California Health System Response to Large Scale Trauma Surge Events

The Importance of Trauma Surge Planning for Every Hospital

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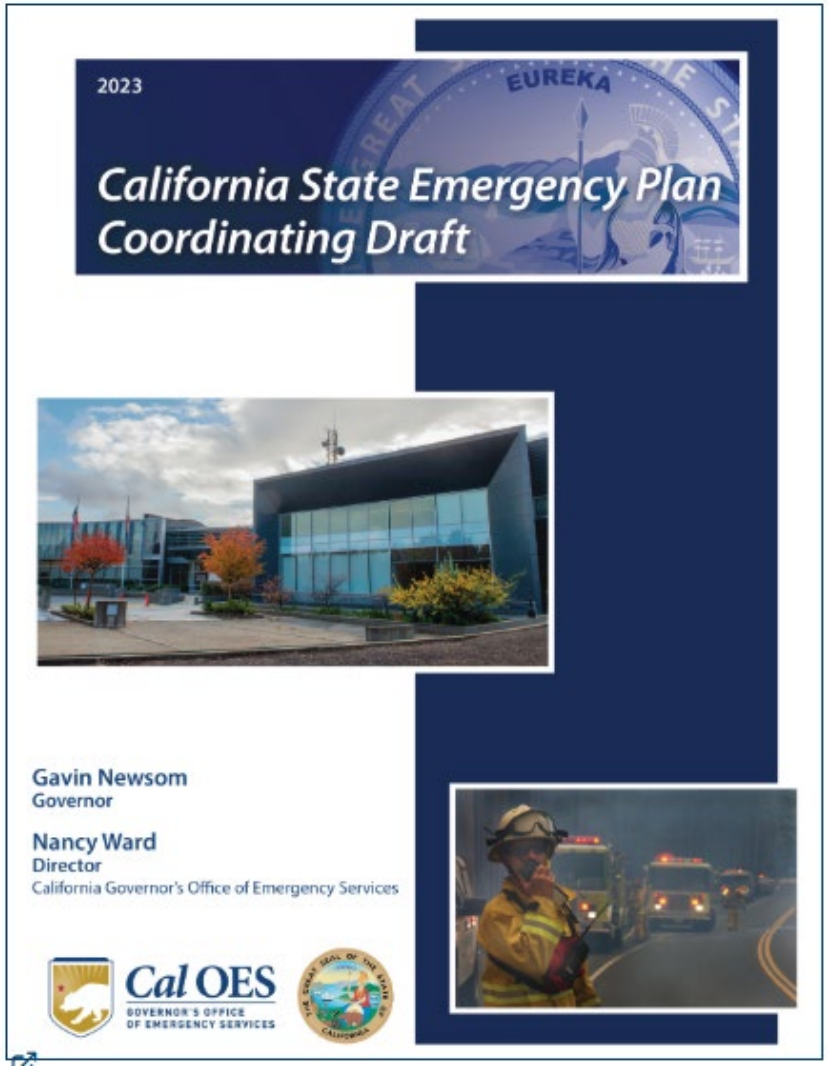
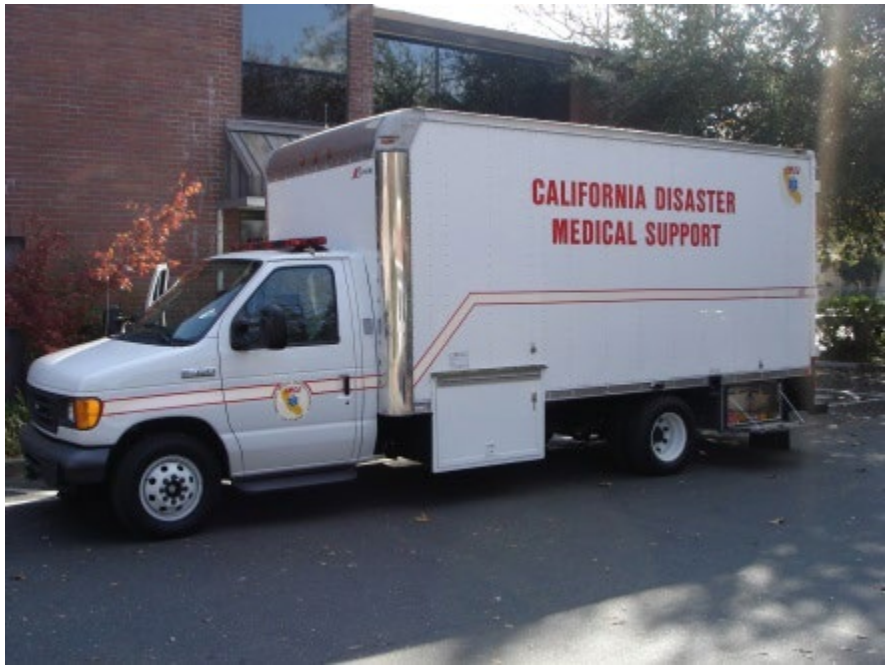
California OES Emergency Response Structure



