

Strategies for Managing the Pediatric Winter Viral Surge

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Managing the Pediatric Winter Viral Surge Strategies for Hospitals

10.04.2023

Mission

To nurture, advance and protect the health and well-being of children.



Vision

To be the leading destination for children's health by providing exceptional and innovative care.

CHOC at a Glance

2 HOSPITALS



334 BEDS

CHOC Hospital in Orange



54 BEDS

CHOC at Mission Hospital

5 CENTERS OF EXCELLENCE



Heart



Research



Orthopedic



Neurology /
Neurosurgery



Oncology

ACCOLADES



CHOC at a Glance

LEADING-EDGE PROGRAMS



A PEDIATRIC MENTAL HEALTH SYSTEM of care poised to serve as a national model



THE THOMPSON AUTISM CENTER brings the latest treatments and resources to help families thrive



ONE OF THE NATION'S ONLY dedicated cancer programs for teens and young adults

ACADEMIC AFFILIATION



UNIVERSITY OF CALIFORNIA, IRVINE

DESIGNATIONS



TWO pediatric trauma centers:
Level 1
Level II



GOLD LEVEL extracorporeal life support (ECLS) center



LEVEL 4 NICU



LEVEL 4 pediatric epilepsy center



MAGENT RECOGNITION from the American Nurses Credentialing Center

PROVIDERS

30

More than 30 specialty areas treated, from allergy to urology

700

More than 700 providers on the medical staff

500

More than 500 residents, fellow and medical students who undergo pediatric training at CHOC every year

