

Los Angeles County Pediatric Surge Plan



**EMERGENCY MEDICAL
SERVICES AGENCY**
LOS ANGELES COUNTY

Effective: May 2013

Last Edited: August 2016



Director, EMS Agency



Medical Director, EMS Agency





LOS ANGELES COUNTY BOARD OF SUPERVISORS

Hilda L. Solis
FIRST DISTRICT

Mark Ridley-Thomas
SECOND DISTRICT

Sheila Kuehl
THIRD DISTRICT

Don Knabe
FOURTH DISTRICT

Michael D. Antonovich
FIFTH DISTRICT

LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES

Mitchell H. Katz
Director

LOS ANGELES COUNTY EMERGENCY MEDICAL SERVICES AGENCY

Cathy Chidester
Director

Marianne Gausche-Hill
Medical Director

-This page intentionally left blank-



EMERGENCY MEDICAL SERVICES AGENCY

LOS ANGELES COUNTY

Pediatric Surge Plan

Table of Contents	Page
Los Angeles County Pediatric Surge Plan	1
Activation & Notification	1
Operations	1
Deactivation	2
Overview of Patient Distribution by Tier	3
Appendices	
A. Hospital Listing by Pediatric Surge Tier	4
B. Tier Capability and Surge Capacity Overview	13
C. Background, Initial Needs Assessment, and Gap Analysis	15
D. Training and Plan Distribution	22
E. Exercise Overview and Results	25
F. History and Summary of Revisions	30
G. Strategies for Enhancing Surge Capacity – from the Los Angeles County Mass Medical Care Model	32
H. Suggested Supplies	39
I. Translating Triage to Tier: Tool for the LAC EMS Agency Medical Alert Center	41
J. Children with Access and Functional Needs	44
Acknowledgements	53

-This page intentionally left blank-

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Los Angeles County Pediatric Surge Plan

The goal of this plan is to double Los Angeles County (LAC) inpatient pediatric capacity. Given the variability in pediatric care on a daily basis, all hospitals are requested to plan for an event resulting in a surge of pediatric patients. This plan is founded on a tiered system based on pediatric capacity and capability. Therefore, patient age and acuity need to be considered when determining the location where children will be treated. The goal is to expand hospitals' existing capabilities and triage the most critically ill or injured children to those hospitals accustomed to treating them. Although hospital capabilities and capacity vary, all hospitals will need to participate to meet the needs of children.

Activation & Notification

The LAC Pediatric Surge Plan may be activated in response to an event that has a disproportionate number of pediatric patients. This plan will be activated in the same manner in which LAC EMS Agency functions on a daily basis through the use of ReddiNet® and transfers through the Medical Alert Center (MAC). The EMS Agency will be responsible for activating the plan based upon the information they receive about a given incident.

Operations

LAC EMS Agency

- The Los Angeles County Department of Health Services' Department Operations Center (DOC), as the Medical and Health Operational Area Coordinator, will monitor hospital bed availability and coordinate the distribution of pediatric patients within the County's healthcare system using the pediatric surge plan as a guide to where patients should go and how many patients hospitals have agreed to accommodate.
- To facilitate distribution of pediatric patients, the DOC will coordinate transportation and destination of prehospital patients, facilitate interfacility transfers as needed, and waive the requirements for Reference No. 510, Pediatric Patient Destination, as applicable.
- Patients shall be distributed to an appropriate level of care given the specific circumstances of the situation, a trauma versus a medical event. The tiers provide general guidelines that may be used in a surge that disproportionately affects children as a method for supporting distribution of patients throughout the County. It may be necessary to consult a pediatric medical expert in the triage and distribution of patients when operationalizing this plan (**Figure 1**, an overview of patient distribution by tier).
- The type of event will be taken into account by LAC EMS Agency when coordinating patient distribution with prehospital providers.
 - a. Trauma event: LAC EMS Agency and the Medical Alert center will utilize LAC pediatric trauma centers (PTC) for the youngest and most traumatically injured pediatric patients.
 - b. Medical event: LAC EMS Agency and the Medical Alert center will utilize LAC pediatric medical centers (PMC) for the youngest and most critically ill pediatric patients.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Hospitals

- To expand the hospital's existing capability, each individual hospital will determine what specific strategies to implement to meet their surge capacity target. For reference, surge strategies are provided in **Appendix G** of this document.
- Hospitals will utilize the clinical practices of pediatric care that are standard for their facility.
- If an interfacility transfer needs to occur, due to the need for a higher or lower level of care, the hospital will need to contact the DOC to coordinate the transfer.
- All communication regarding plan activation, resource requests, and patient transfers will utilize the everyday systems and procedures in place.

Prehospital Providers

- The Medical Alert Center will notify prehospital providers that the Pediatric Surge Plan has been activated.
- Providers will continue to work with the DOC through standard operating procedures to distribute patients.
 - The DOC will take into account the activation of the Pediatric Surge Plan and will provide hospital destination information by utilizing the tiered guidelines.

Deactivation

As the LAC DOC monitors hospital bed availability and coordinates the distribution of pediatric patients, they will determine when the pediatric surge has concluded. The LAC DOC will then take the appropriate steps to deactivate this Pediatric Surge Plan, involving:

- Notification via ReddiNet® of the conclusion of the pediatric surge to all necessary hospitals and healthcare facilities in Los Angeles County.
- Reinstate Reference No. 510, Pediatric Patient Destination, as applicable.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Figure 1 – Overview of Patient Distribution by Tier

* Note: In a pediatric trauma surge event, patients would go to Tier 3 before Tier 2

The diagram features a table with two columns: 'HOSPITAL TIER' and 'TIER DESCRIPTION'. To the left of the table, a large red arrow points upwards and is labeled 'Acuity Level'. A smaller blue arrow points downwards from the middle of the table and is labeled 'Over 8 years old'.

HOSPITAL TIER	TIER DESCRIPTION
Tier 1	Pediatric Centers (PTC/PMC)
Tier 2*	Pediatric Medical Centers (PMC)
Tier 3	Adult Trauma Centers
Tier 4	Pediatric Acute Beds
Tier 5	Emergency Departments Approved for Pediatrics (EDAP)
Tier 6	No Pediatric Services
Tier 7	No Emergency Services / Specialty Centers

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix A
Hospital Listing by Pediatric Surge Tier

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Hospital Listing by Pediatric Surge Tier

The following lists outline the surge targets for each hospital within LAC. Surge targets are based on existing pediatric capacity and capability.

Tier 1 Hospitals – (Pediatric Trauma Capable)

Tier one hospitals are those facilities that currently care for pediatric intensive care, pediatric acute care, neonatal intensive care patients, as well as pediatric trauma patients. These facilities may be requested to take care of the most critically injured children throughout LAC.

	HOSPITAL	PICU Surge	Pediatric Acute Surge	Licensed PICU Beds 2010
1.	Children's Hospital Los Angeles (PTC, LI, PMC)	25	15	48
2.	LB Memorial Medical Center / Miller Children's Hospital (PTC, LII, PMC)	20	15	20
3.	Ronald Reagan UCLA Medical Center (PTC, LI, PMC)	20	15	20
4.	Cedars-Sinai Medical Center (PTC, LI Adult, PMC)	15	15	18
5.	Northridge Hospital Medical Center (PTC, LII, PMC)	15	15	14
6.	LAC+USC Medical Center (PTC, LI, PMC)	15	15	10
7.	LAC Harbor-UCLA Medical Center (PTC, LI, PMC)	10	15	10
TOTAL SURGE for TIER 1		120	105	

LI = Level I Trauma Center
 LII = Level II Trauma Center
 PTC = Pediatric Trauma Center
 PMC = Pediatric Medical Center

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Tier 2 Hospitals – (PICU, Peds Acute, NICU) or (Pediatric Medical Capable)

Tier 2 hospitals are those facilities that are medically equipped to care for children including pediatric intensive care, pediatric acute care, and neonatal intensive care patients. These facilities may be requested to take care of the most critically ill children throughout LAC.

	HOSPITAL	PICU Surge	Pediatric Acute Surge	Existing Licensed PICU Beds 2010
1.	Kaiser Foundation Hospital – Los Angeles Medical Center	15	15	16
2.	Valley Presbyterian Hospital	10	15	10
3.	Huntington Memorial Hospital (PMC, LII Adult)	5	15	8
4.	Providence Tarzana Medical Center (PMC)	5	15	7
5.	Santa Monica – UCLA Medical Center	5	15	4
6.	White Memorial Medical Center (PMC)	5	15	5
TOTAL SURGE for TIER 2		45	90	

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Tier 3 Hospitals - (Level II Adult Trauma Centers)

Tier 3 hospitals are adult trauma centers in LAC. These facilities do not have PICU capability, but may be able to surgically handle traumatic injuries in children. If a PICU surge is greater than the surge targets for Tier 1 and 2 hospitals, this group of hospitals may be called upon to care for the additional surge of five PICU patients each.

