Los Angeles County
Pediatric Surge Plan

EMERGENCY MEDICAL SERVICES AGENCY
LOS ANGELES COUNTY

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Approved:

Cathy Chidester

5/7/13

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LOS ANGELES COUNTY

Pediatric Surge Plan

Table of Contents

	Page
Background	1
Current Status	1
Simulated Bed Needs	4
Pediatric Surge Gaps and Opportunities	4
Los Angeles County Pediatric Surge Plan – Coordination	7
Los Angeles County Pediatric Surge Plan – Tier Overview	9
Training	10
Appendices	
A. Hospital Listing by Pediatric Surge Tier	11
B. Allocation of Pediatric Surge Capacity	18
C. Strategies for Enhancing Surge Capacity – from the Los Angeles County Mass Medical Care Model	20
D. Suggested Supplies	27
E. Los Angeles County Emergency Department Approved for Pediatrics (EDAP) Standards	29

BACKGROUND

As a recipient of Hospital Preparedness Program (HPP) funding, Los Angeles County (LAC) 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 project 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 would 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.

Project 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

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 to 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.

Figure 1 – Population density map

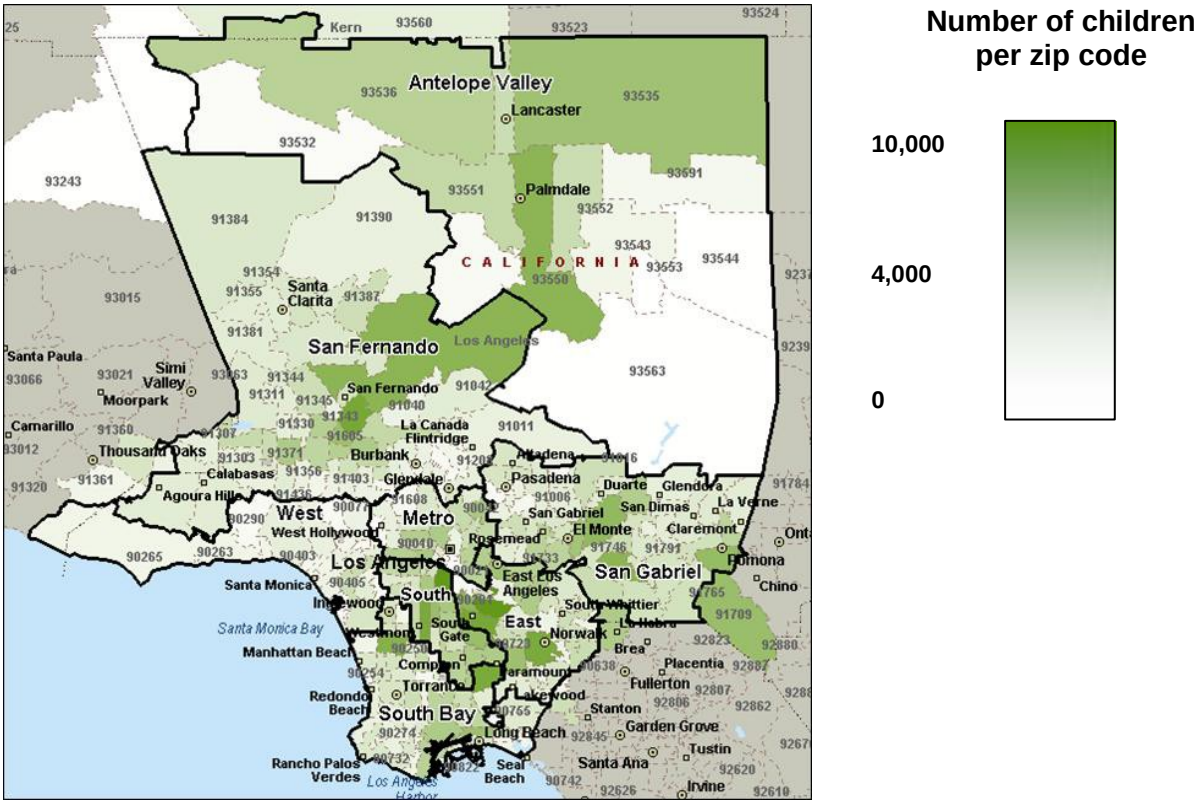


Figure 2 – Population and beds by Service Planning Area

