							
Sierra-Sacramento Valley											
Sutter Roseville Medical Center	804		440,527		100%						
Rideout Memorial Hospital			25,000		100%						
Total	804	**1.80%**	**$470,080**	**4,453**							
Grand Totals	**43,771**	**100%**	**$24,717,668**								
Note 1: LEMSA's did not keep allowable 17% administrative fee and distributed all available funds to trauma hospitals.											

Matrix II - COMPARISON OF FUND UTILIZATION BY LEVEL OF TRAUMA HOSPITAL 2001-2002

Childrens Hospital									
	Patient Volume	**Total Allocation**	**Indigent Care**	**On-Call Physicians**	**Equipment**	**Education**	**Registry**	**Other Medical Personnel**	**Injury Prevention**
Children's Hospital Medical Center Oakland	428	554,254		100%					
Children's Hospital, LA	274	150,000	85%		15%				
Children's Hospital, SD	1512	792,568	100%						
Total	2214	**$1,496,822**							
Level I & University Teaching Hospitals									
University Medical Center Fresno	1040	558,930	41%	53%			6%		
Loma Linda University Medical Center		91,087			23%	4%		65%	8%
UCLA Medical Center	730	375,608	100%						
University of California Irvine	1377	694,064	100%						
UC Davis Medical Center	2570	1,456,248			2%	9%	13%	3%	73%
UCSD	1749	904,485	100%						
Stanford University Medical Center	805	455,373			46%	35%	3%		16%
Cedars Sinai Medical Center	762	930,375	100%						
Harbor/UCLA Medical Center	1124	150,000	100%						
LAC+USC Medical Center	3938	150,000	100%						
MLK/Drew Medical Center	1822	150,000	100%						
San Francisco General	1720	938,085			95%	5%			
Santa Clara Valley Medical Center	940	499,627	100%						
Total	18577	**$7,353,882**							
Level II's									
Eden Hospital Medical Center	1516	554,254		43%	6%	3%		48%	
Highland Alameda County Medical Center	957	554,254	100%						
Santa Rosa Memorial Hospital	671	348,833	50%	50%					
John Muir Medical Center	1169	641,693	65%	32%			3%		
Arrowhead Regional Medical Center		127,115		100%					
Kern Medical Center		75,000	100%						
Henry Mayo Newhall Memorial	366	196,659	100%						
Huntington Memorial Hospital	517	321,300	100%						
Long Beach Memorial Medical Center	683	801,273	100%						
Northridge Hospital Medical Center	664	680,889	100%						
Providence Holy Cross Medical Center	714	908,193	100%						
St. Francis Medical Center	890	1,970,071	100%						
St. Mary Medical Center	304	439,243	100%						
Mission Hospital & Regional Medical Center		516,403		100%					
Mercy Medical Redding	395	165,058		100%					
Enloe Medical Center	366	165,058		100%					
Western Medical Center	962	516,403	75%	25%					
Desert Medical Center		416,068	100%						
Riverside Community Hospital		375,987		100%					
Riverside County Regional Medical Center	1198	532,898	50%	50%					
Mercy San Juan Medical Center	710	378,553	61%	32%			7%		1%
Scripps Mercy Hospital	1849	952,644	100%						
Palomar Medical Center	1028	610,833	100%						
Scripps Memorial Hospital, LJ	1239	725,358	100%						
Sharp Memorial Hospital	1607	866,648	100%						
Santa Barbara Cottage Hospital	735	340,167		100%					
San Jose Medical Center	969	524,671		100%					
Sutter Roseville Medical Center	804	440,527	100%						
Total	**20297**	**$15,146,053**							

Matrix II - COMPARISON OF FUND UTILIZATION BY LEVEL OF TRAUMA HOSPITAL 2001-2002

	Patient Volume	Total Allocation	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention
Level III's & Level IV's									
Queen of the Valley Hospital	155	97,377		100%					
Redding Medical Center		37,043		58%	42%				
Fairchild Medical Center		34,029	37%	37%	26%				
St. Elizabeth Community Hospital		37,043		100%					
Mercy Medical Center Mt.Shasta		12,044			94%		6%		
Oroville Medical Center		12,044	100%						
Mayers Memorial Hospital District		6,015		100%					
Indian Valley Healthcare District		6,014		75	25				
Colusa Regional Medical Center		6,015	20%	58%	22%				
Inland Valley Medical Center	603	228,230		100%					
Goleta Valley Cottage Hospital		25,000		100%					
Rideout Memorial Hospital		25,000	100%						
Marin General Hospital		129,156							100%
Total	**758**	**$655,010**							