	HOSPITAL	PICU Surge	Pediatric Acute Surge
1.	Antelope Valley Hospital	5	15
2.	California Hospital Medical Center	5	15
3.	Henry Mayo Newhall Memorial Hospital	5	15
4.	Providence Holy Cross Medical Center	5	15
5.	Saint Francis Medical Center	5	15
6.	Saint Mary Medical Center	5	15
TOTAL SURGE for TIER 3		30	90

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Tier 4 Hospitals

Tier 4 hospitals provide inpatient pediatric acute care and all but three are EDAP facilities. Non-EDAP facilities are indicated in italics. Tier 4 hospitals may be requested to accept lower acuity patients compared to Tiers 1, 2, and 3.

	HOSPITAL	Pediatric Acute Surge
1.	Beverly Hospital	15
2.	Citrus Valley Medical Center – Queen of the Valley	15
3.	<i>Greater El Monte Community Hospital</i>	15
4.	<i>Hollywood Presbyterian Medical Center</i>	15
5.	<i>Kaiser Foundation Hospital – Woodland Hills</i>	15
6.	LAC Olive View – UCLA Medical Center	15
7.	Pomona Valley Hospital Medical Center	15
8.	Providence Little Company of Mary Hospital Medical Center– Torrance	15
9.	Torrance Memorial Medical Center	15
TOTAL SURGE for TIER 4		135

Tier 5 Hospitals

Tier 5 includes hospitals that are EDAP, but do not provide inpatient pediatric services. These facilities may be requested to provide inpatient surge capacity for stable patients who are ideally over age eight. *The Kaiser Foundation Hospitals (in italics) are non-EDAP facilities but have the capabilities of EDAP facilities.*

	HOSPITAL	Pediatric Acute Surge
1.	Centinela Hospital Medical Center	15

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

2.	Encino Hospital Medical Center	15
3.	Glendale Adventist Medical Center	15
4.	Glendale Memorial Hospital and Health Center	15
5.	<i>Kaiser Foundation Hospital – Baldwin Park</i>	15
6.	<i>Kaiser Foundation Hospital – Panorama City</i>	15
7.	<i>Kaiser Foundation Hospital – South Bay</i>	15
8.	<i>Kaiser Foundation Hospital – West Los Angeles</i>	15
9.	Memorial Hospital of Gardena	15
10.	Methodist Hospital of Southern California	15
11.	PIH Health Hospital–Downey	15
12.	PIH Health Hospital-Whittier	15
13.	Providence Little Company of Mary Medical Center – San Pedro	15
14.	Providence Saint Joseph Medical Center	15
15.	Sherman Oaks Hospital	15
16.	USC Verdugo Hills Hospital	15
17.	West Hills Hospital and Medical Center	15
TOTAL SURGE for TIER 5		255

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Tier 6 Hospitals

Tier 6 hospitals are facilities that are non-EDAP and do not have licensed inpatient pediatric beds. These facilities may be requested to surge for stable patients over eight years of age. Five of the italicized hospitals have NICU capability and may be able to use surge strategies to accommodate patients age two and under.¹ East LA Doctors Hospital has a seven bed pediatric acute care unit.²

	HOSPITAL	Pediatric Acute Surge
1.	Alhambra Hospital Medical Center	5
2.	Citrus Valley Medical Center – Intercommunity Hospital	5
3.	<i>Coast Plaza Doctor’s Hospital¹</i>	5
4.	College Medical Center of Long Beach	5
5.	<i>Community Hospital of Long Beach¹</i>	5
6.	<i>East LA Doctors Hospital²</i>	5
7.	Glendora Community Hospital (formerly East Valley)	5
8.	Citrus Valley – Foothill Presbyterian Hospital	5
9.	Gardens Regional Hospital Medical Center (formerly Tri-City Regional)	5
10.	<i>Garfield Medical Center¹</i>	5
11.	<i>Good Samaritan Hospital – Los Angeles¹</i>	5
12.	Lakewood Regional Medical Center	5
13.	Marina Del Ray Hospital	5
14.	Mission Community Hospital	5
15.	Monterey Park Hospital	5
16.	Olympia Medical Center	5
17.	Pacifica Hospital of the Valley	5

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

	HOSPITAL	Pediatric Acute Surge
18.	Palmdale Regional Medical Center	5
19.	San Dimas Community Hospital	5
20.	San Gabriel Valley Medical Center	5
21.	<i>Providence Saint John's Health Center¹</i>	5
22.	Saint Vincent Medical Center	5
23.	Southern California Hospital at Culver City (formerly Brotman)	5
24.	Whittier Hospital Medical Center	5
TOTAL SURGE for TIER 6		120

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Tier 7 Hospitals

Tier 7 hospitals are specialty hospitals or facilities without 9-1-1 receiving emergency departments. These facilities may be used for transfer once a patient is stable based on their capabilities.

	HOSPITAL
1.	Barlow Respiratory Hospital
2.	City of Hope National Medical Center
3.	Pacific Alliance Medical Center
4.	Rancho Los Amigos National Rehabilitation Center
5.	Silverlake Medical Center
6.	USC Norris Comprehensive Cancer Center
7.	Keck Hospital of USC (USC University Hospital)

Undesignated Hospitals

These facilities have not been assigned to a Pediatric Surge Plan tier category either because of geographic location or lack of a signed commitment letter by the CEO.

	HOSPITAL
1.	Catalina Island Medical Center
2.	Community Hospital of Huntington Park
3.	Kaiser Foundation Hospital – Downey
4.	Los Angeles Community Hospital at Los Angeles
5.	Los Angeles Community Hospital at Norwalk
6.	Southern California Hospital at Hollywood

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix B
Tier Capability and Surge Capacity
Overview

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Tier Capability and Proposed Surge Capacity Overview

The below table is a high level overview of the pediatric surge plan including the tiers, tier criteria, types of patients, and proposed surge approach. **Appendix A** lists the hospitals that comprise each tier.

Tier	Tier Criteria	Types of Patients Recommended for the Tier	Proposed Surge Capacity
1	Pediatric Trauma Centers / Pediatric Medical Centers – PICU, Peds Acute and NICU	Most critically ill and injured children	Expand PICU and Peds Acute capacity for medical and trauma scenarios
2	Full Pediatric Complement or Pediatric Medical Centers – PICU, Peds Acute and NICU	Used primarily for medical surge	Expand PICU and Peds Acute capacity for medical scenarios
3	Adult Trauma Centers	Used primarily for critical trauma surge	Use for a trauma surge event and overflow for intensive care
4	Pediatric Emergency Services with Pediatric Acute Beds	All patients and services, but would be used following Tiers 1 and 2	Expand Peds Acute care
5	EDAP with no Pediatric Acute or PICU Care	Ideally for children over age 8 Respiratory, simple fractures, surgical cases. Possibly use NICU for children ages 2 and younger	Adult Med/Surg and/or ICU beds carved out in a specific area
6	Not EDAP and No Pediatric Inpatient Care	Stable patients older than age 8	Adult Med/Surg and/or ICU beds carved out in a specific area
7	No Emergency Services and/or Specialty Type Hospitals	Use as a specialty resource	Transfer patients based on specialty

Appendix C
Background, Initial Needs Assessment,
and Gap Analysis

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

BACKGROUND

As a recipient of Hospital Preparedness Program (HPP) funding, Los Angeles County (LAC) Emergency Medical Services (EMS) Agency has been working on enhancing the surge capacity and capabilities of the healthcare community in order to effectively respond to mass casualty incidents due to terrorism or natural disasters. The Pediatric Surge Program was initiated following the 2009 H1N1 pandemic that disproportionately affected children and stressed hospital systems' capacity for pediatric intensive care unit (PICU) beds and equipment, such as pediatric ventilators.

This program includes a countywide plan on how each hospital within LAC would contribute to caring for pediatric patients in the event of a surge that largely impacts children. This plan is aligned with and supports LAC's compliance with the HPP Capabilities Capability 1: Healthcare System Preparedness; Function 7, coordinate with planning for at-risk individuals and those with special medical needs, and Capability 10: Medical Surge. Children are a designated vulnerable population requiring special planning and response. This plan provides details on how each hospital within LAC will support a pediatric surge of patients including surge targets and patient type. This plan also includes parameters for transporting children from prehospital field operations to healthcare facilities and transferring of patients amongst hospitals.