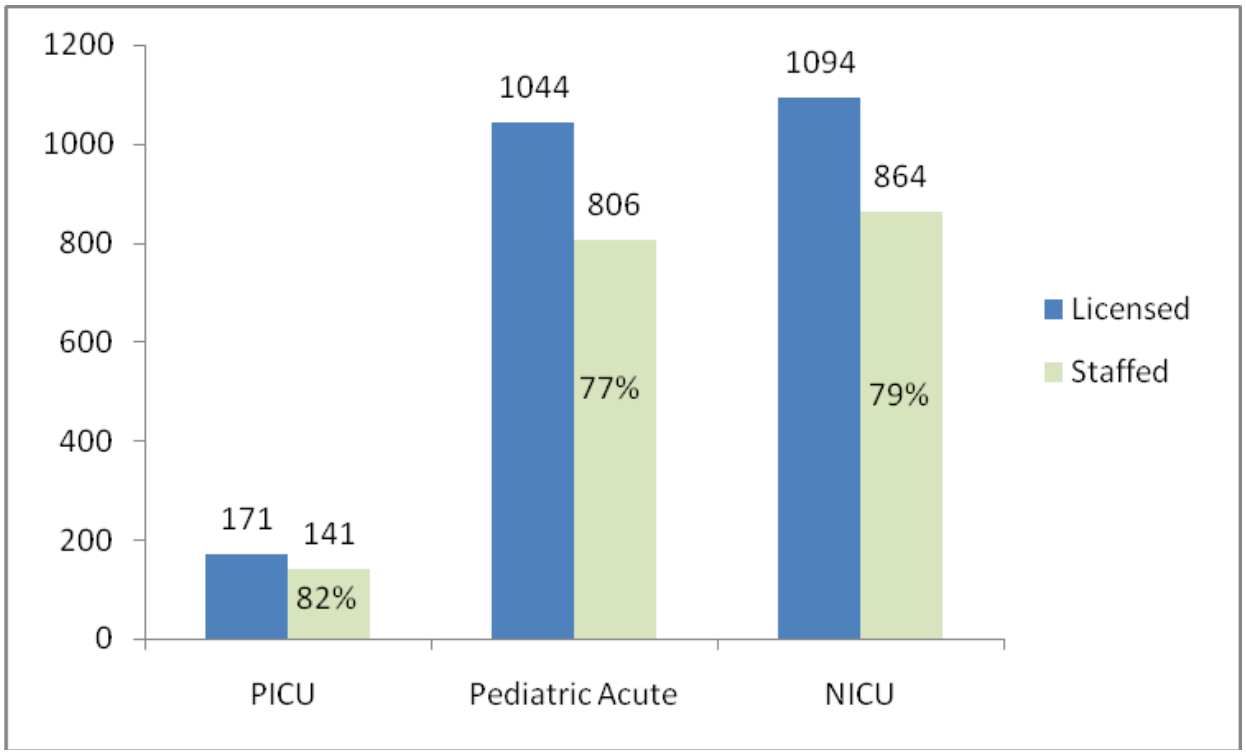
Service Planning Area	Pediatric Population	Licensed PICU Beds	Total Capacity During Pediatric Surge	Licensed Beds per 100 Children
Antelope Valley	113,511	0	22	0.19
East	379,976	0	105	0.28
Metro	282,977	97	385	1.36
San Fernando	532,864	18	90	0.17
San Gabriel	459,786	8	11	0.24
South	340,370	0	14	0.04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

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. Appendix B provides detail on the surge allocation by hospital tier.

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

SIMULATED BED NEEDS

Based on the LAC Emergency Medical Services Agency Gap Analysis project, it is estimated that the following pediatric beds would 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 the number of casualties listed in this scenario likely to be less. It is anticipated that fewer beds would 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 would translate 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 were 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 the year ending 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 Department Approved for Pediatrics (EDAP) (LAC EMS 9/2012). By LAC definition, EDAP facilities are "A licensed basic emergency department that is approved by the County of Los Angeles to receive pediatric patients from 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, procedures, and protocols."