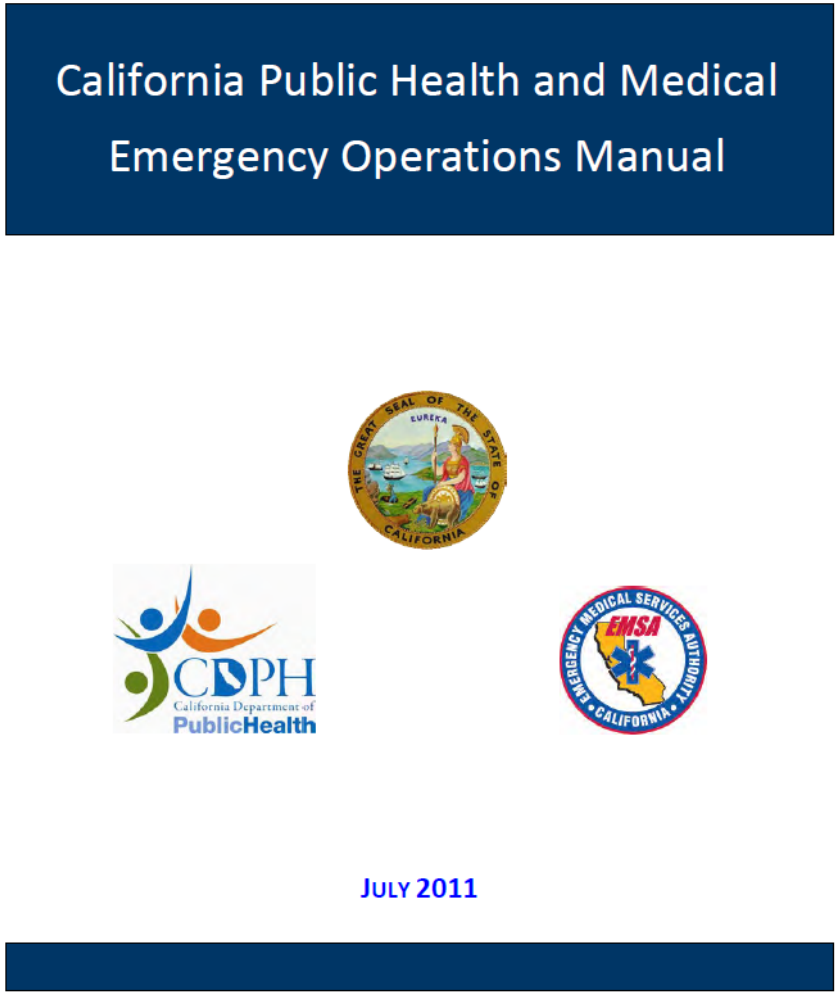
- 01 CA-ESF Transportation
- 02 Communications
- 03 Construction and Engineering
- 04 CA-ESF Fire and Rescue
- 05 CA-ESF Management
- 06 CA-ESF Mass Care and Shelter
- 07 Resources
- 08 Public Health and Medical
- 09 Search and Rescue merged into CA-ESF 4 & 13
- 10 Hazardous Materials
- 11 Agriculture
- 12 Utilities
- 13 CA-ESF Law Enforcement
- 14 Long Term Recovery
- 15 CA-ESF Public Information
- 16 CA-ESF Evacuation was merged into CA-ESF 13
- 17 Volunteer and Donations Management
- 18 CA-ESF Cybersecurity

EMSA / CDPH Health and Medical

- The California Public Health and Medical Emergency Operations Manual
- California Patient Movement Plan
- State, Regional, & Local structure
  - Regional Disaster Medical Health Coordination (RDMHC) Program
  - Medical Health Operational Area Coordinator (MHOAC)