Program Goal: To enhance LAC's pediatric surge capacity to meet the medical needs of children during a disaster. The LAC surge target is to enhance pediatric capacity by 100%.

CURRENT STATUS (As of original publication of this plan, May 2013)

Current Status of Pediatric Care

The 4,084 square miles of LAC is home to 2.8 million children ages 18 and under. This equates to 29% of the total LAC population (U.S. Census 2010). LAC Department of Public Health uses Service Planning Areas (SPAs) in the county to plan public health and clinical services for the residents of these areas. LAC is divided into eight distinct geographic areas: Antelope Valley, East, Metro, San Fernando, San Gabriel, South, South Bay, and West. These areas are shown in Figure 1.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Figure 1 – Population density map

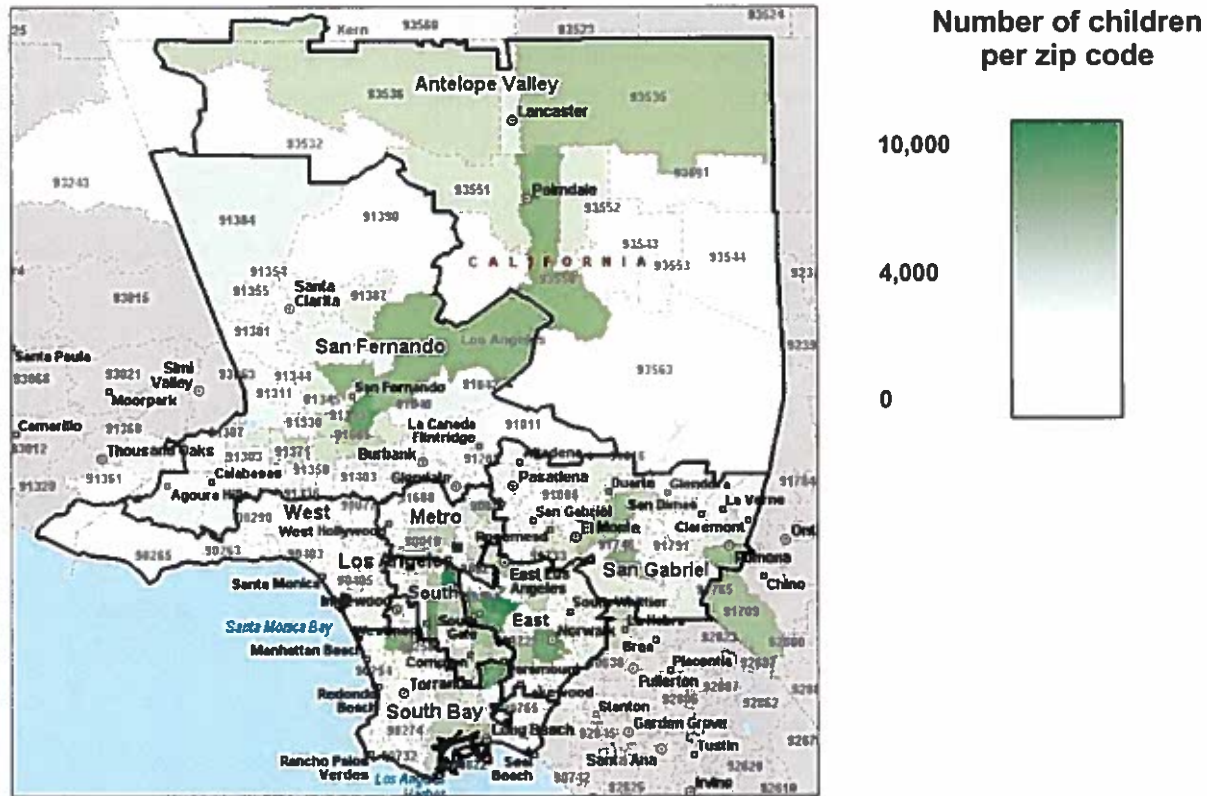


Figure 2 – Population and beds by Service Planning Area

Service Planning Area	Pediatric Population	Licensed PICU Beds	Total Capacity During Pediatric Surge	Licensed Beds per 100 Children
Antelope Valley	113,511	0	22	0.19
East	379,976	0	105	0.28
Metro	282,977	97	385	1.36
San Fernando	532,864	18	90	0.17
San Gabriel	459,786	8	11	0.24
South	340,370	0	14	0.04
South Bay	388,105	30	199	0.51
West	107,981	24	57	0.53

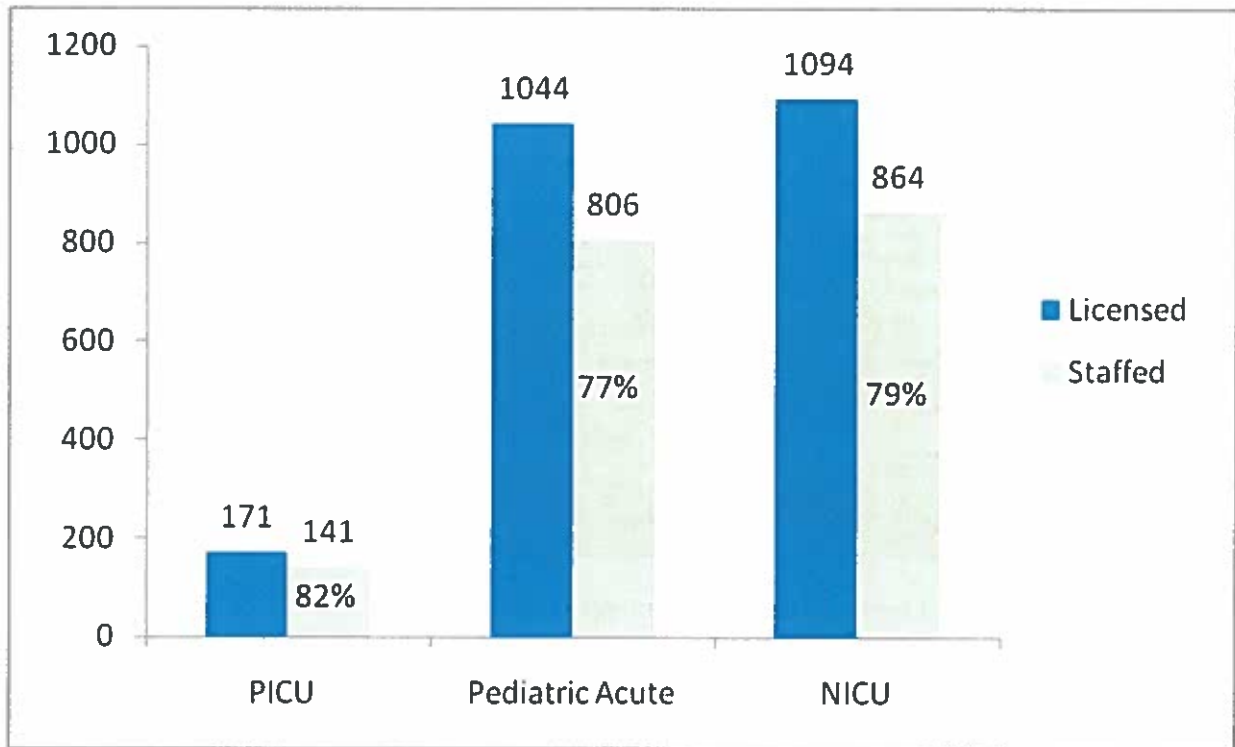
Sources Figures 1 and 2: Population - Nielsen Claritas 2009, Ages 0-17. Bed Data -Combination of OSHPD YE 2010 updated with Pediatric Surge Plan Survey data.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Pediatric Bed Capacity

Figure 3 shows California Office of Statewide Health Planning and Development (OSHPD) data year ending June 2010 which was used as a method for calculating the surge targets for this plan. The number of staffed beds was used as a baseline to calculate the surge target of 100% bed capacity.