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%). The number of children in the eastern and northern areas of the County, such as Santa Clarita and Antelope Valley continues to increase although pediatric medical and surgical care remains centralized in the Metro SPA area. The Antelope Valley SPA is served by two hospitals; one 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 of greater than eight.

4. **Limited Pediatric Specialty Physician Resources:** Half of the facilities reporting availability of pediatric general surgeons contract 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 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.

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.*

LAC Pediatric Surge Plan

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 capacity and capability. Therefore, patient age and acuity need to be considered when determining the location where children will be treated.

The plan includes using existing PICU capacity and expanding that PICU capacity as much as possible during a surge situation. All facilities with existing PICUs would need to meet the surge for additional PICU patients. The adult trauma centers and their ICUs would also need to expand capacity and their capability to meet the PICU need. Hence, this plan is based on caring for more critically ill children in facilities that are accustomed to caring for children and allowing them to decompress less critically ill children to other facilities. Pediatric acute patients would be cared for at facilities that may or may not typically care for children. The goal would be to triage older (over age eight), more stable patients to those facilities not accustomed to caring for children. Although hospital capabilities and capacity vary, all hospitals will need to participate to meet the medical surge needs of children.

Countywide Pediatric Surge Targets

The goal of this plan is to double inpatient pediatric capacity. Surge targets were calculated based on pediatric capacity and capability. The surge goal was developed 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

This surge plan is guided by the following principles:

1. Plan would be activated in response to an event that has a disproportionate number of pediatric patients.
2. Expand hospital's existing capability – each individual hospital will determine what specific strategies to implement to meet their surge capacity target.
3. Encourage hospitals to use methods of pediatric care that they use on a daily basis.
4. Support emergency departments with training and supplies to stabilize pediatric patients.
5. Support inpatient units with training and supplies to manage pediatric inpatients.

This plan calls upon hospitals with PICU capability to accommodate the surge of PICU patients. This may require a shifting of non-critical patients from these facilities so that the most critically ill children are cared for at hospitals that are accustomed to caring for and treating critically ill children. The remainder of the hospitals will be called upon to meet the pediatric acute care surge need. This means that as an event unfolds, there may be a need for secondary transfers of patients to move more stable patients to alternate locations. If there is additional surge capacity needed above 165 PICU beds, each Tier 2 hospital will be requested to accommodate up to an additional 5 PICU patients.

<u>LAC Pediatric Surge Plan – Coordination</u>

The LAC 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. To facilitate distribution of pediatric patients, the DOC will coordinate transportation and destination of prehospital patients, facilitate interfacility transfers as needed, and waive Reference No. 510, Pediatric Patient Destination Requirements, as applicable.

Patients should be distributed to an appropriate level of care given the specific circumstances of the situation. 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. A pediatric medical expert should be consulted in the triage and distribution of patients when operationalizing this plan.

If an interfacility transfer needs to occur, because of a need for higher or lower level of care, the hospital should contact the DOC to coordinate the transfer.

Hospital Plan Activation

This plan would 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). Given that the number of beds can fluctuate and hospitals can increase their scope of services, current lists of hospital capabilities should be referenced by the MAC.

Each hospital will determine what surge strategies to implement to meet the surge of pediatric patients based on their facility's bed capacity and capabilities. Some hospitals may choose to use areas of the NICU if they are available and isolated from other patient populations, whereas some may elect to use their PACU, or another area. For reference, surge strategies are provided in Appendix C of this document.

Each hospital should use existing methods for caring for children during a surge situation. Hospitals that routinely care for children in PICUs will be requested to increase capacity for intensive care beds so that more stable patients can be cared for at other facilities. This may require secondary transfers or decompressing of Tier 1 hospitals. Additionally, children under the age of eight should be cared for at facilities accustomed to caring for children. This is based on physical age of development when a typical eight year old's anatomy is more similar to an adult. Hospitals should coordinate secondary transfers with the MAC to support coordinated distribution of patients throughout the county.