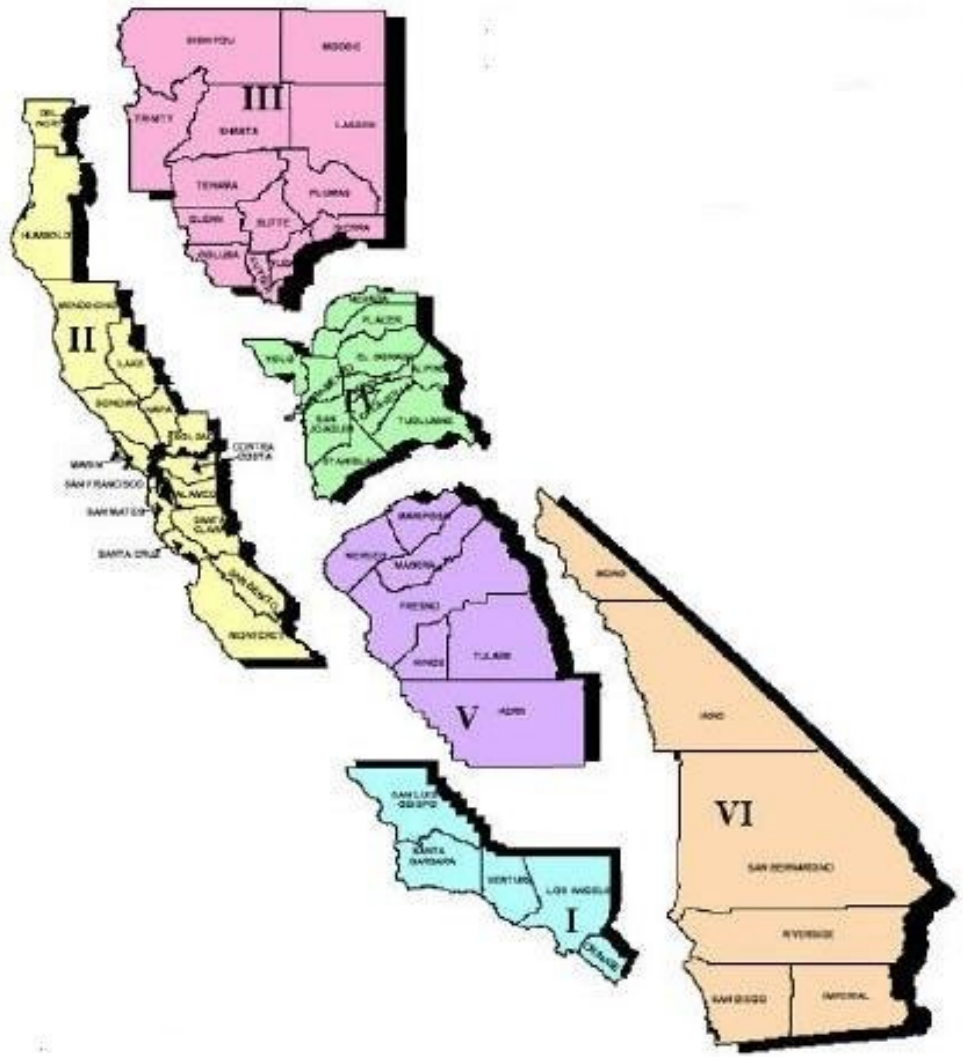


ESF 8 – Public Health and Medical

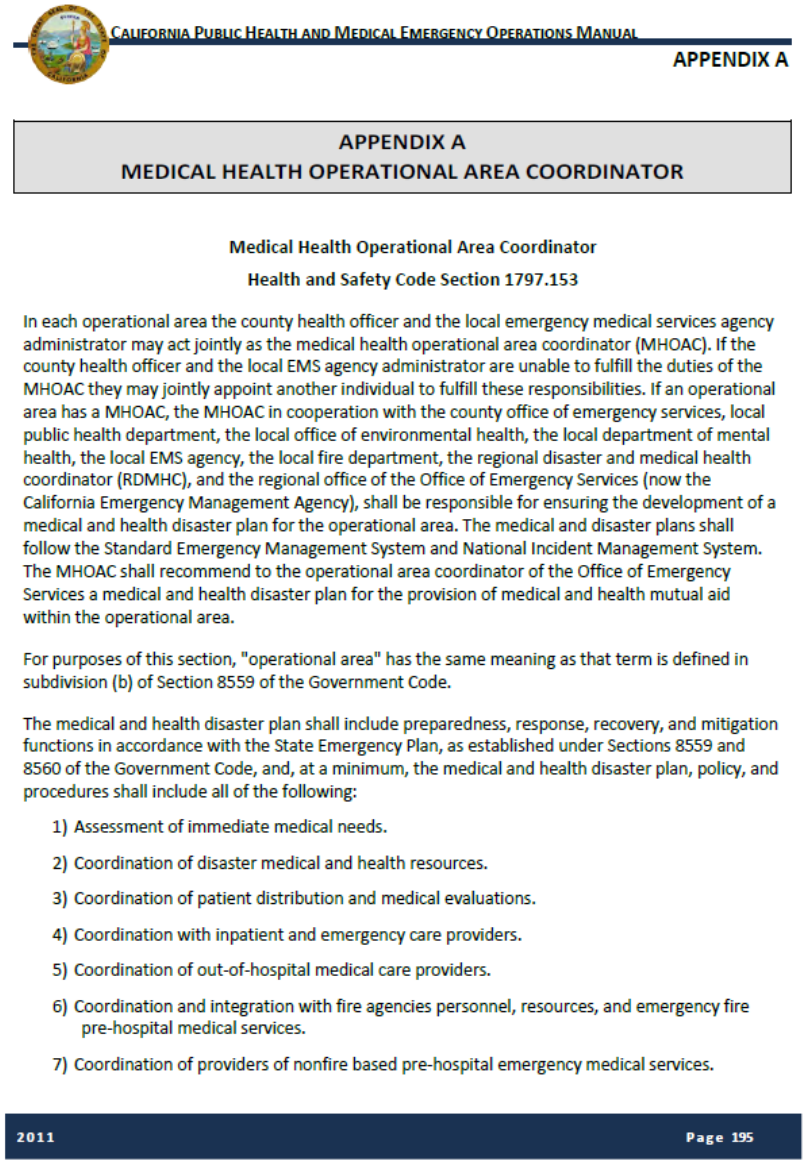


- TOC
  - Public Health and medical Coordination
  - Incident Considerations
  - Communications and Information Management
  - Resource Management
  - Muti-Agency Coordination
  - Specific Topics:
    - Communicable disease
    - Drinking Water
    - Food Emergencies
    - Hazardous Materials
    - Health Care Facilities
    - Healthcare Surge
    - .....

OES Regional Map



MHOAC Program



CALIFORNIA PUBLIC HEALTH AND MEDICAL EMERGENCY OPERATIONS MANUAL

APPENDIX A

APPENDIX A
MEDICAL HEALTH OPERATIONAL AREA COORDINATOR

Medical Health Operational Area Coordinator

Health and Safety Code Section 1797.153

In each operational area the county health officer and the local emergency medical services agency administrator may act jointly as the medical health operational area coordinator (MHOAC). If the county health officer and the local EMS agency administrator are unable to fulfill the duties of the MHOAC they may jointly appoint another individual to fulfill these responsibilities. If an operational area has a MHOAC, the MHOAC in cooperation with the county office of emergency services, local public health department, the local office of environmental health, the local department of mental health, the local EMS agency, the local fire department, the regional disaster and medical health coordinator (RDMHC), and the regional office of the Office of Emergency Services (now the California Emergency Management Agency), shall be responsible for ensuring the development of a medical and health disaster plan for the operational area. The medical and disaster plans shall follow the Standard Emergency Management System and National Incident Management System. The MHOAC shall recommend to the operational area coordinator of the Office of Emergency Services a medical and health disaster plan for the provision of medical and health mutual aid within the operational area.