Figure 3 – Pediatric bed capacity



Distribution of Pediatric Services in Los Angeles County Hospitals

Figure 4 – Hospitals with pediatric units

	NICU Only	Pediatric Acute Unit Only	NICU and Pediatric Acute Unit	PICU, NICU and Pediatric Acute Unit	No Pediatric Inpatient Services
Number of Hospitals	15	11	16	13	32

Sources Figure 3: OSHPD Year Ending June 2010

Figure 4: OSHPD Year Ending June 2010 and Pediatric Surge Plan Survey and Focus Group data

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

SIMULATED BED NEEDS

Based on the LAC Emergency Medical Services Agency Gap Analysis project, it is estimated that the following pediatric beds will be needed for each of the following scenarios:

- Pandemic Flu – 97,470 pediatric medical/surgical (med/surg) beds and 28,136 PICU beds. This scenario is based on no mitigation efforts, e.g., no vaccinations in the population. Since vaccinations are part of the current healthcare system, it is anticipated that fewer beds will be needed than the above estimates due to the mitigation efforts.
- Improvised Explosive Device (IED) – 195 pediatric med/surg beds and 52 PICU beds.
- Major Earthquake – 5,047 total patients with a maximum need of 2,205 ICU beds. A proportional allocation translates to 1,463 pediatric med/surge beds and 639 PICU beds (Total patients in scenario X 29%, i.e. percent of child population).

This plan will meet the simulated number of casualties for the IED scenario. LAC's response agencies will need to implement mitigation activities (i.e., vaccination campaign, infection control programs and messaging, and medical countermeasures) for the pandemic flu scenario to reduce the impact of the outbreak and allow the healthcare system to respond to the estimated surge of casualties. This plan will meet the simulated number of critical care patients if adult ICU hospital beds are used in addition to the PICU beds.

PEDIATRIC SURGE GAPS AND OPPORTUNITIES

Pediatric Surge Gaps

The following gaps have been identified in pediatric surge capacity and capability as a result of the countywide survey and data analysis, which was conducted between April 7 and May 16, 2011 with a 94% (78/83 HPP participating hospitals) response rate.

1. **Limited Pediatric Bed Capacity on a Daily Basis:** Pediatric bed capacity throughout LAC on any given day is limited. Per the OSHPD data, there are 13 hospitals that provide pediatric intensive care services with a total of 141 staffed beds as of June 2010. Forty-seven percent (40/87) of hospitals in LAC provide some type of inpatient pediatric services (OSHPD). Forty-one hospitals are designated as an Emergency Departments Approved for Pediatrics (EDAP) (LAC EMS Agency 9/2012). According to the EMS Agency definition, an EDAP facility is "A licensed basic emergency department that is approved by the County of Los Angeles Emergency Medical Services (EMS) Agency to receive pediatric patients via the 9-1-1 system. These emergency departments provide care to pediatric patients by meeting specific requirements for professional staff, quality improvement, education, support services, equipment, supplies, medications, and established policies and procedures."

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

2. **Geographic Variability:** Based on OSHPD 2010 data, the majority (31%) of pediatric beds are located within the Metro SPA, followed by the South Bay SPA (20%). Despite the continued increase in the number of children in the eastern and northern areas of the County such as Santa Clarita and Antelope Valley, pediatric medical and surgical care remains centralized in the Metro SPA area. The Antelope Valley SPA is served by two hospitals, one of which provides pediatric acute hospital services (Antelope Valley Hospital).
3. **Limited PICU Capacity:** There are no PICU beds available in the Antelope Valley, East or South SPA. For facilities with PICU beds, the average daily census ranged from one to twenty-two, with an average of 7.31. Three facilities with PICUs reported average daily census greater than eight.
4. **Limited Pediatric Specialty Physician Resources:** Half of the facilities reporting availability of pediatric general surgeons have contracts with those physicians. The contracts are not necessarily exclusive; therefore, it is possible the data overestimates the availability of pediatric surgeons. Twenty facilities reported having pediatric anesthesiologists. Of those reporting, nine indicated they were hospital based, another nine indicated they were contract physicians, while two responses were left blank. Nine out of 15 (60%) facilities with pediatric emergency medicine have dedicated physicians. This will require emergency medicine physicians and emergency departments, regardless of EDAP status, to be prepared at a basic level to handle pediatric emergencies.
5. **Varying Availability of Pediatric Trained Staff:** Staffing resources vary by facility. Of the 21,175 nurses reported in the survey, 6,557 (31%) are reported as certified in Pediatric Advanced Life Support (PALS). Two percent of reported nurses had taken the Emergency Nursing Pediatric Course. Of the Respiratory Therapists reported, over half are PALS certified (55.6%).
6. **Less Availability of Pediatric Critical Care Supplies:** Eighty-eight percent of facilities reported having code blue carts with pediatric drugs and intubation supplies. Sixty-seven percent have routine EDAP or pediatric equipment supply carts. However, 68% percent of facilities reported having pediatric critical care supplies and equipment.
7. **Limited Ability to Accept and Receive Children:** Forty-one percent of facilities reported that they had a physician available 24/7 that could accept pediatric patients to their hospital for inpatient admission. Fifty-three percent of the facilities are EDAP.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Surge Capacity Opportunity

Based on the survey findings, there is opportunity for hospitals to use additional space to increase surge capacity within their facilities. Two opportunities throughout the county include the Post Anesthetic Care Unit (PACU) and outpatient clinic space. Below are some significant statistics of these areas:

- PACU beds
 - 53% of facilities currently care for children in their PACU
 - 444 PACU beds exist
 - Average of 9 nurses in each PACU

- Outpatient Clinic
 - 25% of hospital facilities operate pediatric outpatient clinics
 - Median volume = 80 visits per day
 - 482 patient rooms
 - 144 nurses and 188 physicians ¹

1. *Physician and nursing data is likely an underestimate. Data was incomplete. Four hospitals indicating they had capacity did not report nursing and physician numbers. An additional two locations did not report the number of nurses.*

Countywide Pediatric Surge Targets

Surge targets are calculated based on pediatric capacity and capability. The surge goal is based on 100% of staffed bed capacity reported by hospitals to OSHPD for the year ending June 2010.

Figure 5 – Surge target goals

Bed Type	Current Staffed Beds	Surge Goal – 100% of Surge Capacity	Total Capacity During Pediatric Surge
Pediatric ICU Beds	141	141	282
Pediatric Acute Beds	806	806	1612

Source: OSHPD Year Ending June 2010

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix D

Training and Plan Distribution

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Training

Pediatric Surge Training Components

A total of six initial 3-hour training sessions were held throughout LAC between December 2012 and April 2013. A total of 326 individuals received the training. A recorded DVD with both parts of the training is available at each hospital for just-in-time training.

Part One

Target Audience:

- Emergency preparedness planners
- Emergency department and inpatient clinical staff (physicians and nurses)

Content:

- Pediatric surge plan overview
- Triage - including JumpStart and Pediatric Assessment Triangle
- Age specific care
- Disaster management-safe area, security needs

Part Two

Target Audience:

- Emergency preparedness planners
- Emergency department and inpatient clinical staff (physicians and nurses)

Content:

- How to use a standardized length-based resuscitation tape, to estimate pediatric weights in kilograms (BROSELOW™)
- Assessment - primary and secondary
- Pediatric vulnerabilities
- Diagnosis and treatment of shock
- Identification and management of dehydration
- Identification and management for respiratory distress (subtle nuances of pediatrics)
- Differences between respiratory distress versus respiratory failure
- Medication administration
- Nutrition
- Children with special needs
- Mental health strategies for children

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Plan Distribution

Pediatric Surge Plan Distribution

Approximately 160 physical binders containing the LAC Pediatric Surge Plan were distributed to LA County participating hospitals in 2014. The Pediatric Surge Plan is also available on the LAC EMS Agency website (available under Disaster Medical Services – Resource Documents).

Recipients:

- LAC HPP Hospital Emergency preparedness planners

Binder Contents:

- Pediatric Surge Plan and Appendices (approved May 2013)
- Pediatric Surge Quick Reference Guide quad-fold (also available on the LAC EMS website)
- A DVD with both parts of the training (see 'Training' above) for just-in-time training.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix E

Exercise Overview and Results

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Exercise Overview

The 2015 LA County EMS Agency Pediatric Surge Exercise Series was sponsored by the Los Angeles County Emergency Medical Services Agency (LAC EMS Agency) and Children's Hospital Los Angeles (CHLA) in collaboration with the response partners representing local Emergency Medical Services (EMS), local health departments, public safety and health care facilities. The Exercise Plan was produced with input, advice and assistance from the LAC EMS Agency Pediatric Surge Exercise Design Workgroup, which followed guidance set forth by the U.S. Department of Homeland Security Exercise and Evaluation Program. The exercise tested participants' emergency response plans, policies and procedures as they pertain to a pediatric surge.