<u>LAC Pediatric Surge Plan – Tier Overview</u>

Figure 6 is a high level overview of the pediatric surge plan including the tiers, types of patients, number of hospitals within each tier, existing beds within the tier and proposed surge approach. The far right column includes the total number of beds associated with the tier's overall surge capacity. Appendix A lists the hospitals that comprise each tier.

Figure 6 – Tier Overview

Tier	Tier Criteria	Types of Patients Recommended for the Tier	Number of Hospitals	Existing Number of Licensed Beds for Potential Pediatrics	Proposed Surge Capacity	Surge Capacity Increase Target
1	Full Pediatric Complement – PICU, Peds Acute and NICU	All patients and services (Triage level – immediate)	13	646 Peds Acute 184 PICU 460 NICU	Expand PICU and Peds Acute capacity for medical and trauma scenarios	165 PICU 195 Peds Acute
2	Adult Trauma Centers (all Level II)	All patients and services (Triage level – immediate)	6	168 Adult ICU 64 Peds Acute 133 NICU	Use for a trauma surge event and overflow for intensive care	30 PICU 90 Peds Acute
3	Pediatric Acute Beds	All patients and services, but would be used following Tiers 1 and 2	11	212 Peds Acute 268 Adult ICU 231 NICU	Expand Peds Acute care	165 Peds Acute
4	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	18	331 Adult ICU 184 NICU	Adult Med/Surg and/or ICU beds carved out in a specific area	270 Peds Acute
5	Not EDAP and No Pediatric Inpatient Care	Stable patients older than age 8	21	391 Adult ICU 81 NICU	Adult Med/Surg and/or ICU beds carved out in a specific area	105 Peds Acute
6	No Emergency Services and/or Specialty Type Hospitals	Use as a specialty resource	8	43 Peds Acute 112 Adult ICU	Transfer patients based on specialty	As needed

Training

Pediatric Surge Training Components

A total of six initial training sessions will be held throughout LAC. A recorded DVD with both parts of the training will also be 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 length-based tape, such as 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 of respiratory distress versus respiratory failure
- Medication administration
- Nutrition
- Children with special needs
- Mental health strategies for children

Appendix A

Hospital Listing by Pediatric Surge Tier

Hospital Listing by Pediatric Surge Tier

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

Tier 1 Hospitals

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

	HOSPITAL	PICU Surge	Pediatric Acute Surge	Existing Licensed PICU Beds
1.	Children's Hospital Los Angeles (PTC, LI)	25	15	48
2.	LB Memorial Medical Center / Miller Children's Hospital (PTC, LII)	20	15	20
3.	Ronald Reagan UCLA Medical Center (PTC, LI)	20	15	20
4.	Cedars-Sinai Medical Center (PTC, LI Adult)	15	15	18
5.	Kaiser Foundation Hospital – Los Angeles Medical Center	15	15	16
6.	Northridge Hospital Medical Center (PTC, LII)	15	15	14
7.	LAC + USC Medical Center (PTC, LI)	15	15	10
8.	LAC / Harbor-UCLA Medical Center (PTC, LI)	10	15	10
9.	Valley Presbyterian Hospital	10	15	10
10.	Huntington Memorial Hospital (LII)	5	15	8
11.	Providence Tarzana Medical Center	5	15	7
12.	Santa Monica – UCLA Medical Center	5	15	4
13.	White Memorial Medical Center	5	15	5
	Total Surge for Tier 1	**165**	**195**	

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

Tier 2 Hospitals - (Level II Adult Trauma Centers)

Tier 2 hospitals are adult trauma centers in LAC. These facilities do not have PICU capability, but should be able to surgically handle traumatic injuries in children. If a PICU surge was greater than the surge targets for Tier 1 hospitals, this group of hospitals would 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 2	**30**	**90**

Tier 3 Hospitals

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

	HOSPITAL	Pediatric Acute Surge
1.	Beverly Hospital	15
2.	*Greater El Monte Community Hospital*	15
3.	*Hollywood Presbyterian Medical Center*	15
4.	*Kaiser Foundation Hospital – Woodland Hills*	15
5.	LAC Olive View – UCLA Medical Center	15
6.	Pacifica Hospital of the Valley	15
7.	Pomona Valley Hospital Medical Center	15
8.	Presbyterian Intercommunity Hospital	15
9.	Providence Little Company of Mary Hospital – Torrance	15
10.	Citrus Valley Medical Center - Queen of the Valley	15
11.	Torrance Memorial Medical Center	15
	Total Surge for Tier 3	**165**