For purposes of this section, "operational area" has the same meaning as that term is defined in subdivision (b) of Section 8559 of the Government Code.

The medical and health disaster plan shall include preparedness, response, recovery, and mitigation functions in accordance with the State Emergency Plan, as established under Sections 8559 and 8560 of the Government Code, and, at a minimum, the medical and health disaster plan, policy, and procedures shall include all of the following:

1) Assessment of immediate medical needs.
2) Coordination of disaster medical and health resources.
3) Coordination of patient distribution and medical evaluations.
4) Coordination with inpatient and emergency care providers.
5) Coordination of out-of-hospital medical care providers.
6) Coordination and integration with fire agencies personnel, resources, and emergency fire pre-hospital medical services.
7) Coordination of providers of nonfire based pre-hospital emergency medical services.

2011 Page 195

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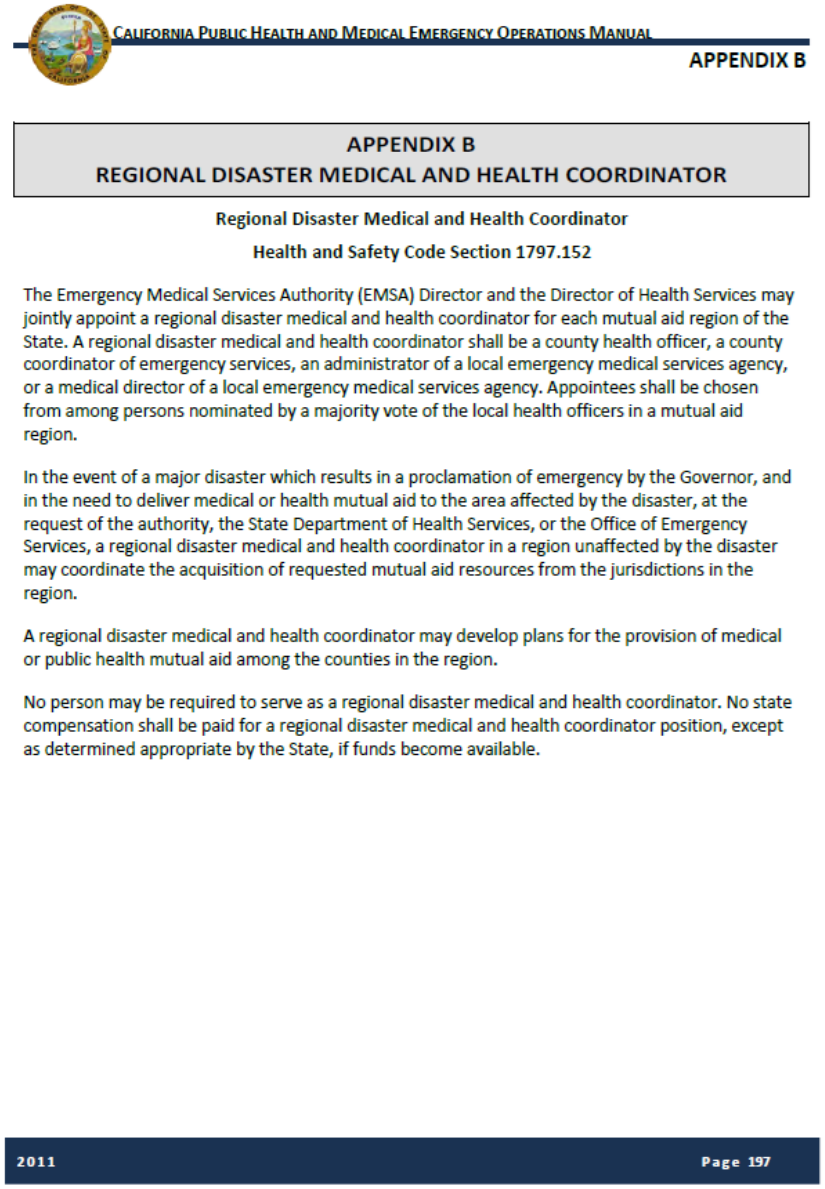
- 3) Coordination of patient distribution and medical evaluations.
- 4) Coordination with inpatient and emergency care providers.
- 5) Coordination of out-of-hospital medical care providers.
- 6) Coordination and integration with fire agencies personnel, resources, and emergency fire pre-hospital medical services.
- 7) Coordination of providers of non-fire based pre-hospital emergency medical services.
- 8) Coordination of the establishment of temporary field treatment sites.
- 9) Health surveillance and epidemiological analyses of community health status.
- 10) Assurance of food safety.
- 11) Management of exposure to hazardous agents.
- 12) Provision or coordination of mental health services.
- 13) Provision of medical and health public information protective action recommendations.
- 14) Provision or coordination of vector control services.
- 15) Assurance of drinking water safety.
- 16) Assurance of the safe management of liquid, solid, and hazardous wastes.
- 17) Investigation and control of communicable disease.

RDMHC Program



APPENDIX B
REGIONAL DISASTER MEDICAL AND HEALTH COORDINATOR

Regional Disaster Medical and Health Coordinator

Health and Safety Code Section 1797.152

The Emergency Medical Services Authority (EMSA) Director and the Director of Health Services may jointly appoint a regional disaster medical and health coordinator for each mutual aid region of the State. A regional disaster medical and health coordinator shall be a county health officer, a county coordinator of emergency services, an administrator of a local emergency medical services agency, or a medical director of a local emergency medical services agency. Appointees shall be chosen from among persons nominated by a majority vote of the local health officers in a mutual aid region.