Matrix III - TRAUMA CARE FUND 2002 - 2003 EXPENDITURES

Local EMS Agency	Patient Volume	Total Allocation	1% Admin Costs	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention
Trauma Centers										
Alameda										
Eden Medical Center	1563	354,070		50%	50%					
Childrens Hospital Medical Center	381	354,070		50%	50%					
Highland Alameda County Medical Center Hospital	700	354,070		100%						
Totals	**2644**	**$1,072,046**	**$9,836**							
Coastal Vallleys										
Queen of the Valley Hospital	179	76,748			67%			33%		
Santa Rosa Memorial Hospital	687	249,138		50%	50%					
Totals	**866**	**$329,107**	**$3,222**							
Contra Costa										
John Muir Medical Center	1184	413,636		63%	37%					
Totals	**1184**	**$418,040**	**$4,404**							
Fresno/Kings/MaderaCentral Valley EMS										
Childrens Central Valley Medical Center		75,000			100%					
University Medical Center Fresno	1436	553,845	6,142	41%	53%			6%		
Totals	**1436**	**$634,987**	**$6,350**							
Inland Counties										
Loma Linda University Medical Center	2072	767,914		54%		17%	11%	13%	3%	5%
Arrowhead Regional Medical Center	1755	704,995		100%						
Totals	3827	**$1,487,145**	**$14,236**							
Kern										
Kern Medical Center	1544	582,406		32%	6%	6%	7%	11%	35%	3%
Totals	1544	**$588,150**	**$5,744**							
Los Angeles										
Cedars-Sinai Medical Center	871	357,995		100%						
Childrens Hospital Los Angeles	267	150,000		78%		22%				
Harbor/UCLA Medical Center	1343	150,000		100%						
Henry Mayo Newhall Memorial Hospital	383	258,292		100%						
Huntington Memerial Hosptial	511	299,723		100%						
LAC+USC Medical Center	4081	150,000		100%						
Long Beach Memorial Medical Center	693	876,844		100%						
Martin Luther King Jr./Charles Drew Medical Center	1986	150,000		100%						
Northridge Hospital Medical Center	665	417,587		100%						
Providence Holy Cross Medical Center	741	747,495		100%						
St. Francis Medical Center	909	1,619,561		100%						
St. Mary Medical Center	294	231,780		100%						
UCLA Medical Center	834	217,080		100%						
Totals	**13578**	**$5,550,841**	**Note 1**							
			Note 2							

Matrix III - TRAUMA CARE FUND 2002 - 2003 EXPENDITURES

Local EMS Agency	Patient Volume	Total Allocation	1% Admin Costs	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention
Marin										
Marin General Hospital	538	204,974								
Totals	**538**	**$206,974**	**$2,000**							
NORCAL										
Mercy Medical Center	507	153,129			100%					
Enloe Medical Center	499	150,576			100%					
Fairchild Medical Center	36	50,000		37%		63%				
Redding Medical Center	71	50,247			100%					
St. Elizabeth Community Hospital	37	50,000			100%					
Oroville Medical Center	69	50,576		100%						
Colusa Regional Center		12,500		38%		48%		14%		
Glenn Medical Center		6,250				93%		7%		
Indian Valley Health District		12,582				100%				
Mayers Memorial Medical Center		12,829		82%		18%				
Seneca District Hospital		6,250				100%				
Mercy Medical Center Shasta	84	50,906		100%						
Totals	**1303**	**$611,846**	**$6,063**							
Orange										
University of California Irvine Medical	1470	501,286		67%		0.05		1%	31%	
Western Medical Center	971	368,347			100%					
Mission Hospital & Regional Medical Center	676	307,714			32%		35%		2%	31%
Totals	**3117**	**$1,188,128**	10,781							
Riverside										
Desert Medical Center	416	262,482		100%						
Inland Valley Medical Center	630	139,162			100%					
Riverside Communuty Hospital	446	257,279		50%	50%					
Riverside County Regional Medical Center	1171	362,492		50%	50%					
Totals	**2663**	**$1,031,320**	**$9,906**							
Sacramento										
University of California Davis Medical Center	2876	1,126,780					12%		88%	
Mercy San Juan Medical Center	819	310,881			66%	34%				
Totals	**3695**	**$1,451,404**	**$13,744**							
San Diego										
Childrens Hospital & Health Center	862	366,934		100%						
Scripps Mercy Hospital	1525	544,318		100%						
Palomar Memorial Hospital	924	387,704		100%						
Scripps Hospital	989	408,737		100%						
Sharp Memorial Hospital	1250	469,424		100%						
UCSD Medical Center	1674	578,236		100%						
Totals	**7224**	**$2,782,223**	**$26,872**							
San Francisco										
San Francisco General Hospital	1525	587,035				91%			9%	
Totals	**1525**	**$587,035**	**Note 1**							