Tier 4 Hospitals

Tier 4 includes hospitals that are EDAP, but do not provide inpatient pediatric services. These facilities would 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.	Brotman Medical Center	15
2.	Centinela Hospital Medical Center	15
3.	Downey Regional Medical Center	15
4.	Encino Hospital Medical Center	15
5.	Glendale Adventist Medical Center	15
6.	Glendale Memorial Hospital and Health Center	15
7.	*Kaiser Foundation Hospital – Baldwin Park*	15
8.	*Kaiser Foundation Hospital – Panorama City*	15
9.	*Kaiser Foundation Hospital – South Bay*	15
10.	*Kaiser Foundation Hospital – West Los Angeles*	15
11.	Memorial Hospital of Gardena	15
12.	Methodist Hospital of Southern California	15
13.	Providence Little Company of Mary – San Pedro	15
14.	Providence Saint Joseph Medical Center	15
15.	San Gabriel Valley Medical Center	15
16.	Sherman Oaks Hospital	15
17.	Verdugo Hills Hospital	15
18.	West Hills Hospital and Medical Center	15
	Total Surge for Tier 4	**270**

Tier 5 Hospitals

Tier 5 hospitals are facilities that are non-EDAP and do not have licensed inpatient pediatric beds. These facilities would be requested to surge for stable patients over eight years of age. The four 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 Campus	5
3.	*Coast Plaza Doctor's Hospital*	5
4.	College Medical Center of Long Beach	5
5.	*Community Hospital of Long Beach* [1]	5
6.	*East LA Doctors Hospital* [2]	5
7.	East Valley Hospital Medical Center	5
8.	Foothill Presbyterian Hospital	5
9.	*Garfield Medical Center* [1]	5
10.	*Good Samaritan Hospital – Los Angeles* [1]	5
11.	Lakewood Regional Medical Center	5
12.	Marina Del Rey Hospital	5
13.	Mission Community Hospital	5
14.	Monterey Park Hospital	5
15.	Olympia Medical Center	5
16.	Palmdale Regional Medical Center	5
17.	San Dimas Community Hospital	5
18.	*Saint John's Hospital & Health Center* [1]	5
19.	Saint Vincent Medical Center	5
20.	Tri-City Regional Medical Center	5
21.	Whittier Hospital	5
	Total Surge for Tier 5	**105**

Tier 6 Hospitals

Tier 6 hospitals are specialty hospitals or facilities without 9-1-1 receiving emergency departments. These facilities would 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.	Temple Community Hospital
7.	USC Norris Comprehensive Cancer Center
8.	Keck Hospital of USC (USC University Hospital)

Appendix B

Allocation of Pediatric Surge Capacity

Allocation of Pediatric Surge

The following table provides detail on how surge targets were selected and how each pediatric surge tier contributes to the overall county surge target.

HPP tier is based on hospital's staffed bed level and ED visits. The pediatric surge tier is based on pediatric bed capacity and EDAP status.

PICU Surge		
	PICU	Balance
Current Capacity	141	
Surge Target (100% increase)	141	-141
Tier 1 Hospitals	165	24
Tier 2 Hospitals	30	54
Total Additional Surge Beds	**195**	

Pediatric Acute Care Surge		
	Peds Acute	Balance
Current Capacity	806	
Surge Target (100% increase)	806	-806
Tier 1 Hospitals	195	-611
Tier 2 Hospitals	90	-521
Tier 3 Hospitals	165	-356
Tier 4 Hospitals	270	-86
Tier 5 Hospitals	105	19
Total Additional Surge Beds	**825**	

Appendix C

Strategies for Enhancing Surge Capacity

Excerpt from the Los Angeles County Mass Medical Care Model

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**
▪ 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	▪ 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
▪ Increase capacity in patient rooms or hallways in patient care areas ▪ 2 patients in a single room	▪ 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)