In the event of a major disaster which results in a proclamation of emergency by the Governor, and in the need to deliver medical or health mutual aid to the area affected by the disaster, at the request of the authority, the State Department of Health Services, or the Office of Emergency Services, a regional disaster medical and health coordinator in a region unaffected by the disaster may coordinate the acquisition of requested mutual aid resources from the jurisdictions in the region.

A regional disaster medical and health coordinator may develop plans for the provision of medical or public health mutual aid among the counties in the region.

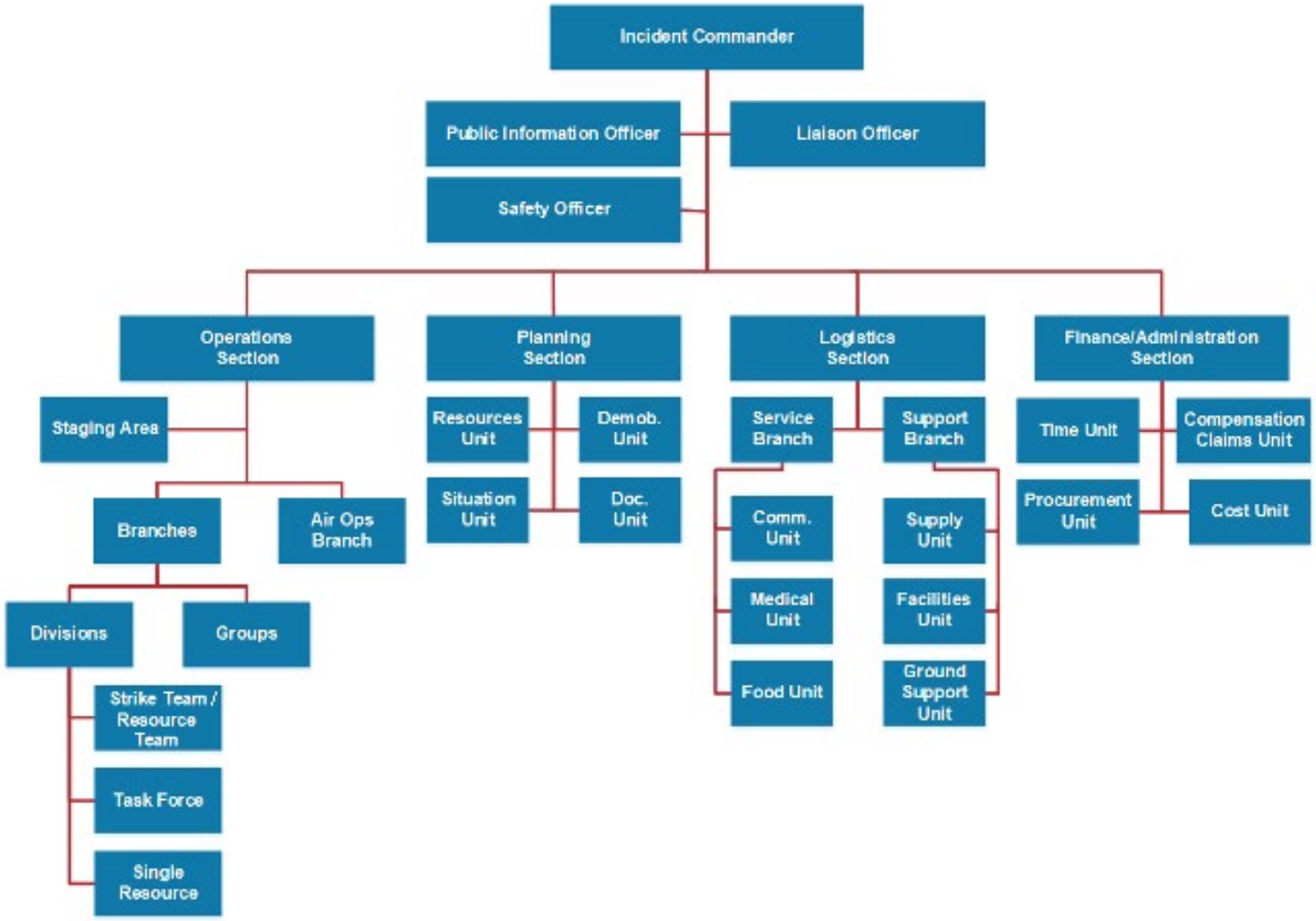
No person may be required to serve as a regional disaster medical and health coordinator. No state compensation shall be paid for a regional disaster medical and health coordinator position, except as determined appropriate by the State, if funds become available.