Exercise Name	2015 Los Angeles County Pediatric Surge Exercise Series
Exercise Dates	Tabletop Exercise: April 20, 2015, 12:30 – 3:00 p.m. Functional Exercise: June 11, 2015, 8:00 – 12:00 p.m.
Scope	This exercise was a Functional Exercise, planned for June 11, 2015 from 0800-1200 (4 hours) at various healthcare facilities throughout Los Angeles County. This functional exercise was preceded by a Tabletop Exercise on April 20, 2015. The focus was on exercising the LAC EMS Agency Pediatric Surge Plan.
Mission Area(s)	Response
Core Capabilities	<ol style="list-style-type: none">1. Emergency Operations Center Management2. Communications3. Emergency Triage and Prehospital Treatment4. Medical Surge
Objectives	<ol style="list-style-type: none">1. Activate and use Incident Command System (ICS) principles (ICS, Hospital Incident Command System, and Standardized Emergency Management System) across all levels of the medical health system.2. Evaluate the ability to use existing systems to communicate medical and health needs of children.3. Assess prehospital coordination with Medical Alert Center.4. Evaluate the ability of medical and health partners to activate pediatric surge plans within established protocols and to accept a surge of patients according to plan.5. Assess Medical Alert Center (MAC's) capability to coordinate destination of pediatric patients during a surge to various hospitals (from field and transfers).

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Threat or Hazard	This scenario was based on a wind event causing disproportionate injury to children resulting from tent collapses and trampling.
Scenario	On June 11, 2015 the inaugural “School Learning Event” took place at four locations around LA County. The event brought together school classes for a day of interactive learning. The event locations were: Santa Clarita Valley, Pomona, Long Beach and LA Live. Concurrent gusts of wind caused tent collapses and trampling injuries. Estimates of injured were in the hundreds over the four locations, with most victims between ages 5-12 years old.
Sponsor	This exercise was sponsored by the Los Angeles County Emergency Medical Services Agency, with support from Children’s Hospital Los Angeles. The exercise was funded by grant number: 5U90TP000516-02.
Participating Organizations	This exercise was designed to include HPP hospitals within Los Angeles County, the LAC EMS Agency Medical Alert Center (MAC), and representatives from LA County, LA City, and Long Beach Fire Departments.

The Pediatric Surge Plan Exercise Series, in compliance with the U.S. Department of Homeland Security Exercise and Evaluation Program, consisted of the following training and exercise dates:

Date	Event	Time	Location
March 24, 2015	Pre Conference	0900-1200	Presbyterian Intercommunity Hospital
April 20, 2015	Controller and Evaluator Training	0930 – 1130	Santa Fe Springs Town Center
April 20, 2015	Tabletop Exercise	1230 – 1500	Santa Fe Springs Town Center
June 2, 2015	Evaluator Training refresh	1000 – 1100	Webinar
June 11, 2015	Functional Exercise	0800-1200	LAC EMS Agency & all participating LAC hospitals
June 16, 2015	Exercise Evaluation Conference	0900-1200	Santa Fe Springs Town Center

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Exercise Results

Tabletop Exercise

- Representatives from 60 individual hospitals participated in the tabletop exercise.
- Representatives from the LAC EMS Agency, the LAC EMS Agency Medical Alert Center, Los Angeles Fire Department, and Long Beach Fire Department were also in attendance.

Functional Exercise

- 38 individual hospitals participated in the exercise, either as a full-functional exercise or as a tabletop exercise.
- Representatives from the LAC EMS Agency, the LAC EMS Agency Medical Alert Center, the Los Angeles Fire Department, and Long Beach Fire Department also participated.
- The LAC EMS Agency activated their Department Operations Center (DOC) for the management of the four simulated incident sites for the exercise.
- A SimCell was used to simulate communication and coordination with local, county, and other partners not participating in the exercise.

Major Strengths

- The hospitals were able to meet the surge expectations for their tier, as described in the LAC Pediatric Surge Plan.
- Participating hospitals were able to work through and resolve pediatric specific concerns.
- The Medical Alert Center was able to find destinations for all patients, from the field and accommodated secondary transfers.

Primary Areas for Improvement

- Tier 1 facilities need to be differentiated based on their medical and trauma capabilities in the LAC Pediatric Surge Plan. Since resources vary between trauma and non-trauma centers, a distinction between the two is necessary in the plan. This is particularly critical if a pediatric surge is due to a trauma event, as was simulated in this exercise. Through the exercise process, there was considerable discussion regarding prehospital personnel daily protocols for patient destination.
- Additional training on ReddiNet® is needed for hospital staff. Many facilities indicated that inputting and tracking patients from a surge event was time consuming and could be improved.
- There is a need for advanced and just-in-time training resources regarding pediatric specific concerns, particularly for lower tiered hospitals.
- Facilities would benefit from leveraging regional resources, beyond county borders, when planning for a pediatric surge event.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Future Opportunities for Consideration

While reunification processes and regional resources were not tested during the exercise, both were discussed in depth by participating agencies. Reunification and Family Information Center plans were described as areas that can be improved for all those who participated. Many site-specific policies and procedures regarding reunification need further development.

This exercise also prompted discussions regarding coordination of multi-site MCIs and regional pediatric surge response. Some considerations for improving this include:

- Knowledge and use of the Fire Operational Area Coordinator (FOAC) and Medical and Health Operational Area Coordinator (MHOAC) for additional resources
- Development of regional or statewide coordinating plans for pediatric surge

Exercise Summary

The functional exercise on June 11th, 2015 was successful in testing the LAC Pediatric Surge Plan. The expectations detailed in the plan, regarding the pediatric surge capacity of LAC and of individual hospitals, were validated in the exercise as hospitals were able to meet surge targets based on their individual hospital tier. Areas for plan improvement were identified, with the focus of making the plan more operational. The primary edit to the LAC Pediatric Surge plan will be the categorization of trauma center and non-trauma medical centers into two distinct tiers. During the exercise, two secondary transfers were transferred out of the county by the Medical Alert Center (MAC). As the MAC and many LAC hospitals regularly work with hospitals outside of LAC geographic lines, regional planning and training are needed in preparing for a pediatric surge event. Additionally, many concerns regarding the reunification of unaccompanied minors and guardians were discussed throughout the planning and exercise process. Since the Pediatric Surge Plan focuses on the distribution and accommodation of pediatric patients and our exercise did not specifically test reunification processes or communication efforts, future exercises are warranted to test such capabilities. It is also recommended that pediatric victims be incorporated into future exercises to keep up pediatric training and to facilitate continued discussions about the triage, treatment, and management of pediatric victims in a disaster event.

The LAC Pediatric Surge Plan was edited based on the findings of this exercise series.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix F

History and Summary of Revisions

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

History

The initial needs assessment and gap analysis for the Los Angeles County Pediatric Surge Plan were conducted in 2011. The LAC Pediatric Surge Plan was initially approved in May 2013.

Summary of Revisions

September 2015

The following edits were made to the original LAC Pediatric Surge Plan after the completion of the Pediatric Surge Tabletop and Functional Exercises held on April 20, 2015 and June 11, 2015 respectively.

- 1) The original Tier 1 hospitals were separated into trauma centers and non-trauma medical centers and are now classified as Tier 1 and Tier 2, respectively. These classifications are assigned based on the resources available at the hospital. This alteration addresses issues of Tier 1 non-trauma hospitals receiving pediatric patients who need specialized trauma care, which became apparent during pre-exercise planning and the exercise in June 2015. The remaining tiers are reorganized to reflect the addition of the non-trauma medical center category, such that the existing Tier 2 becomes Tier 3, and so on.
- 2) The overall surge capacity has changed by five (5) pediatric intensive care unit (PICU) beds and 50 pediatric acute care beds due to the following:
 - a. The loss of EDAP status for Southern California Hospital Culver City and San Gabriel Valley Medical Center. Both of these hospitals are now classified as Tier 5 and each have a pediatric acute surge capacity of five beds. This is a reduction from the Tier 4 capacity of 15 Acute beds per hospital; the total loss of capacity is 20 pediatric acute care surge beds.
- 3) The Pediatric Surge Plan was reorganized so that the plan is more concise.
 - a. The Pediatric Surge Plan was revised into a shorter document for ease of use and revision.
 - b. Background, Current Status, Initial Needs Assessment, and Gap Analysis were moved to the Appendices.
 - c. The training section was moved to the Appendices.
- 4) Appendices B, D, E, H, I, and J were added.