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**
▪ 3 patients in a double room	▪ 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
▪ Open hospital floors that are vacant	▪ 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
▪ Use areas of the hospital for inpatients ▪ GI Lab ▪ Recovery Room ▪ Outpatient Surgery ▪ Physical Therapy ▪ Other	▪ 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

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
▪ Use non-traditional areas of the hospital for inpatients ▪ Cafeterias ▪ Conference Rooms ▪ Parking Structures ▪ Other	▪ 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
▪ Shut off floor ventilation system to make a cohort of infected patients	▪ 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
▪ Use tents to create additional patient care areas	▪ 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

STAFF - Surge Strategies for Hospitals

Objective: Increase the ability to maintain staffing levels and/or expand the workforce

Strategy/Implementation Steps	Regulatory Considerations
▪ Cross train clinical staff	▪ Age limits to MD Malpractice Coverage
▪ Contact Nurse staffing agencies (registry) to assist with supplemental staffing needs	
▪ Use non-conventional staff or expand scope of practice ▪ Student nurses ▪ Medical students ▪ Military licensed staff	▪ 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
▪ Use of non-conventional staff ▪ Volunteers ▪ Paramedics ▪ Dentists ▪ Veterinarians ▪ Retired health professionals with an active license	▪ Professionals with inactive licenses will need to go through the process to reactivate it. ▪ Liability/licensing regulations ▪ State laws regarding malpractice coverage for volunteers
▪ Utilize adult skilled RNs to supervise pediatric RNs to treat a surge of adult patients and vice versa	▪ Liability regulations and insurance limitations
▪ Utilize families to render care under direction of a healthcare provider	▪ Title 22 – Certified nursing assistant to render care
▪ Implement and/or develop just-in-time training for clinical staff normally assigned to non-direct patient care positions	
▪ Plan for dependent care for staff	
▪ Provide vaccination and prophylaxis to healthcare staff and their family member, as appropriate	

STAFF - Surge Strategies for Hospitals Objective: Increase the ability to maintain staffing levels and/or expand the workforce	
Strategy/Implementation Steps	**Regulatory Considerations**
▪ Implement and/or develop return to work policies for employees that have recovered from the communicable illness and have immunity	
▪ Develop procedure to accept and assign volunteers	▪ Need to review CMS to identify actual standard of primary source verification. Go directly to CMS for clarification
▪ Request additional staffing resources through the Standardized Emergency Management System (SEMS) structure	
▪ Request relaxation of nurse/patient ratios to allow occupancy of all licensed beds	▪ 22 CCR 70217: Nurse ratios ▪ Union regulations ▪ AB 294: California RN Staffing Ratio Law, requires Governor's standby order for statutory suspension

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)

Appendix D

Suggested Supplies

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

The Pediatric Surge Project recommends each hospital within their associated tier receive the following supplies.

Tiers 1 and 3: 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 2: Hospitals that are adult trauma hospitals

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

Tier 4: 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 5: 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 6: 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 E

Los Angeles County Emergency Department Approved for Pediatrics (EDAP) Standards

LOS ANGELES COUNTY
DEPARTMENT OF HEALTH SERVICES
EMERGENCY MEDICAL SERVICES AGENCY

Emergency Department Approved for Pediatrics

(EDAP)

Standards

Insert Document – EMS Agency will forward

(EDAP Standards – revision date 2014)

Pediatric Disaster Resources and References

The following information is being provided as reference on additional hospital pediatric disaster preparedness and response resources. This list is being provided as a courtesy only.