- Support and coordinate multiple LEMSAs/Counties in an OES Region
- Communication link between local/county level and state agencies/resources
- Role in the process to fill resource requests

EMSA Disaster Medical Services (DMS)

- Ambulance Strike Teams (ASTs)
- California Medical Assistance Teams (CALMAT)
- Disaster Healthcare Volunteers (DHVs)
- Medical Reserve Corps (MRCs)
- Mission Support Teams (MSTs)
- Hospital Incident Command System (HICS)

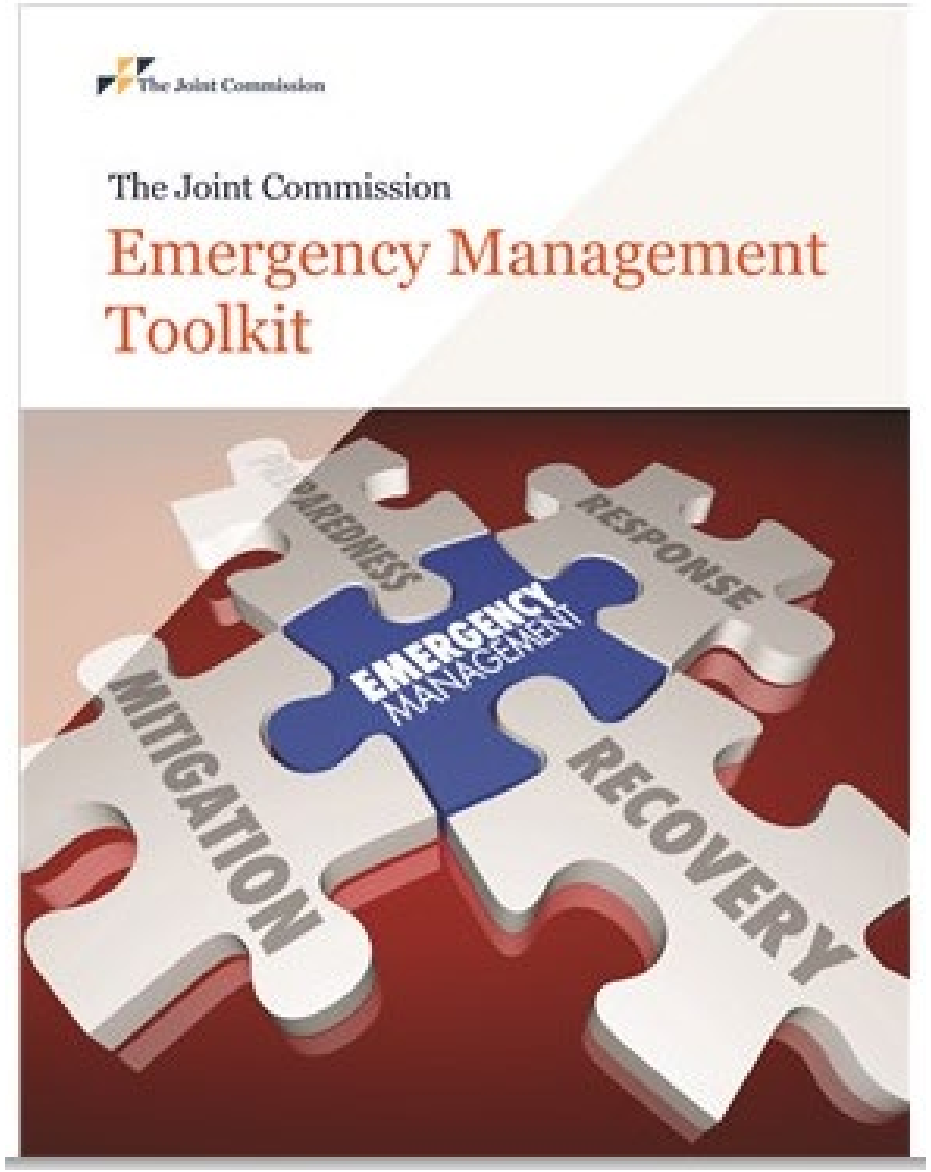
Incident Command System (ICS) Organization



Hospital Emergency Management

- Joint Commission requirements for all hospitals:
  - Emergency Plan
  - Policies and Procedures
  - Communication Plan
  - Training and Testing
- *Focus often siloed on individual facility preparedness, lacking focus on integration with external response partners. (-HG)

[The Joint Commission Emergency Management Toolkit | Joint Commission Resources]