Ongoing

Individual hospital designations and status changes will be updated annually in **Appendix A**.

Appendix G

Strategies for Enhancing Surge Capacity Excerpt from the Los Angeles County Mass Medical Care Model

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Key Response and Surge Strategies

Primary goal: To maintain operations and increase capacity in order to preserve the life and safety of patients and ensure appropriate healthcare delivery to the community.

Indicators: All of the following indicators would need to be met prior to surge strategy implementation:

- All staffed beds are filled appropriately
- Discharges have been expedited
- Elective and outpatient surgeries have been cancelled
- Patients have been appropriately downgraded

CHECKLIST OF SURGE STRATEGY IMPLEMENTATION

SPACE - Surge Strategies for Hospitals Objective: Increase the ability to maintain operations and/or take on additional patients by repurposing the use of space	
Strategy/Implementation Steps	Regulatory Considerations
<ul style="list-style-type: none"> ▪ Utilize licensed space for other types of patients ▪ Use outpatient beds for inpatient care ▪ Use internal skilled beds as acute patient areas ▪ Convert adult space to pediatric space ▪ Convert pediatric space to adult space 	<ul style="list-style-type: none"> ▪ 22 CCR 70811(c): Patient rooms which are approved for ambulatory patients only shall not accommodate non- ambulatory patients ▪ 22 CCR 70805: Spaces approved for specific uses at the time of licensure shall not be converted to other uses without the written approval of CDPH ▪ 22 CCR 70809(a): No hospital shall have more patients or beds set up for overnight use by patients than the approved licensed bed capacity except in the case of justified emergency when temporary permission may be granted by the CDPH Director or designee
<ul style="list-style-type: none"> ▪ Increase capacity in patient rooms or hallways in patient care areas <ul style="list-style-type: none"> ▪ 2 patients in a single room 	<ul style="list-style-type: none"> ▪ 22 CCR 70811(a): Patients shall be accommodated in rooms with a minimum floor area (as detailed in 22 CCR 70811 (a) (1) and (a) (2))

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

SPACE - Surge Strategies for Hospitals Objective: Increase the ability to maintain operations and/or take on additional patients by repurposing the use of space	
Strategy/Implementation Steps	Regulatory Considerations
<ul style="list-style-type: none"> ▪ 3 patients in a double room 	<ul style="list-style-type: none"> ▪ 22 CCR 70805: Spaces approved for specific uses at the time of licensure shall not be converted to other uses without the written approval of CDPH ▪ 22 CCR 70809(a): No hospital shall have more patients or beds set up for overnight use by patients than the approved licensed bed capacity except in the case of justified emergency when temporary permission may be granted by the CDPH Director or his designee
<ul style="list-style-type: none"> ▪ Open hospital floors that are vacant 	<ul style="list-style-type: none"> ▪ 22 CCR 70805: Spaces approved for specific uses at the time of licensure shall not be converted to other uses without the written approval of CDPH ▪ 22 CCR 70809(c): Patients shall not be housed in areas which have not been approved by CDPH for patient housing and which have not been granted a fire clearance by the State Fire Marshall
<ul style="list-style-type: none"> ▪ Use areas of the hospital for inpatients <ul style="list-style-type: none"> ▪ GI Lab ▪ Recovery Room ▪ Outpatient Surgery ▪ Physical Therapy ▪ Other 	<ul style="list-style-type: none"> ▪ 22 CCR 70805: Spaces approved for specific uses at the time of licensure shall not be converted to other uses without the written approval of CDPH ▪ 22 CCR 70809(c): Patients shall not be housed in areas which have not been approved by CDPH for patient housing and which have not been granted a fire clearance by the State Fire Marshall

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

SPACE - Surge Strategies for Hospitals	
<p align="center">Objective: Increase the ability to maintain operations and/or take on additional patients by repurposing the use of space</p>	
Strategy/Implementation Steps	Regulatory Considerations
<ul style="list-style-type: none"> ▪ Use non-traditional areas of the hospital for inpatients <ul style="list-style-type: none"> ▪ Cafeterias ▪ Conference Rooms ▪ Parking Structures ▪ Other 	<ul style="list-style-type: none"> ▪ 22 CCR 70805: Spaces approved for specific uses at the time of licensure shall not be converted to other uses without the written approval of CDPH ▪ 22 CCR 70809(c): Patients shall not be housed in areas which have not been approved by CDPH for patient housing and which have not been granted a fire clearance by the State Fire Marshall
<ul style="list-style-type: none"> ▪ Shut off floor ventilation system to make a cohort of infected patients 	<ul style="list-style-type: none"> ▪ 22 CCR 70823: A private room shall be available for any patient in need of physical separation as defined by the infection control committee ▪ 22 CCR 70855: Heating, air conditioning and ventilation systems shall be maintained in operating condition to provide a comfortable temperature
<ul style="list-style-type: none"> ▪ Use tents to create additional patient care areas 	<ul style="list-style-type: none"> ▪ 22 CCR 70809(c): Patients shall not be housed in areas which have not been approved by CDPH for patient housing and which have not been granted a fire clearance by the State Fire Marshall

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

STAFF - Surge Strategies for Hospitals	
Objective: Increase the ability to maintain staffing levels and/or expand the workforce	
Strategy/Implementation Steps	Regulatory Considerations
<ul style="list-style-type: none"> ▪ Cross train clinical staff 	<ul style="list-style-type: none"> ▪ Age limits to MD Malpractice Coverage
<ul style="list-style-type: none"> ▪ Contact Nurse staffing agencies (registry) to assist with supplemental staffing needs 	
<ul style="list-style-type: none"> ▪ Use non-conventional staff or expand scope of practice <ul style="list-style-type: none"> ▪ Student nurses ▪ Medical students ▪ Military licensed staff 	<ul style="list-style-type: none"> ▪ Regulations to expand clinical professionals' scope of practice may require a CDPH waiver and Governor's order. Need clarification from professional boards. ▪ 22 CCR 70217: Nurse ratios
<ul style="list-style-type: none"> ▪ Use of non-conventional staff <ul style="list-style-type: none"> ▪ Volunteers ▪ Paramedics ▪ Dentists ▪ Veterinarians ▪ Retired health professionals with an active license 	<ul style="list-style-type: none"> ▪ Professionals with inactive licenses will need to go through the process to reactivate it. ▪ Liability/licensing regulations ▪ State laws regarding malpractice coverage for volunteers
<ul style="list-style-type: none"> ▪ Utilize adult skilled RNs to supervise pediatric RNs to treat a surge of adult patients and vice versa 	<ul style="list-style-type: none"> ▪ Liability regulations and insurance limitations
<ul style="list-style-type: none"> ▪ Utilize families to render care under direction of a healthcare provider 	<ul style="list-style-type: none"> ▪ Title 22 – Certified nursing assistant to render care
<ul style="list-style-type: none"> ▪ Implement and/or develop just-in-time training for clinical staff normally assigned to non-direct patient care positions 	
<ul style="list-style-type: none"> ▪ Plan for dependent care for staff 	
<ul style="list-style-type: none"> ▪ Provide vaccination and prophylaxis to healthcare staff and their family member, as appropriate 	

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

STAFF - Surge Strategies for Hospitals	
Objective: Increase the ability to maintain staffing levels and/or expand the workforce	
Strategy/Implementation Steps	Regulatory Considerations
<ul style="list-style-type: none"> ▪ Implement and/or develop return to work policies for employees that have recovered from the communicable illness and have immunity 	
<ul style="list-style-type: none"> ▪ Develop procedure to accept and assign volunteers 	<ul style="list-style-type: none"> ▪ Need to review CMS to identify actual standard of primary source verification. Go directly to CMS for clarification
<ul style="list-style-type: none"> ▪ Request additional staffing resources through the Standardized Emergency Management System (SEMS) structure 	
<ul style="list-style-type: none"> ▪ Request relaxation of nurse/patient ratios to allow occupancy of all licensed beds 	<ul style="list-style-type: none"> ▪ 22 CCR 70217: Nurse ratios ▪ Union regulations ▪ AB 294: California RN Staffing Ratio Law, requires Governor's standby order for statutory suspension

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

STUFF - Surge Strategies for Hospitals

Objective: Ensure adequate supplies and equipment

Strategy/Implementation Steps

- Conserve resources
- Prioritize care functions to maximize the use of resources (e.g., limit/reduce frequency of patient baths, etc.)
- Notify vendors regarding anticipated needs and determine availability
- Work with alternate vendors to develop agreements regarding acquiring supplies
 - Sporting goods stores
 - Grocery stores
 - Disaster vendors
 - Other
- Identify streamline processes for use of PPE, including guidelines for reuse and fit testing
- Request resources from LA County EMS Agency to be deployed to DRCs as a distribution point for umbrella facilities as appropriate
- Find/procure alternate ventilator types/sources (e.g., ventilators from local animal hospitals)

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix H

Suggested Supplies

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Suggested Supplies HPP Pediatric Surge Program Recommended supplies for each tier Updated May 2013

During the initial plan development and training each hospital within their tier received the following supplies.