Matrix III - TRAUMA CARE FUND 2002 - 2003 EXPENDITURES

Local EMS Agency	Patient Volume	Total Allocation	1% Admin Costs	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention
Santa Barbara										
Santa Barbara Cottage Hospital	853	301,642			100%					
Goleta Valley Cottage Hospital		25,000			100%					
Totals	**853**	**$329,815**	**$3,173**							
Santa Clara										
San Jose Medical Center	928	353,903		45%	45%	3%	5%	2%		
Santa Clara Valley Medical Center	936	349,999		3%	84%	3%	7%	1%		1%
Stanford University Medical Center	843	324,788			18%	2%	50%	7%	%	24%
Totals	**2707**	**$1,038,760**	**$10,070**							
Sierra-Sacramento Valley										
Sutter Roseville Medical Center	971	356,165			11.50%	88%			0.5%	
Rideout Memorial Hospital	110	51,894			100%					
Total	1081	**$412,180**	**$4,021**							
Grand Totals	**49785**	**$19,720,001**								
Note 1: LEMSAs did not keep allowable 1% for administration-distributed all available funds										
Note 2: Distributed funds ($5810) are higher than allocation (5,550,84) due to interest earned.										

Matrix IV - COMPARISON OF FUND UTILIZATION BY LEVEL OF TRAUMA HOSPITAL 2002 - 2003

Childrens Trauma Hospitals	Patient Volume	Total Allocation	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention	
Childrens Medical Center Oakland	700	354,070	50%	50%						
Children's Hospital, LA	267	150,000	78%		22%					
Children's Central Valley Medical Center		75,000		100%						
Children's Hospital, SD	862	366,934	100%							
Total	**1829**	**$946,004**								
Level I & University Teaching Hospitals										
University Medical Center Fresno	1436	553,845	41%	53%			6%			
Loma Linda University Medical Center	2072	767,914	54%		15%	11%	12%	3%	5%	
UCLA Medical Center	834	217,080	100%							
University of California Irvine	1470	501,286	67%		0.05		1%	31%		
UC Davis Medical Center	2876	1,126,780					12%		88%	
UCSD	1674	578,236								
Stanford University Medical Center	843	324,788		18%	2	50%	7%		23%	
Cedars Sinai Medical Center	871	357,995	100%							
Harbor/UCLA Medical Center	1343	150,000	100%							
LAC+USC Medical Center	4081	150,000	100%							
MLK/Drew Medical Center	1986	150,000	100%							
San Francisco General	1525	587,035			91%			9%		
Santa Clara Valley Medical Center	936	349,999	3%	84%	3%	7%	1%		1%	
Total	**19961**	**$5,814,958**								
Level II's										
Eden Hospital Medical Center	1563	354,070	50%	50%						
Highland Alameda County Medical Center	700	354,070	100%							
Santa Rosa Memorial Hospital	687	249,138	50%	50%						
John Muir Medical Center	1184	413,636	63%	37%						
Arrowhead Regional Medical Center	1755	704,995		100%						
Kern Medical Center	1544	582,406		32%	6%	6%	7%	11%	35%	3%
Henry Mayo Newhall Memorial Hospital	383	258,292		100%						
Huntington Memorial Hospital	511	299,723		100%						
Long Beach Memorial Medical Center	693	876,844		100%						
Northridge Hospital	665	417,587		100%						
Providence Holy Cross Medical Center	741	747,495		100%						
Desert Medical Center		262,482		100%						
Riverside County Regional Medical Center	1171	362492	50%	50%						
St. Francis Medical Center	909	1,619,561		100%						
St. Mary Medical Center	294	231,780		100%						
Mercy Medical Redding	507	153,129		100%						
Enloe Medical Center	499	150,576		100%						
Western Medical Center	971	368,347		100%						
Riverside Community Hospital	1171	257,279	50%	50%						
Mission Hospital & Regional Medical Center	676	307,714		32%		35%			2%	31%
Mercy San Juan Medical Center	819	310,881		66%	34%					
Scripps Mercy Hospital	1525	544,318	100%							
Palomar Medical Center	924	387,704	100%							
Scripps Memorial Hospital, LJ	989	408,737	100%							
Sharp Memorial Hospital	1250	469,424	100%							
Santa Barbara Cottage Hospital	853	301,642		100%						
San Jose Medical Center	928	353,903	45%	45%	3%	5%	2%			
Sutter Roseville Medical Center	971	356,165		11.50%	88%			0.5%		
Total	**34286**	**$12,104,390**								