4,700

Associates

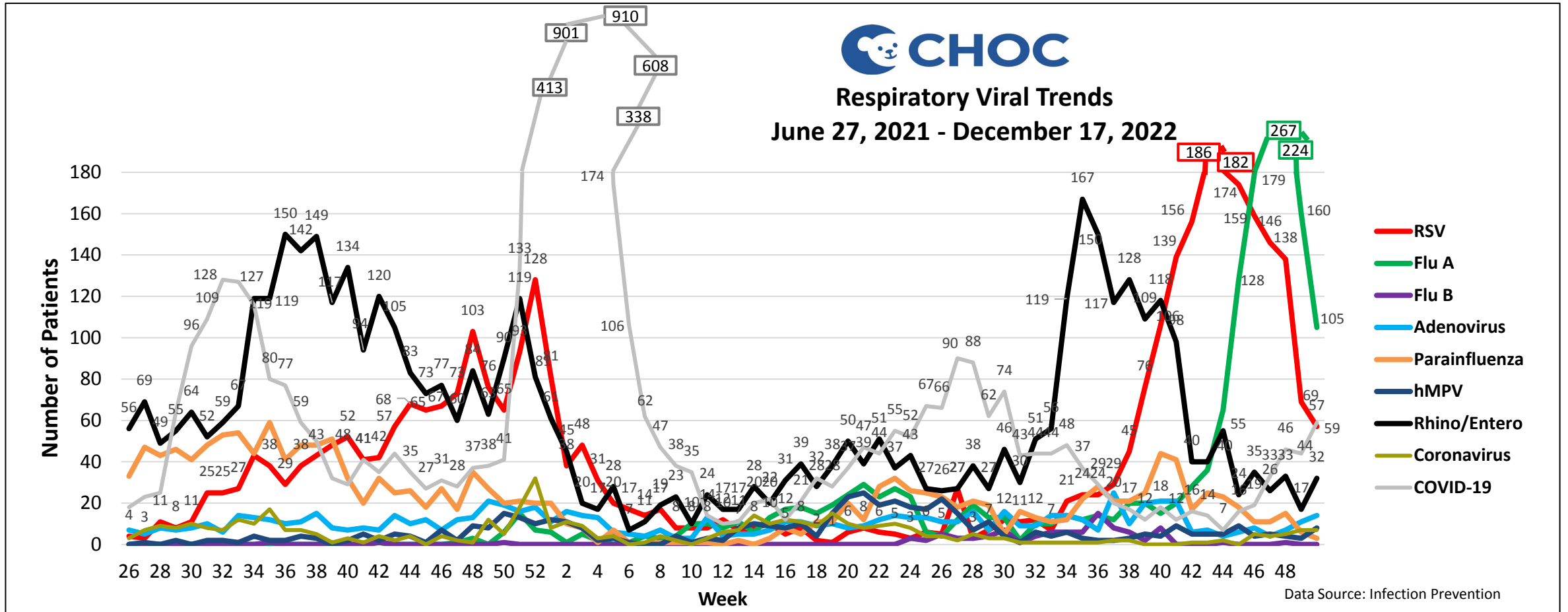
250k

Children cared for every year

The Storm was on
the Horizon...



Tracking Trends



Notification & Situational Awareness



County Leadership

Situational awareness



County Coalition Partners

Weekly updates



Pediatric Coalition Partners

Commiseration



County Board of Supervisors

Hospital leaders provide updates



CDPH

Weekly meetings

Disaster Declaration October 31, 2022



COUNTY OF ORANGE – HEALTH CARE AGENCY

PRESS RELEASE

For Immediate Release: October 31, 2022

Contact: Julie MacDonald
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(714) 719-7962

OC Health Care Agency Issues Public Health Emergency Declaration and County Local State of Emergency

(Santa Ana, CA) – The Orange County Health Officer today issued a Declaration of Health Emergency Orange County due to rapidly spreading virus infections causing record numbers of pediatric hospitalizations and daily emergency room visits. Additionally, a Proclamation of Local emergency has been declared, which allows the County to access State and Federal resources to address the situation and seek mutual aid from surrounding counties.

The OC Health Care Agency (HCA) Emergency Medical Services (EMS) is monitoring regional hospital capacity and engaging hospital and health care systems that are seeing very high patient volumes in their emergency departments and inpatient pediatric units.

November 18, 2022

Orange County continues to experience a surge in pediatric respiratory illnesses- primarily from Respiratory Syncytial Virus (RSV) which is impacting our local hospital systems. However, the surge of respiratory illnesses continues locally with higher Emergency Department (ED) visits occurring in the last 7 days compared to previous weeks. Based on the County Medical Surge Plan, the table below outlines a four-tiered situation for the current Pediatric Surge to highlight actions taken & contemplated. **At this time, OC is in Tier 3, with licensed OC pediatric hospitals at or beyond capacity, multiple adult hospitals seeking regulatory waivers to add/expand pediatric capability, regional bed availability has diminished & pediatric nurse staffing is waning.** Over the past few days, our primary pediatric hospital, Children's Hospital of Orange County (CHOC) hit a record high of 489 ED visits. Adult hospitals are noting a rise in pediatric patients seeking care in their ED's from respiratory illnesses. It is important to note that ALL Orange County Hospital Emergency Departments have equipment and capability to handle pediatric patients. However, only 4 (CHOC, CHOC-Mission Hospital, Fountain Valley Medical Center & Kaiser Anaheim) have pediatric medical/pediatric intensive care inpatient beds with appropriate physicians, nurses & services to support this special population. All OC hospitals have been encouraged to activate their internal surge plans, contemplate expansion of pediatric capabilities by seeking any/all necessary state regulatory waivers to safely care for hospital level pediatric patients. And, most health systems have expanded urgent care hours & added family medicine appointments to help decrease the impacts to the emergency departments.

Managing the Surge



ED Volumes (35 beds)

- Normal Range = 250-300
- Surge Volumes (9 additional horizontal beds added totaling 44)
- Surge Range = 325-495

Inpatient Volumes

- Normal Range = 190-210
- Surge Range = 210-260 (19 additional beds added)

CHOC Surge Activities at a Glance

Emergency Department



Expanded ED Lobby to outside Valet driveway during COVID



Expanded the "Red Zone" where lower acuity patients are seen to the first -floor lobby of hospital-seeing over 150 kids per day in this surge space. This was known as the Purple Zone.