Tiers 1, 2, and 4: Since these hospitals routinely care for children, Broselow™ kit “bags” will be centrally located and stored at the LAC EMS Agency. A total of 10 bags of Broselow™ kit supplies will be purchased. These supplies could be used by any HPP hospital in the case of a large surge of children and would be requested through the MAC.

Tier 3: Hospitals that are adult trauma hospitals

- 1 Broselow™ cart (pre-assembled) with supplies stocked
- 2 Broselow™ kit “bags”

Tier 5: Hospitals that are EDAP, but do not provide inpatient pediatric services

- 1 Broselow™ Cart (pre-assembled) with supplies stocked
- 2 Broselow™ Kits (bags)
- 3 Rigid C Spine collars

Tier 6: Hospitals that are not EDAP and do not have licensed pediatric inpatient beds

- 1 Broselow™ Cart (pre-assembled) with supplies stocked
- 3 Rigid C Spine collars

Tier 7: Specialty hospitals or facilities without 9-1-1 receiving emergency departments

- If these hospitals were “activated” during a pediatric surge to care for children, the LAC EMS Agency DRC cache would be used to provide supplies

All HPP participating hospitals in LAC were solicited to submit a request to purchase additional pediatric equipment and/or supplies based on self-identification of the need to meet the expectation of this plan.

Appendix I

Translating Triage to Tiers: Tool for the LAC EMS Agency Medical Alert Center

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Translating Disaster Triage to Tier

Disaster Triage Categories to Tiers (Trauma Event)

The following table is a visual representation of the suggested triage categories to be distributed to each tier in the event of a Pediatric TRAUMA surge event that has a disproportionate amount of pediatric victims. **Use of the LA County Trauma system would be used first.**

		Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 7
Triage Category	Age							
Immediate	< 8 yrs	x						
Immediate	> 8 yrs	x		x				
Delayed	< 8 yrs	x	x		x	x		
Delayed	> 8 yrs			x	x	x	x	<i>Transfer patients</i>
Minor	All				x	x	x	

Legend

Facilities have resources to handle and should be **PRIORITIZED** to receive these types of patients.

Facilities have resources to handle these types of patients, but should be utilized for their priority patients first.

Facilities are accustomed to handling patients other than this type.

This figure was created as a guide based on feedback during the exercise. Triage categories are used on a routine basis for prehospital providers, whereas the use of a tiered system for pediatric surge is not. The figure is intended to support the understanding of how the pediatric surge tiers correspond to triage categories.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Distribution of Patients to Tiers (Medical Event)

The following table is a visual representation of the suggested age categories to be distributed to each tier in the event of a MEDICAL surge event that has a disproportionate amount of pediatric victims.

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 7
Age							
< 8 yrs	x	x		x			
> 8 yrs	x	x	x	x	x	x	<i>Transfer patients</i>



Legend

Facilities have resources to handle and should be PRIORITIZED to receive these types of patients.
Facilities have resources to handle these types of patients, but should be utilized for their priority patients first.
Facilities are accustomed to handling patients other than this type.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

-This page intentionally left blank-

Appendix J

Children with Access and Functional Needs

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

INTRODUCTION

Children, especially children with access and functional needs, face barriers in disaster preparedness and response. Based on interviews conducted with hospitals within the Hospital preparedness Program, parents and caregivers, the majority of children with access and functional needs in LAC are cared for at specialty centers such as Children's Hospital Los Angeles and Long Beach Memorial medical Center. In an event where the Los Angeles County EMS Agency Pediatric Surge Plan is activated, consideration for these children will need to be taken into account.

Ideally, pediatric patients with access and functional needs should be cared for at Tier 1 facilities (See **Appendix A** for tier designations). Disasters, however, may cause these children to be diverted to adult hospitals. In the event of a county-wide disaster, all facilities must be prepared to receive pediatric patients with access and functional needs. Facilities need to be prepared not only for a surge of victims, but also need to anticipate an influx of patients seeking shelter. Children with access and functional needs will most likely be accompanied by a parent or caregiver. They may also be accompanied by other family members including siblings who are also children.

The following pages include planning and response considerations for caring for children with access and functional needs during an emergency or disaster. These have been compiled from multiple sources, which are listed starting on **page 48**.

CONSIDERATIONS

Identifying the population

Not all children with access and functional needs show discernible signs of their condition(s). To ensure that all children with access and functional needs are recognized and receive appropriate care, document in the medical record and use an identifier to convey the patient's need to staff.

Communication

Effective communication is essential during emergencies and disasters. Communication plans need to recognize that traditional methods for the general population may not yield the same result when targeted at children with access and functional needs. To ensure that they receive and understand the information, different techniques may be tailored for children with sensory, mental, cognitive and developmental, and speech or language needs. Examples of alternative methods of communication can be found on **page 48**.

Evacuation

Many children with access and functional needs rely on medical devices and mobility aids. Evacuation and transportation measures will need to account for the movement of the children as well as their equipment. Accessible routes and additional staffing need to be identified in planning stages to assist with evacuation and transportation.

Triggers and Cues

Children with access and functional needs, especially those with sensory, mental, and cognitive or developmental conditions, are susceptible to certain behavior triggers and cues. Triggers

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

threaten children's sense of security and safety thus causing them to react negatively and become uncooperative. Cues exhibited by children with access and functional needs can signal when a child has been affected by a trigger. Ways to limit the exposure of children to triggers include placing them in areas where it is quiet and private, offering them comfort items (e.g. stuffed animals), or having activities and games to distract them from the situation.

Possible Triggers:

- Exposure to loud noises
- Exposure to crowds
- Being in an unfamiliar environment
- Having daily routines disrupted

Possible Cues:

- Change in facial expressions
- Change in speech
- Change in movement
- Change in overall demeanor

Allocation of Space

To minimize triggers and cues, a separate space may be designated. The following points may be considered in the allocation and arrangement of the space.

- Quiet, private areas – far from media zone, entrance, etc
- Close access to electrical outlets and restrooms
- Sizeable area - anticipate parent(s) or other relatives accompanying the child
- Enclosed area for safety and security – away from doors
- Safe proofed areas – far from potential hazards such as windows, shelves, and book cases

Personnel

Hospitals need to anticipate that additional staffing may be required. Hospitals should pre-identify staff that have experience caring for children with access and functional needs. Another consideration is to establish recruitment pools for additional staff that are qualified to care for children and leverage existing Child Life staff and volunteers. Unless urgent medical care is needed, most parents or caregivers have experience providing daily care for their child and know their habits and routines best. Parents and caregivers will be the best resource for caring for the child.

Special Dietary Needs

A number of children with access and functional needs have strict dietary requirements and unique eating habits, such as selective eating (see below), that may be compromised during a disaster. If a power outage were to occur, alternative means need to be implemented for food storage. Total parenteral nutrition (TPN) formula, blenderized foods, and other types of liquid feeding will need to be kept chilled.

Aside from food storage concerns, also prepare for feeding problems such as selective eating.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Selective eating by children with access and functional needs, like those with autism spectrum disorder (ASD), entail habits such as fearing new foods and preferring certain types of food due to brand, color, or texture.

Tech-dependency

Tech-dependent children with access and functional needs will need power. They need to be advised on the location of working electrical outlets. Additional power strips and batteries may need to be supplied.

Common medical devices used by children with access and functional needs include:

- Tracheostomy tubes
- Ventilators
- Bi Level Positive Airway Pressure (BiPAP) machines
- Continuous Level Airway Pressure (CPAP) machines
- Central IV Catheters
- Feeding Catheters
- Gastronomy tubes
- Nebulizers

Decontamination

Extra care and considerations need to be made for the decontamination of children with access and functional needs. Communication issues may restrict how directions are given and how much is understood. Misunderstanding the situation or the urgency for decontamination may greatly increase children's anxiety and thus influence their cooperation. To mitigate this, hospitals may involve parents or caregivers in the process. It is important to keep the child and the guardian together, even if the guardian also needs to be decontaminated. In that situation, both may be decontaminated at the same station. Another consideration is whether or not the child uses a medical device or mobility aid. Devices and mobility aids that are non-porous and non-motorized may be decontaminated. Please note that some children may be completely dependent upon a mobility device that will not be eligible for decontamination due to their power source.

