



How do we develop and improve an integrated State Trauma System?

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Trauma Statistics

- Accounts for 30% of all life years lost in the U.S.
- Cost burden: \$149 billion direct medical costs
 - \$585 billion health care and lost productivity
- Deaths due to injury: 192,000 in 2010
- Ranking as cause of death
 - #1 for age group 1-46, or 47% of all deaths in this age range
 - #3 as leading cause of death overall, across all age groups

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS)

Trauma System Agenda for the Future Definition of Trauma NHTSA 2002

The trauma patient is an injured person who requires **timely diagnosis and treatment** of actual or potential injuries by a **multidisciplinary team** of health care professionals, supported by the **appropriate resources**, to diminish or eliminate the risk of death or permanent disability. ... a trauma system **must determine the appropriate level of care** for each type of injury.

HSC 1798.160-169 (Article 2.5 Regional Trauma Systems, 1983)

- Defines trauma system
- Permission, not mandatory for local EMS agency
- Directs EMSA to develop regulations

Statutory Role of EMSA

- **Oversight:** (Local EMS Plan Approval) The authority shall receive plans for the implementation of emergency medical services and trauma care systems from local EMS agencies.
- **Data:** The authority shall develop criteria for the standardized reporting of trauma patients to local trauma registries.
- **Quality:** Assess system effectiveness as part of the overall emergency medical services system
- **Regulations:** Adopt trauma system regulations

HSC 1798.161 Trauma Regulations

The authority shall submit draft regulations specifying minimum standards for implementation of regional trauma systems.

These regulations ... shall ensure that the trauma care system is fully coordinated with all elements of the existing emergency medical services system.

- (1) Prehospital care management guidelines for triage and transportation
- (2) Flow patterns of trauma cases and geographic boundaries ...
- (3) The number of trauma cases necessary to assure quality care.
- (4) The resources and equipment needed by trauma facilities.
- (5) The availability and qualifications of the health care personnel.
- (6) Data collection regarding system operation and patient outcome.
- (7) Periodic performance evaluation ...

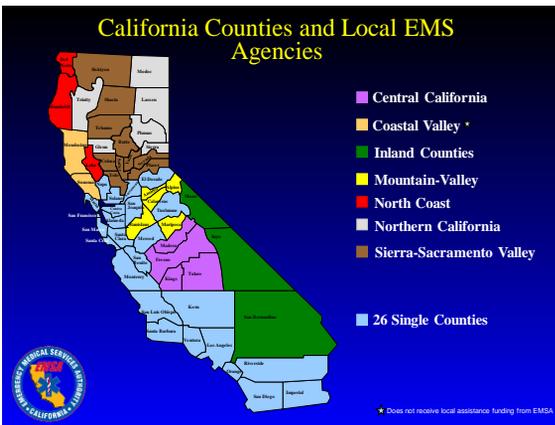
HSC 1797.198 (2001)
The Legislature finds and declares:

- a) Trauma care is an essential public service...as vital to the safety of the public as the services provided by law and fire.
- b) Trauma centers save lives ...
- c) Trauma centers ... also save money, because access to trauma care can mean the difference between full recovery from a traumatic injury, and serious disability necessitating expensive long-term care.
- d) Trauma centers do their job most effectively as part of a system that includes a local plan with a means of immediately identifying trauma cases and transporting those patients to the nearest trauma center.
- e) It is essential for persons in need of trauma care to receive that care within the 60-minute period immediately following injury.
- f) **It is the intent of the Legislature to promote access to trauma care by ensuring the availability of services through EMS agency-designated trauma centers.**

Trauma System Funding

- 1797.98a. Creates the Maddy Fund, using traffic fines for EMS funding
- 1797.199. (Trauma Care Fund Creation & Distribution) (a) There is hereby created in the State Treasury, the Trauma Care Fund, which, ... is hereby continuously appropriated ... (for trauma centers--**last appropriation 2005**)
- Local EMS agencies may charge a trauma center designation fee
- ACA contains provision for \$100 Million that has not been funded yet

California Counties and Local EMS Agencies



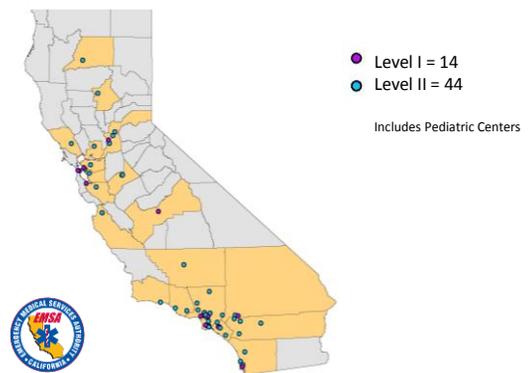
TOTAL TRAUMA CENTERS BY DESIGNATION

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Level I Pediatric Trauma Center Only	2
Level II Pediatric Trauma Center Only	2
Level I Trauma Center & Level I Pediatric Trauma Center	4
Level I Trauma Center & Level II Pediatric Trauma Center	4
Level II Trauma Center & Level II Pediatric Trauma Center	4
Level I Trauma Center	5
Level II Trauma Center	33
Level III Trauma Center	13
Level IV Trauma Center	10
TOTAL:	77

Newest California Trauma Centers

Facility	County	Level	Year
San Joaquin	San Joaquin	3	2013
Marion	Santa Barbara	3	2013
Natividad	Monterey	2	2015
Children's	Orange	2 Ped	2015