Expanded our bed count by 9 horizontal beds to accommodate higher acuity patients



Added a respiratory treatment area in the lobby hallway

Impact to Community



440 average number of patients per day with the highest of 480



Number of hours on diversion



Number of declinations of ED-to-ED transfers 300-350 over a 30 day period



Average number of LWOTs (left without being treated) = 4.5% vs FY22 = 3%



Average number of boarders at 0600 impacting ED bed availability

Additional Inpatient Surge Beds

12

Overflow ICU Opened

8

Medical Overflow Opened

8

Discharge Lounge Opened

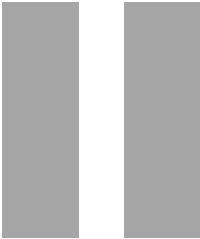
8

Beds in Oncology playroom, gym and treatment room

15

Beds in medical –surgical playrooms

Downstream Effect



ED to ED Pause



Unable to off load peds patients from other facilities



Peds bed shortage throughout the county

ED to ED Pause Criteria

ED Throughput

- >10 admit holds greater than 3 hours
- >2 PICU holds greater than 2 hours
- >5 hours lobby wait time for ESI 3 patients
- >3 hours lobby wait time for ESI 2 patients
- >50 patients in the lobby
- >100 patient in the department (-admits w/beds, -DK - LWOTS)
- >20 ESI 3 patients in lobby
- ED closure of 2 or more zones due to staffing
- >5 pending ED to ED Transfers
- All ED Beds occupied

In-Patient Throughput

- House Census >260
- Total- Consider with the house supervisor to meet criteria
- ED to ED Pause for 4 or more points
- Re-evaluate every 3 hours
- ED to ED Pause start time
- ED to ED Pause end time

ED to ED Pause Criteria (cont.)

- Prior to considering Pause ED Charge Nurse will go to the Patient Placement Center in person to review the bed status.
- Charge Nurse determines the need for ED to ED pause based on criteria.
- Charge Nurse escalates to Manager for review and Nursing Administration after hours.
- Charge nurse notifies Nursing Administration during business hours to make final decision.
- Charge Nurse alerts ED Medical Director, CHOC Transport Team, MICN, and House supervisor to pause ED to ED transfers.
- ED to ED pause does not affect trauma or EMS runs, and CHOC will continue to accept trauma transfers.

ED to ED Pause Criteria (cont.)

- The Charge Nurse will reassess the need to remain paused every 3 hours.
- ED to ED pause >12 hours should be escalated to the manager during business hours and Nursing Administration after hours.
- When criteria are no longer met, the ED Charge Nurse will notify the Manager pause is lifted who will notify the Nursing Administration.
- If the Pause is lifted after hours, ok to notify the Nursing Administration at 6 a.m.
- Charge Nurse alerts CHOC Transport Team and MICN when the Pause is lifted.