Reunification

The possibility of separation during an emergency or disaster may complicate the situation for children with access and functional needs that have conditions affecting their ability to communicate and understand. They may not be able to convey the necessary personal and medical information that is vital for identification in the reunification process. Some may also be fearful and distrustful of on-site personnel such as law enforcement and staff. Preventive measures such as the use of an Emergency Information Form (American Academy of Pediatrics) may reduce issues of identification and expedite care.

For more information regarding the care of children with access and functional needs during a disaster please refer to pages 48-52.

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

The following table includes suggestions on caring for children with access and functional needs during an emergency or disaster. These recommendations have been compiled and adapted from various leading sources and agencies in the field of disaster preparedness.

COMMUNICATION – Alternative methods for children with access and functional needs

Sources: Marin County School District, National Emergency Management Association, and International Association of Emergency Managers

Recommendations	Additional Comments
<ul style="list-style-type: none"> ▪ Provide written materials should be available in different formats (e.g., Braille, large print, disks, and audio cassettes) 	
<ul style="list-style-type: none"> ▪ Hearing- assistive technologies, auxiliary aids, and services such as sign language interpreters should be available. 	
<ul style="list-style-type: none"> ▪ Alarm systems for fire, etc. should have both audible and visual elements. 	
<ul style="list-style-type: none"> ▪ Pre-identify staff with foreign language and sign language skills and / or establish contracts with agencies who can support. 	
<ul style="list-style-type: none"> ▪ Use pictures, symbols, and gestures to help communicate 	
<ul style="list-style-type: none"> ▪ Use electronic variable messaging boards, short message systems (SMS), teletypewriters (TTY) or telecommunications display devices (TDD) 	
<ul style="list-style-type: none"> ▪ Train staff and volunteers to practice basic American Sign Language (ASL) for emergency words 	<ul style="list-style-type: none"> ▪ Suggested words: important, emergency, fire, keep calm, fire exit, stairs, and elevator
<ul style="list-style-type: none"> ▪ Screen all messages to ensure simplicity for understanding 	

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

<ul style="list-style-type: none"> ▪ All video and live television coverage should include captioning, ASL interpreters, and/or audio description 	
<p>DECONTAMINATION – Considerations for children with access and functional needs</p> <p><i>Sources: Marin County School District, National Emergency Management Association, and International Association of Emergency Managers</i></p>	
<p>Recommendations</p>	<p>Additional Comments</p>
<ul style="list-style-type: none"> ▪ Children may be allowed to ambulate through the line with assistance from either their parents or staff members. Children in wheelchairs may also move through the line in their chairs. 	<ul style="list-style-type: none"> ▪ or children with mobility issues and with mobility aids that cannot move through the line, consider the use of wheeled shower chairs or backboards.
<ul style="list-style-type: none"> ▪ Note that children may be upset and feel uncomfortable with the removal of their assistive medical device and/or mobility aid, as well as the unfamiliar process and environment. 	<ul style="list-style-type: none"> ▪ Speak slowly and calmly. Provide assurances about their safety and welfare
<ul style="list-style-type: none"> ▪ Allow additional time and effort during the process for children with visual and/or hearing impairments. 	<ul style="list-style-type: none"> ▪ Provide descriptions about the environment and its physical layout ▪ Incorporate parents or caregivers in the process to help create a sense of familiarity, provide positive contact, and assist with instructions
<ul style="list-style-type: none"> ▪ Plan for communication issues regarding sound and sight due to the PPE 	<ul style="list-style-type: none"> ▪ Incorporate the use of visuals in your communication

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

GENERAL PREPAREDNESS – Considerations by needs type

Source: Marin County School District

Recommendations	Additional Comments
<ul style="list-style-type: none"> ▪ Cognitive/Developmental: These children may have difficulties understanding the situation and how to respond. Many conditions may lead to children having difficulty reading complicated directions for evacuation or response plans. Include visuals to assist non-reading or overstressed children. Make sure evacuation routes have directional signs that are easy to follow. Practice evacuation procedures and review route(s) regularly. 	<ul style="list-style-type: none"> ▪ Suggested preparedness items are: comfort items (e.g. stuffed animal), pen and paper, and visual communication instructions
<ul style="list-style-type: none"> ▪ Hearing: Pre-identify staff that are versed in sign language and provide other staff with sign language training. Staff should practice basic hand signals for emergency communications. Emergency alerting systems should also utilize non-audible components such as strobe lights and vibrating pagers. 	<ul style="list-style-type: none"> ▪ Suggested preparedness items are: pen and paper, flashlight, extra hearing aid batteries, and batteries for TTY and light phone signaler
<ul style="list-style-type: none"> ▪ Mobility: Children with limited mobility may face issues regarding evacuation and access. All furniture should be secured and arranged in a way to facilitate a barrier-free route. If possible, keep a spare lightweight manual wheelchair for emergencies. Staff should be trained on how to properly transfer patients to and from wheelchairs. Also train and have mobility impaired patients practice wheelchair safety precautions such as locking their wheels and covering their heads and bodies. 	<ul style="list-style-type: none"> ▪ Suggested preparedness items are: heavy gloves for making way over glass or debris, extra battery for wheelchairs, patch kit for punctured wheels, flashlight or headlight, and whistle

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

<ul style="list-style-type: none"> ▪ Respiratory: Children with respiratory impairments may have difficulty breathing when walking long distances or descending stairs during evacuation. Smoke, dust, fumes, chemicals, and other odors often exacerbate their conditions. For prevention purposes, emergency evacuation masks and respirators as well as other oxygen and respiratory equipment should be available for distribution. Have patients and staff practice putting on and removing this equipment as part of an emergency drill. 	<ul style="list-style-type: none"> ▪ Suggested preparedness items are: medical mask, any medical equipment needed for 72 hours, and paper and pen
<ul style="list-style-type: none"> ▪ Speech/Auditory: Pre-identify the patient's preferred method of communication and whether or not it is effective. Also provide patients with a filled out emergency card and evacuation instructions on a card to be carried at all times and placed in an easy to see location. 	<ul style="list-style-type: none"> ▪ Suggested preparedness items are: extra batteries for communication equipment, paper and pen, and comfort items Suggested preparedness items are:
<ul style="list-style-type: none"> ▪ Visual: During evacuation, assistance from others may be needed for patients with visual impairments Provide Braille signage or audible directions for patients who are blind or have low vision. Having emergency back-up lighting systems, especially in stairwells and other dark areas, can also help patients with limited visual acuity. All emergency supplies and materials should be marked with large print or Braille. Have patients practice describing their surroundings. 	<ul style="list-style-type: none"> ▪ Suggested preparedness items are: extra folding white cane, heavy gloves, colored clothing item for visibility, and comfort items

LOS ANGELES COUNTY PEDIATRIC SURGE PLAN

Contributors to the 2015-16 Pediatric Surge Plan Update

Los Angeles County Emergency Medical Services Agency thanks the following contributors to the updates of the LA County Pediatric Surge Plan.

Bridget Berg, MPH, Children's Hospital Los Angeles
Brenna Carlson, MPH, Children's Hospital Los Angeles
Chad Cossey, MS, Henry Mayo Newhall Memorial Hospital
Terry Crammer, RN, BSN, LAC EMS Agency
Natalie Demeter, MPH, Children's Hospital Los Angeles
Laurie Lee-Brown, RN, BSN, LAC EMS Agency
Terry Millsaps, Captain, Los Angeles County Fire Department
Vicky Musigdilok, MPH, Children's Hospital Los Angeles
Dwayne Preston, Captain, Long Beach Fire Department
Karen Rodgers, RN, BSN, LAC EMS Agency
Tamiza Teja, MPH, Hospital Association of Southern California
Millicent Wilson, MD, LAC EMS Agency
Doug Zabilski, Captain, Los Angeles City Fire Department

This project was supported by Children's Hospital Los Angeles.

This project was sponsored by the Los Angeles County Emergency Medical Services Agency and funded in part by the Hospital Preparedness Program, U.S. Department of Health and Human Services (HHS), Assistant Secretary for Preparedness and Response (ASPR) grant funding.

This award has been assigned the Federal Award Identification Number (FAIN) U90TP000516.