Mass Casualty Events

Deadliest mass shootings in the United States

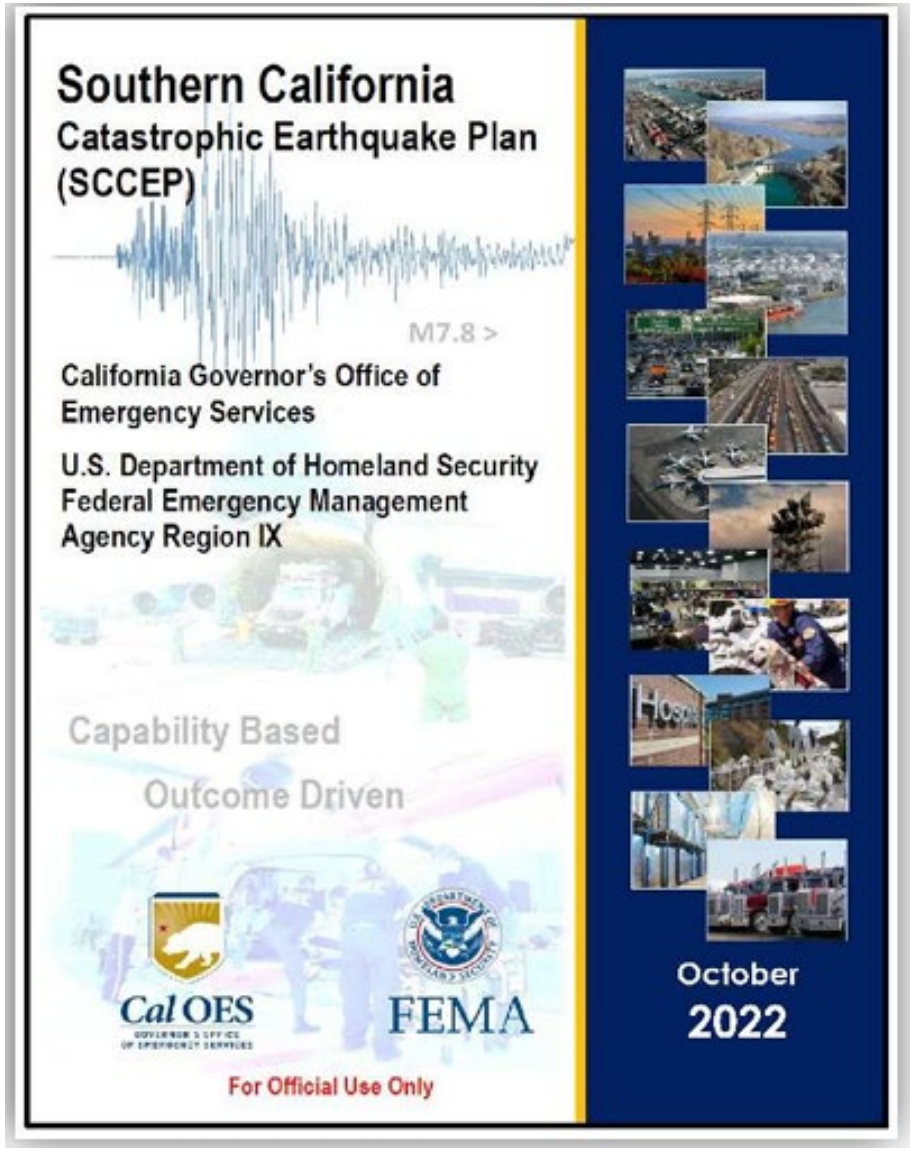
Rank	Peak	Incident	Location	Deaths	Injuries	Date
1	1	Las Vegas shooting†	Paradise, Nevada	60[LV]	867[LV]	October 1, 2017
2	1	Pulse nightclub shooting†	Orlando, Florida	49	58[P]	June 12, 2016
3	1	Virginia Tech shooting†	Blacksburg, Virginia	32	23[VT]	April 16, 2007
4	2	Sandy Hook Elementary School shooting†	Newtown, Connecticut	27	2	December 14, 2012
5	5	Sutherland Springs church shooting†	Sutherland Springs, Texas	26[a]	22	November 5, 2017
6	1	Luby's shooting†	Killeen, Texas	23	27	October 16, 1991
7	6	El Paso shooting	El Paso, Texas	23	22	August 3, 2019
8	1	San Ysidro McDonald's massacre†	San Diego, California	22[a]	19	July 18, 1984
9	9	Robb Elementary School shooting†	Uvalde, Texas	21	21	May 24, 2022
10	10	Lewiston shootings†	Lewiston, Maine	18	13	October 25, 2023
11	8	Parkland high school shooting	Parkland, Florida	17	17	February 14, 2018
12	1	University of Texas tower shooting†	Austin, Texas	15[b]	31	August 1, 1966
13	5	Fort Hood shooting	Fort Hood, Texas	14[a]	32	November 5, 2009
14	8	San Bernardino attack‡	San Bernardino, California	14	24	December 2, 2015
15	5	Columbine High School massacre‡	Columbine, Colorado	14	23	April 20, 1999
16	3	Edmond post office shooting†	Edmond, Oklahoma	14	6	August 20, 1986
17	8	Aurora theater shooting	Aurora, Colorado	13[a]	70	July 20, 2012
18	7	Binghamton shooting†	Binghamton, New York	13	4	April 3, 2009
19	1	Camden shootings	Camden, New Jersey	13	3	September 6, 1949

Mass Casualty Events

Categorization of Mass Fatality Incidents by Type and Category From 2000–2016

Incident Name	Year	Fatalities	Federal Declaration?	Legislated Air/ Rail Incident?
Alaskan Airlines Flight 261 Crash	2000	88		X
Executive Air Aviation Accident	2000	19		X
World Trade Center Attack	2001	2753	X	X
Flight 93 Attack	2001	44	X	X
Pentagon Attack	2001	189	X	X
Flight 587 Accident	2001	265		X
US Airways 5481 Aviation Accident	2003	21		X
Station Club Night Club Fire	2003	100		
Hurricane Ivan	2004	57	X	
British Aerospace Aviation Accident	2004	13		X
Hurricane Katrina	2005	1833	X	
Hurricane Rita	2005	120	X	
Comair Flight 5191 Aviation Accident	2006	49		X
Hurricane Gustav	2008	53	X	
Hurricane Ike	2008	113	X	
Continental Flight 3407 Aviation Accident	2009	50		X