Matrix IV - COMPARISON OF FUND UTILIZATION BY LEVEL OF TRAUMA HOSPITAL 2002 - 2003

Childrens Trauma Hospitals	Patient Volume	Total Allocation	Indigent Care	On-Call Physicians	Equipment	Education	Registry	Other Medical Personnel	Injury Prevention	
Level III's & Level IV's										
Queen of the Valley Hospital	179	76,748		67%			33%			
Redding Medical Center	71	50,247		100%						
Fairchild Medical Center	36	50,000	37%		63%					
St. Elizabeth Community Hospital	37	50,000		100%						
Mercy Medical Center Mt.Shasta	84	50,906	100%							
Oroville Medical Center	69	50,576	100%							
Mayers Memorial Hospital District		12,829	82%		18%					
Indian Valley Healthcare District		12,582			100%					
Colusa Regional Medical Center		12,500	38%		48%			14%		
Inland Valley Medical Center		139,162			100%					
Goleta Valley Cottage Hospital		25,000		100%						
Rideout Memorial Hospital	110	51,894		100%						
Glenn Medical Center		6,250			93%		7%			
Senaca District Hospital		6,250			100%					
Marin General Hospital	538	204,974								
Total	**1124**	**$799,918**								

CALIFORNIA'S
TRAUMA CARE

TRAUMA FUND UTILIZATION:
A FOLLOW-UP REPORT TO THE
CALIFORNIA LEGISLATURE

LESSONS LEARNED AND FUTURE NEEDS

ADDENDUM INFORMATION

June, 2004

CALIFORNIA'S TRAUMA CARE

ADDENDUM

This booklet will provide more detailed, explanatory information on some sections contained in the full report.

Each section is cross-referenced to the section in the full text.

IMPLEMENTATION OF STATE TRAUMA FUNDS:
(Refer to page 7 in report)

To determine the appropriation to each LEMSA, the Emergency Medical Services Authority required submission of the total number of trauma patients that were included in each LEMSAs trauma registry for the most recent fiscal year. Trauma registry data submitted could not include any patient who was discharged from the trauma center's emergency department without being admitted to the hospital, unless the non-admission was due to the patient's death or transfer to another facility.

Key requirements in the Trauma Care Fund included:

1. Funds were distributed only to trauma hospitals designated by LEMSAs.

2. Funds were distributed only to LEMSA's that had designated trauma hospitals within their geographic boundaries.

3. Six percent of the Fund was held in reserve by EMSA to fund newly designated trauma hospitals. The remaining balance was distributed to trauma hospitals.

4. EMSA retained one percent of the fund for administrative costs ($280,000).

5. All remaining dollars were distributed to LEMSA's having an EMSA approved trauma plan.

6. LEMSAs could retain one percent for administrative costs.

7. Each Level I and Level II trauma hospital was guaranteed a minimum of $150,000.

8. Each Level III trauma hospital was guaranteed a minimum of $50,000.

Additionally, by October 31, 2002, the California Trauma Care Fund required EMSA to develop criteria for standardizing the reporting of trauma patients into local trauma registries. EMSA standardized and implemented "Patient Inclusion Criteria" on July1, 2003.

Expenditures of Trauma Care Funds:

Matrix I – FY 2001/02:
Page 1

Alameda County EMS

Eden Hospital:
(Level II)

$268,763	Identified as "lab and radiology services" included "Other Medical Personnel" on Matrix I
$ 33,241	Computerized tomography (CT), plus maintenance contract.