Level I and II Trauma Centers



Access to level 1 and 2 adult trauma centers within 60 minutes by ground or air

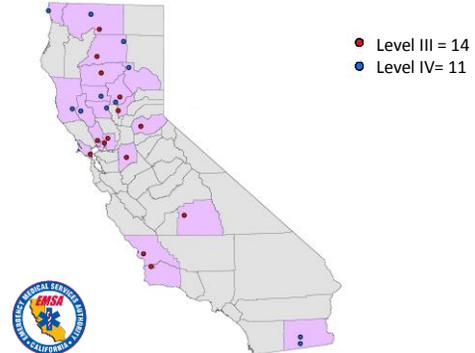
55.5% of land area
97.7% general population

(Adding level 3 trauma centers covers 59% of land and 97.8% of population)

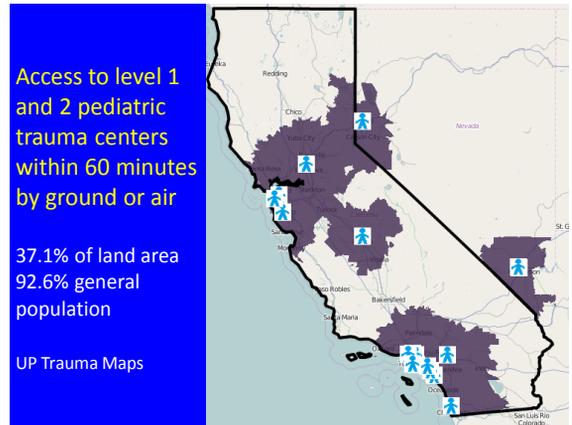
UP Trauma Maps



Level III and IV Trauma Centers



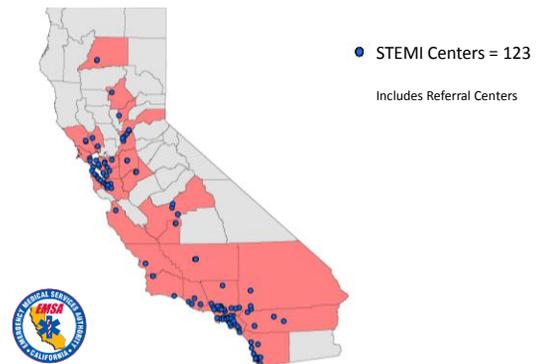
Pediatric Trauma Centers



Specialty care systems

- Trauma, EMSC, Stroke, STEMI
- Validate Trauma System model
- Integration across jurisdictions
 - Locally developed
 - Regionally coordinated
 - State oversight, regulations, data,
- Integration across healthcare spectrum
 - 911, pre-hospital, ED, hospital, rehabilitation
 - Unique opportunity for QA/QI

Designated STEMI Centers



Designated Stroke Centers



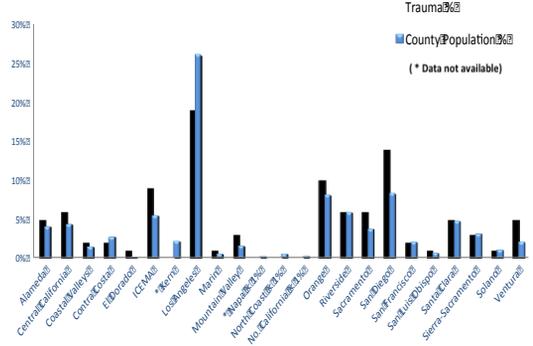
Specialty Care Centers with Triple Designation For Trauma, Stroke, STEMI



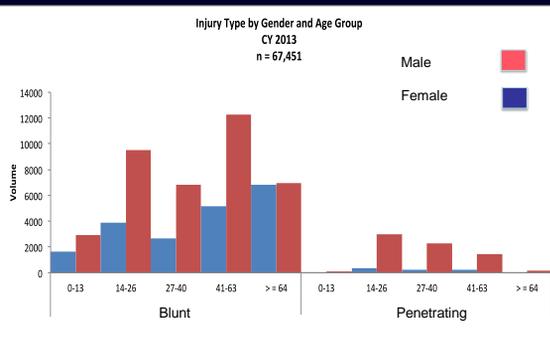
EMSA Goals for Data

- Full, timely submission
 - LEMSA to CEMIS to NEMIS
 - Statewide ePCR
- Linkage to hospital and outcome data
 - Long-term, link to other data sets
- Data Uses
 - Quality Assurance and Improvement for process, outcome, structure
 - Policy Analysis
 - Research

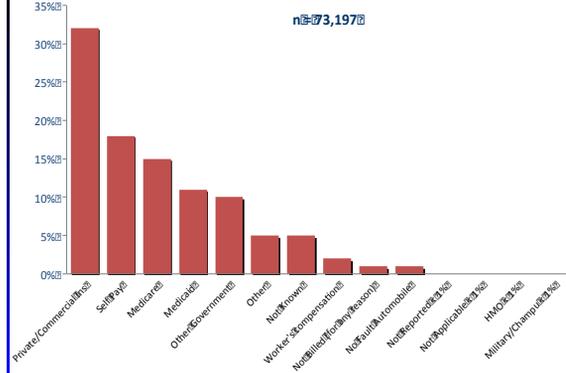
% Trauma Cases by LEMSA Compared to % County Population in State CY 2013



Injury Mechanism by Age and Gender



Primary Method of Payment





Draft Trauma Plan 2015

- Evaluation and recommendations on 15 system components
 - Based on HRSA benchmarks
 - ACS guidance document
 - California trauma experts
- Key recommendations
 1. Strengthen State Trauma Leadership
 2. Develop Statewide Trauma Registry
 3. Consider Trauma System Funding