1. **Pediatric Disaster Resource and Training Center at Children's Hospital Los Angeles**
   Our website features links to an online pediatric disaster training course, planning tools, and reference material.
   www.CHLA.org/DisasterCenter

2. **AHRQ and Boston Children's Hospital - Children and Decontamination**
   27 minute video instructed by the late Dr. Michael Shannon, demonstrates how to safety decontaminate children
   http://www.youtube.com/watch?v=ctt6RJGMV9Y

   2 minute video with main concepts for children and decontamination
   http://www.youtube.com/watch?v=0dw4Y-_BNuQ

3. **American Academy of Pediatrics (AAP) - *Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians***
   http://archive.ahrq.gov/research/pedprep/

4. **AAP Pediatric Preparedness Resource Kit**
   http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Children-and-Disasters/Pages/Pediatric-Preparedness-Resource-Kit.aspx

5. **California Emergency Medical Services Authority - Emergency Medical Services for Children (EMSC) Pediatric Disaster Preparedness Guidelines**
   http://www.emsa.ca.gov/pubs/docs/EMSA198.pdf

6. **Contra Costa Health Services Resources**
   http://cchealth.org/ems/emsc-disaster-prepare.php

7. **FEMA FY 12 Homeland Security Grant Program – Supplemental Resource: Children in Disasters Guidance**
   http://www.fema.gov/pdf/government/grant/2012/fy12_hsgp_children.pdf

8. **Hospital Guidelines for Pediatric Preparedness – NYC Health, 3rd Edition August 2008**
   Link to PDF document on Hospital Guidelines for Pediatric Preparedness Created by Centers for Bioterrorism Preparedness Program Pediatric Task Force, NYC DOHMH Pediatric Advisory Group, and NYC DOHMH Healthcare Emergency Preparedness Program
   http://home2.nyc.gov/html/doh/downloads/pdf/bhpp/bhpp-hospital-pediatric-guidelines.pdf

Compiled by the Pediatric Disaster Resource and Training Center at Children's Hospital Los Angeles
February 2014

9. **Kings County – Healthcare Coalition: Hospital Guidelines for Management of Pediatric Patients in Disasters**
   http://www.kingcountyhealthcarecoalition.org/media/PediatricToolkit.pdf

10. **Los Angeles County EMS Agency – Family Information Center Planning Guide**
    http://ems.dhs.lacounty.gov/ManualsProtocols/Manuals.htm

11. **Massachusetts Medical Society**
    Pediatric Disaster Life Support Page – Links to online training
    http://www.massmed.org/Patient-Care/Health-Topics/Pediatric-Disaster-Life-Support/

12. **National Children's Disaster Mental Health Concept of Operations: Merritt Schreiber, PhD**
    http://www.iom.edu/~/media/Files/Activity%20Files/PublicHealth/MedPrep/2013-JUN-10/Presentations/Schreiber-for%20web-CONOPS_FINAL_120511.pdf

13. **National Commission on Children and Disasters**
    National Commission on Children and Disasters Report to the President and Congress: 2010
    De –commissioned in accordance with public law on April 4, 2011.
    http://cybercemetery.unt.edu/archive/nccd/20110427002908/http://www.childrenanddisasters.acf.hhs.gov/index.html

14. **National Center for Disaster Medicine and Public Health**
    Link to the Pediatric Disaster Preparedness section
    http://ncdmph.usuhs.edu/KnowledgeLearning/2011-03PedPrep.htm

15. **Pediatric and Neonatal Emergency Preparedness and Surge Professionals Network –** Organized by Patricia Frost RN, MS, PNP - Director Emergency Medical Services, Contra Costa County
    https://sites.google.com/site/pedineonetwork/