SCAL Earthquake



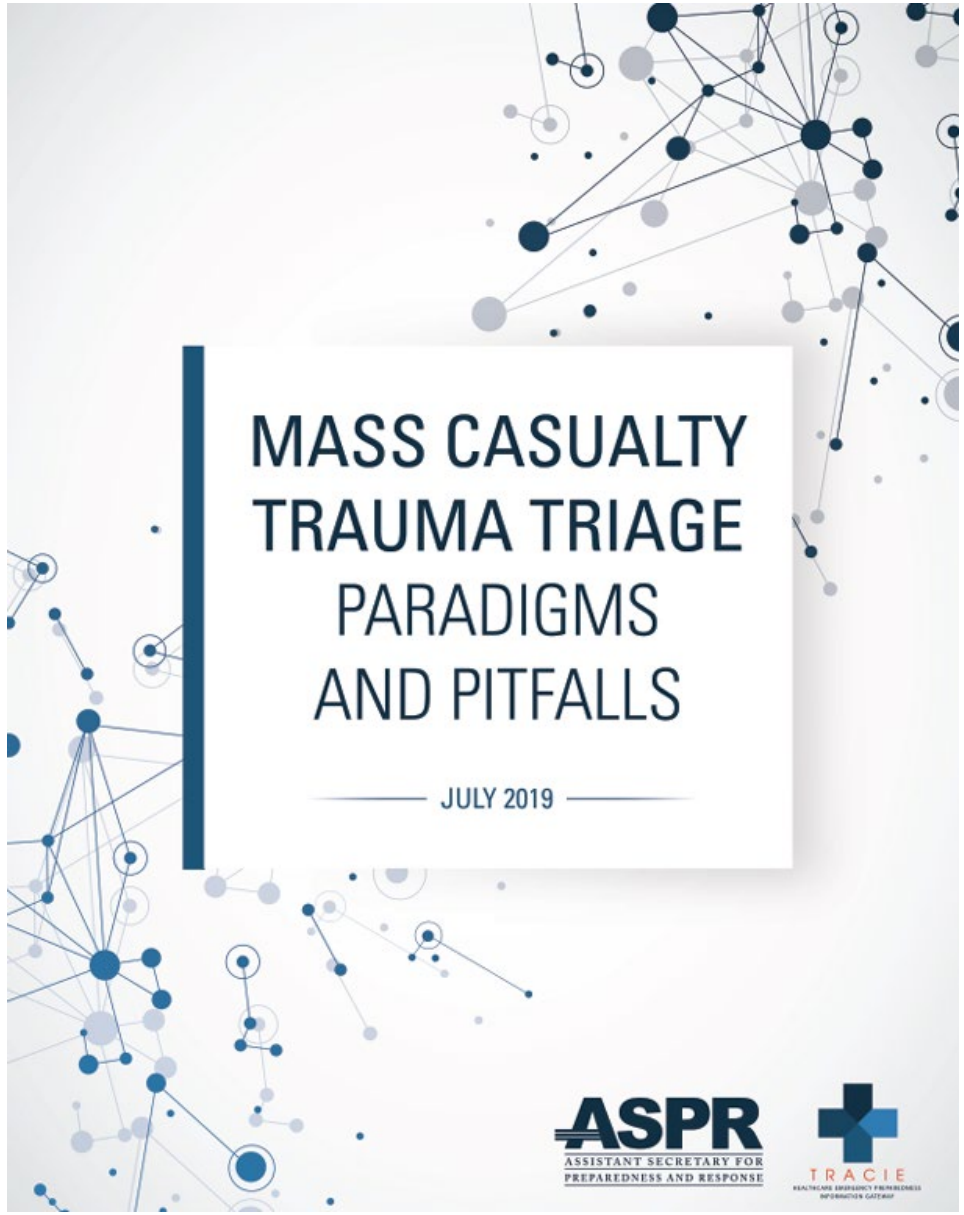
- A 99.7% chance of a M6.7 or larger earthquake in CA in the next 30 years.
- A 17% chance of a M7.7 or larger on the Southern San Andreas Fault in the next 30 years.
- Damaged buildings: 1,046,534
- Essential facilities reduced to less than 50% functionality on Day 1: 325 hospitals, 7,952 schools, 112 Emergency Operation Centers, 405 police stations, 1,299 fire stations
- Population total: 24,345,027, directly impacted: 19,273,222
- Displaced population: 2,250,000, seeking shelter: 225,000, including: 56,250 with Access and Functional Needs, and over 15,750 toddlers and infants.
- Rescues: 45,000, surviving injured: 177,858, total casualties: 12,750

CalOES_FactSheet_SCCEP_v2023_06_22-final.pdf

Trauma Surge Key Planning Points

- Large Scale events with trauma casualties will EXCEED the available resources of the existing trauma care system
- Non-Trauma care facilities will have to participate in response to large scale events, caring for the low to moderately injured. *Planning for such needs to be a priority!
- Acute care Pediatric resources are 1/10th the adult resources, but many mass casualty events (earthquakes) will not honor this age distribution. *Planning for Peds trauma patients especially important!
  - 9000 Adult ICU beds, 900 PICU beds.
  - Adult hospitals care for peds down to age 12, 8?
  - Telehealth consultation from Peds specialty centers to peripheral facilities to keep Peds at originating facilities.

Trauma Surge Key Planning Points



- **Integration between the pre-hospital and hospital response.** Joint planning and exercising can ensure that EMS and hospitals will be prepared to rapidly assess and provide appropriate care and disposition for patient.
- **Response objectives and basic strategies are the same for every incident**; however, the tactics will vary depending on the available resources and the individual situation.
- **Rapid EMS transport should be favored over formal on-scene triage/sorting activities.**
- **Transport capacity should be maximized by prior agreements and early resource requests.**
- **Patient distribution to appropriate hospitals should be considered a component of triage and can have significant impact on survival.** Getting critical patients to trauma centers while not burdening these centers with too many non-critical patients is a difficult balance and may require adjustments based on the scope of the incident.

Trauma Surge Key Planning Points

- **EMS should be able to monitor the capacity and needs of local hospitals and provide support to hospital triage and secondary transport operations.**
- **Every hospital must be prepared for large numbers of privately transported and walk-in casualties, particularly from nearby MCIs that involve violence.**

- ***Having a plan is not the same as being able to execute a plan. The target for preparedness needs to be successful plan execution! JOINT EXCERSISES are CRITICAL for success. (-HG)**

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