(ICEMA)Inland Counties EMS Agency

Loma Linda University Medical Center:
(Level I teaching hospital)

Loma University Medical Center utilized its Trauma Funds for other than indigent care and physician on-call coverage:

$59,980	Outreach Coordinator Salary (included in "Other Medical Personnel" in Matrices I & II)
$5,300	YASP Fees (Youth Unable to Pay Program)
$6,000	Helmet and carseats (prevention programs)
$5,302	Radio system
$14,979	Electronics (3laptops, 2 digital cameras, 2 LCD projectors for outreach & trauma education and registry update)

Sacramento County EMS

University of California, Davis Medical Center: (Level I teaching hospital)

UC Davis Medical Center determined that increasing efforts in trauma prevention would be most beneficial to indigent care. UC Davis reports that most major types of trauma disproportionately affect indigent patients. Therefore, UC Davis spent its trauma funds in the following manner:

$931,767	Endowment of a Chair in Trauma Outcomes and Prevention Research – Identified under "Injury Prevention in Matrix I. The Director of the Trauma Program stated that the physicians as a group and employed by UC Davis, elected to forego any additional stipends in order to fund the Chair.
$46,900	Psychiatric clinic nurse specialist
$70,000	Advanced Trauma Life Support (ATLS) training for house staff
$50,000	Nurse practitioner education fund
$12,040	Support for office staff (includes printer listed under "Education" in Matrix I
$24,000	FdLate Machine – for use in non-invasive diagnosis of pulmonary embolism in trauma patients in the ICU
$185,000	Development and implementation of a surgical registry to include all surgical patients, not just trauma patients.

San Francisco EMS

San Francisco General Hospital: (Level I teaching hospital)

San Francisco General is a safety-net facility and operates with local government general fund dollars. The hospital staff reports that depositing California Trauma Care funds into "uncompensated care" would have credited city/county general fund not trauma programs. Therefore, San Francisco expended its Trauma Care Funds in other areas of need as follows:

$320,000	CT and Medical Resonance Imaging (MRI) mobile unit rentals
$40,000	Orthopedic clinic radiology unit replacement, design and permitting
$75,000	Helipad feasibility and needs assessment consultation (SF General currently does not have a helipad; a helipad would permit the trauma hospital to care for patients from outlying areas.)
$9,400	Cardiac monitor/defibrillator
$19,700	Portable ventilator
$116,000	Operating room orthopedic table system
$26,000	Ultrasound system
$50,000	Trauma Center Consultation Trauma education needs assessment and competency plan Trauma education multidisciplinary curriculum development
$200,000	Renovation of the trauma area in the emergency department
$1,323	Trauma Brain Injury Patient equipment materials and supplies

Santa Clara County EMS

Stanford University Medical Center:
(Level I teaching hospital)

Stanford Medical Center utilized its trauma funds in the following manner:

$ 23,500	Trauma registry/data
$148,000	Trauma physicians' continuing medical education support
$75,000	Injury prevention
$196,873	Paging network infrastructure/spectralink phones for trauma staff
$12,000	Equipment – portable ultrasound in ICU and trauma training mannequins

(ICEMA) Inland Counties EMS Agency

Loma Linda University Medical Center:
(Level I teaching hospital)

$100,000	Ultrasound machine, education package, repair contract
$10,000	Simulaids educational mannequins
$100,000	Data Coordinator – two-year commitment repair contract
$ 30,000	Colposcope
$35,000	Outreach position – two year commitment (included in "Other Medical Personnel" on Matrix III & IV)
$23,750	Outreach materials
$50,000	Continuing education requirements
$147,914	Uncompensated care

Kern County EMS

Kern County Medical Center: (Level II)

$ 38,272	Ultrasound machine

Marin County EMS

Marin General Hospital: (Level III)

Marin General Hospital spent all funds on implementation of an Injury Prevention Program.

Orange County EMS

University of California, Irvine Medical Center: (Level I teaching hospital)

$155,000	Added nurse practitioner and physician assistant to trauma services
$7,186	Upgraded trauma registry software and server
$2,500	Color coded pediatric resuscitation cart and equipment
$336,600	Indigent care

Sacramento County EMS

University of California, Davis Medical Center (Level I teaching hospital)

UC Davis has encumbered its trauma funds as follows:

$766,924	Nurse practitioners necessary due to increased patients
$219,856	To help in recruiting two additional surgeons – Included "Other Medical Personnel" in Matrix III
$140,000	ATLS training for five years ($28,000 per year)

Santa Clara County EMS

Stanford University Medical Center: (Level I teaching hospital):

Stanford used $60,000 of its trauma fund to support on-call physician pay. The balance of the fund was spent as follows:

$119,000	Trauma continuing medical education support funds for specialty physicians
$30,000	Educational meetings/conferences for trauma director, program manager, and coordinator
$78,000	Injury prevention projects
$6,730	Trauma and disaster packets
$13,500	Advanced training for trauma registrar, trauma abstractor, and administrative assistant
$6,400	Registry development consultant
$750	Trauma training mannequins

San Francisco County EMS

San Francisco General Hospital:
(Level I teaching hospital)

$462,034 Environmental Impact Review for helipad at hospital – included under "Equipment" in Matrix III. NOTE: This continues the planning effort begun with 2001/2002 trauma fund

$75,000 Access doors, including installation of security card-key access for patient and staff safety, between ED and Radiology – included under "Equipment" in Matrix III

$50,000 One year Trauma Fellow – included under "Other Medical Personnel" in Matrix III

POTENTIAL FUNDING SOURCES – ADDITIONAL INFORMATION:

Local Ballot Initiatives – Los Angeles County:
(See page 18)

Measure B was specific to emergency/trauma services and bioterrorism response. The Measure simply stated:

> "To avoid the life-threatening shutdown of Los Angeles County's trauma network, maintain and expand the trauma network County-wide, ensure more timely response to critical and urgent medical emergencies and respond effectively to biological or chemical terrorism, shall all property owners pay an annual tax of three cents per square foot of improvements (buildings) on developed property?

Yes: _____
No: _____

STATE BALLOT INITIATIVES

9-1-1 Emergency and Medical Services Initiative:

(See page 19)

This initiative seeks to increase the 9-1-1 surcharge to 3.7% on telephone calls made within California and is anticipated to generate $550 million annually.

The initiative caps the surcharge for residential telephones to a maximum of fifty cents per month. The cap does not apply to cellular or to business telephones. It exempts senior citizens and those on basic line rates. Out of state calls are exempt.

The proposed distribution of the funds is as follows:

$330,000,000	Emergency & Trauma Hospital Account
$167,000,000	Emergency Physician Uninsured Account
$27,500,500	Community Clinics Urgent Care Account
$20,625,000	First Responders Account
$1,125,000	9 -1-1 Account

The new funds may not be used to supplant existing funds for emergency medical services.

The initiative does not give preference to the allocation of funds from the Emergency and Trauma Hospital Account to designated trauma hospitals. Rather, allocation of funds is based upon the same allocation formula as will be used for any hospital in California. This approach does not address the costs incurred by trauma hospitals as a result of maintaining a constant state of readiness as required by other public safety programs, i.e., law enforcement and fire, but clearly will generate additional resources for trauma hospitals and trauma physicians.

PAY OR PLAY
(See page 22)

Struggling with emergency department closures, the closure of one of two trauma centers, Oklahoma has been innovative in passing legislation and regulations governing hospitals playfully referred to some as "pay or play," regulations.

Oklahoma classifies all hospitals into four levels of emergency services. Hospitals holding current verification as Level I or Level II trauma from the American College of Surgeons Committee on Trauma may be classified as a trauma hospital in Oklahoma. Currently only one trauma hospital remains in Oklahoma.

Key excerpts from the Oklahoma Department of Health Services Licensing Standards include:

- Each hospital **shall** participate in a functioning regional system of Providing 24-hour emergency hospital care.

- Participation in a regional system may include active participation of the hospital in the provision of emergency services based upon the system plan, the participation of the hospital's medical staff in the provision of emergency services at other hospitals in the system based upon the plan, **or payment into a fund to reimburse hospitals providing emergency services in the system.** (Emphasis added).

- If an area of the state fails to develop a functioning regional system of providing 24-hour emergency hospital care to meet the state's needs for trauma and emergency care……..the Commissioner of Health, in consultation with the Oklahoma Emergency Response Systems Development Advisory Council, shall develop a plan for the area. Each hospital located in the area **shall participate as specified in the plan for that region.**

Additionally, Licensing Standards contain specific conditions permitting transfer of patients from the regional emergency department system to hospitals outside of the region. For example, transfers to the one remaining trauma hospital in Oklahoma City must be based solely upon clinical need not available in the region. Facilities are required to have transfer agreements which, among other requirements, include reciprocal provisions requiring the transferring facility to accept the return transfers of patients at such time as the facility has the capability and capacity to provide care. Reciprocal agreements shall not incorporate financial provisions for transfers. This language is another attempt to curtail over-triaging and over-burdening the one remaining trauma center.