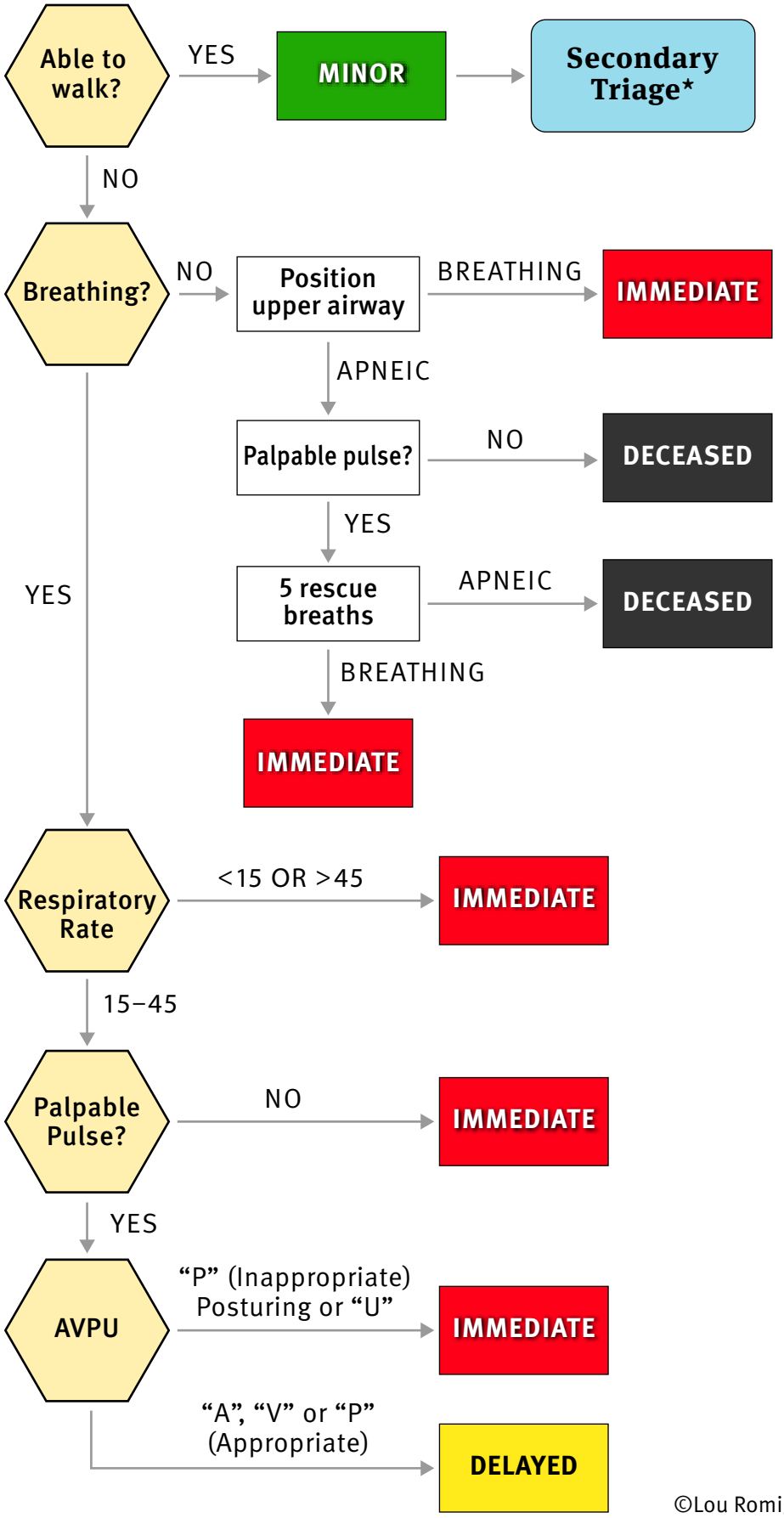
16. **Sirbaugh et. al: Paper – The Mobile Pediatric Emergency Response Team (MPERT), One Tertiary Pediatric Care Center's Regional Response to Surge**
    http://www.pedsanesthesia.org/meetings/2009annual/syllabus/pdfs/submissions/Resource%20Utilization%20in%20Disasters%20-%20Paul%20E.%20Sirbaugh,%20DO%20FAAP%20FACEP.pdf

17. **South Central Public Health Partnership**
    Collaborative partnership for Alabama, Louisiana, and Mississippi. The Southeastern Regional Pediatric Disaster Response Network is part of this group. Website provides online courses and training.
    http://www.southcentralpartnership.org/pediatric_network

18. **Save the Children**
    Link to U.S. Center for Child Development & Resiliency: Resources and Training http://uscenter.savethechildren.org/SitePages/Children%20in%20Disasters.aspx

19. **University of Minnesota After a Natural Disaster**
    This site is from the University of Minnesota Extension and is part of "Families in Tough Times." This link is directly for their resources as it relates to children
    http://www.extension.umn.edu/family/tough-times/disaster-recovery/#cope

JumpSTART Pediatric MCI Triage©



*Evaluate infants first in secondary triage using the entire JS algorithm

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