Space

Space



Space Transformation



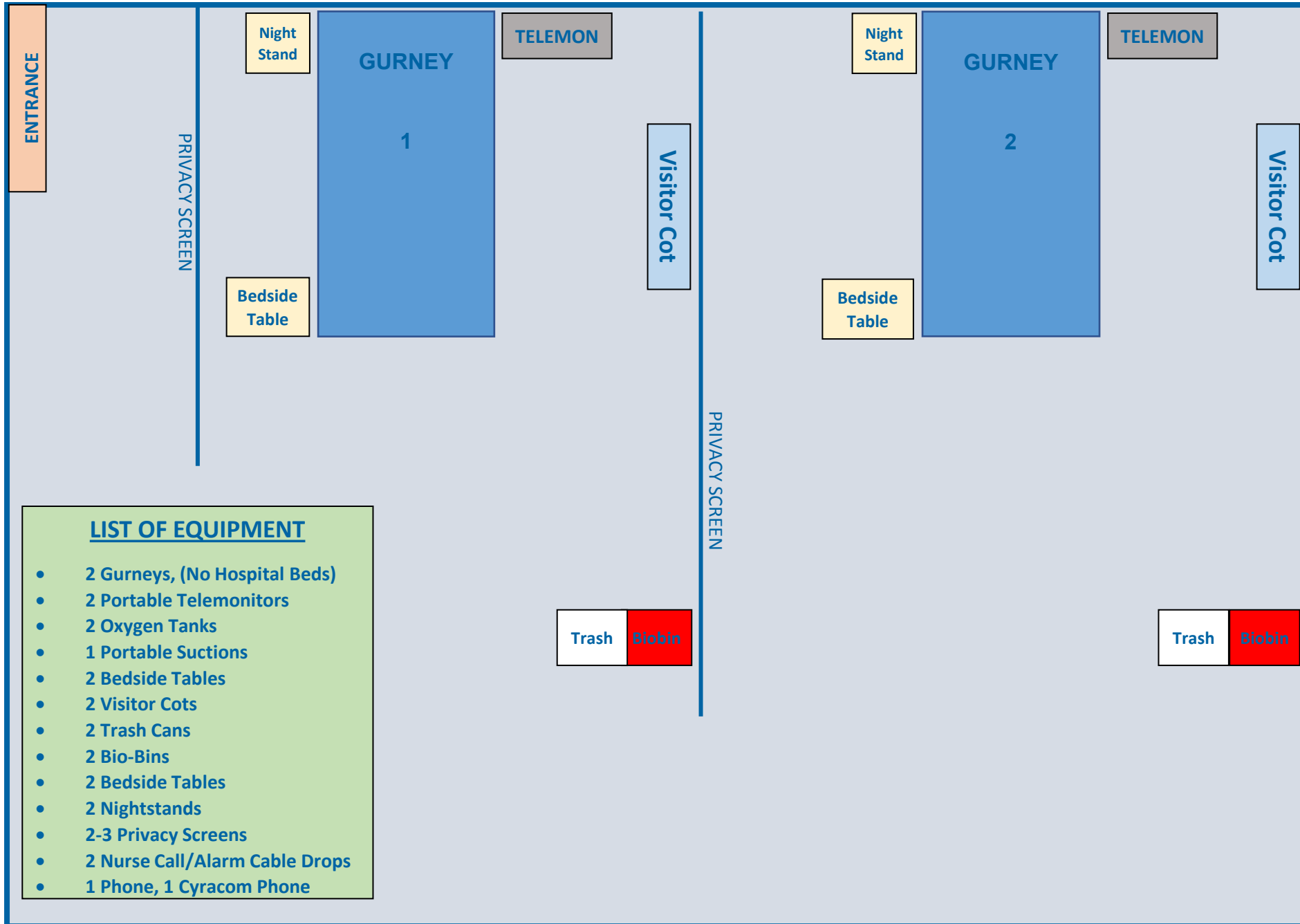
Outdoor ED Waiting Area



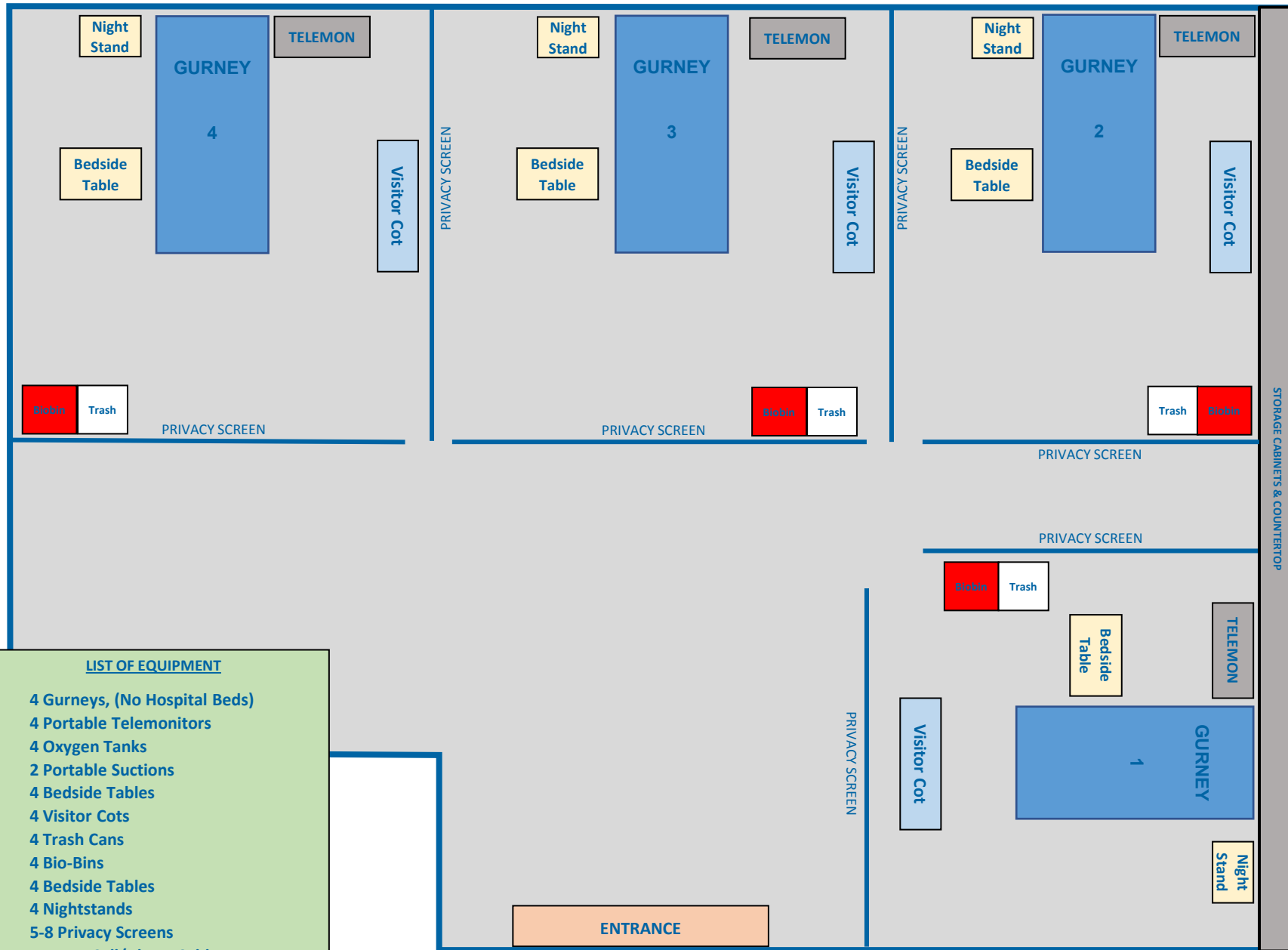
Normal State 3E Playroom



3 EAST PLAYROOM SURGE LAYOUT & RECIPE CARD



4 WEST PLAYROOM SURGE LAYOUT & RECIPE CARD

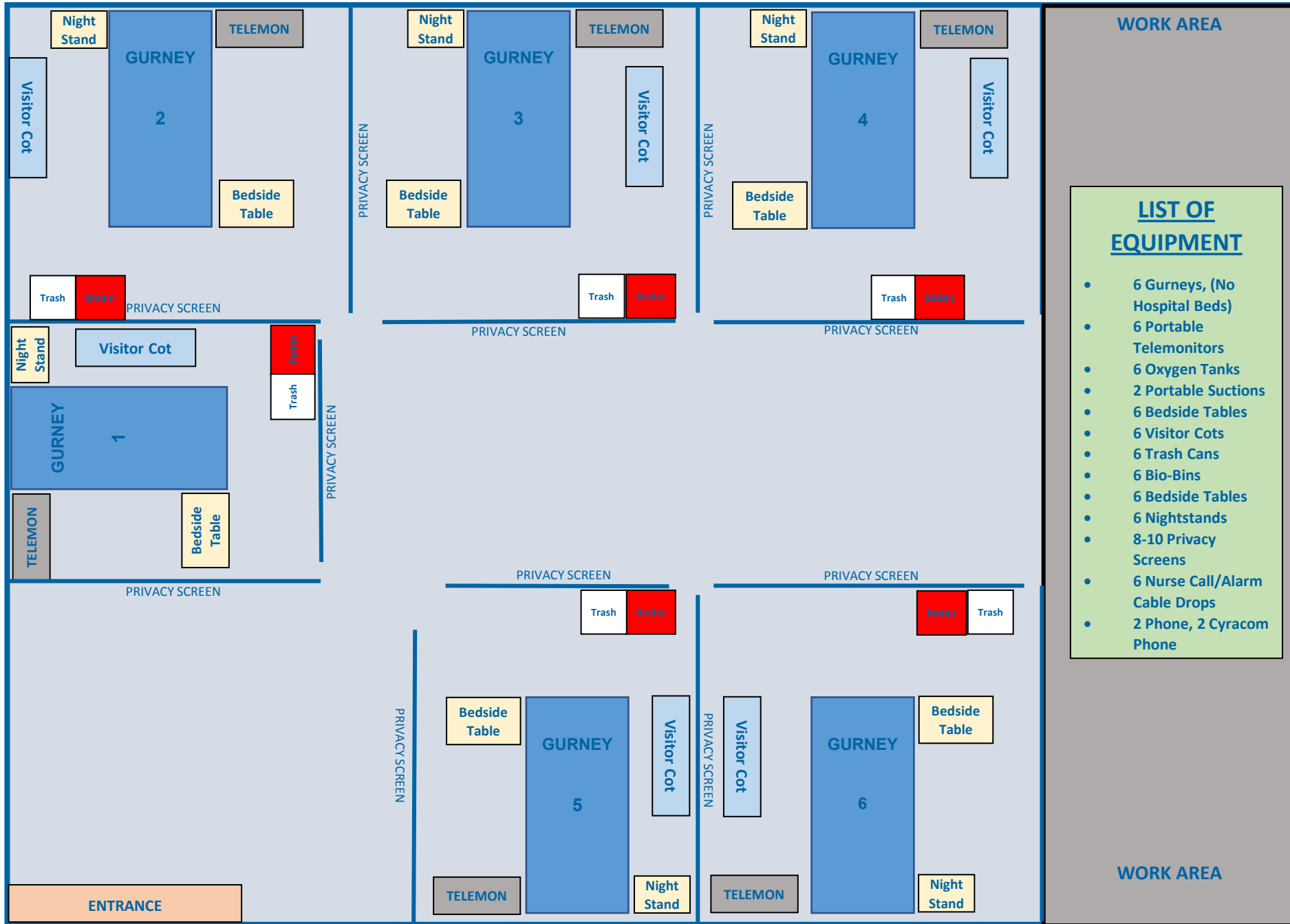


- LIST OF EQUIPMENT**
- 4 Gurneys, (No Hospital Beds)
 - 4 Portable Telemonitors
 - 4 Oxygen Tanks
 - 2 Portable Suctions
 - 4 Bedside Tables
 - 4 Visitor Cots
 - 4 Trash Cans
 - 4 Bio-Bins
 - 4 Bedside Tables
 - 4 Nightstands
 - 5-8 Privacy Screens
 - 4 Nurse Call/Alarm Cable Drops
 - 2 Phone, 2 Cyracom Phone

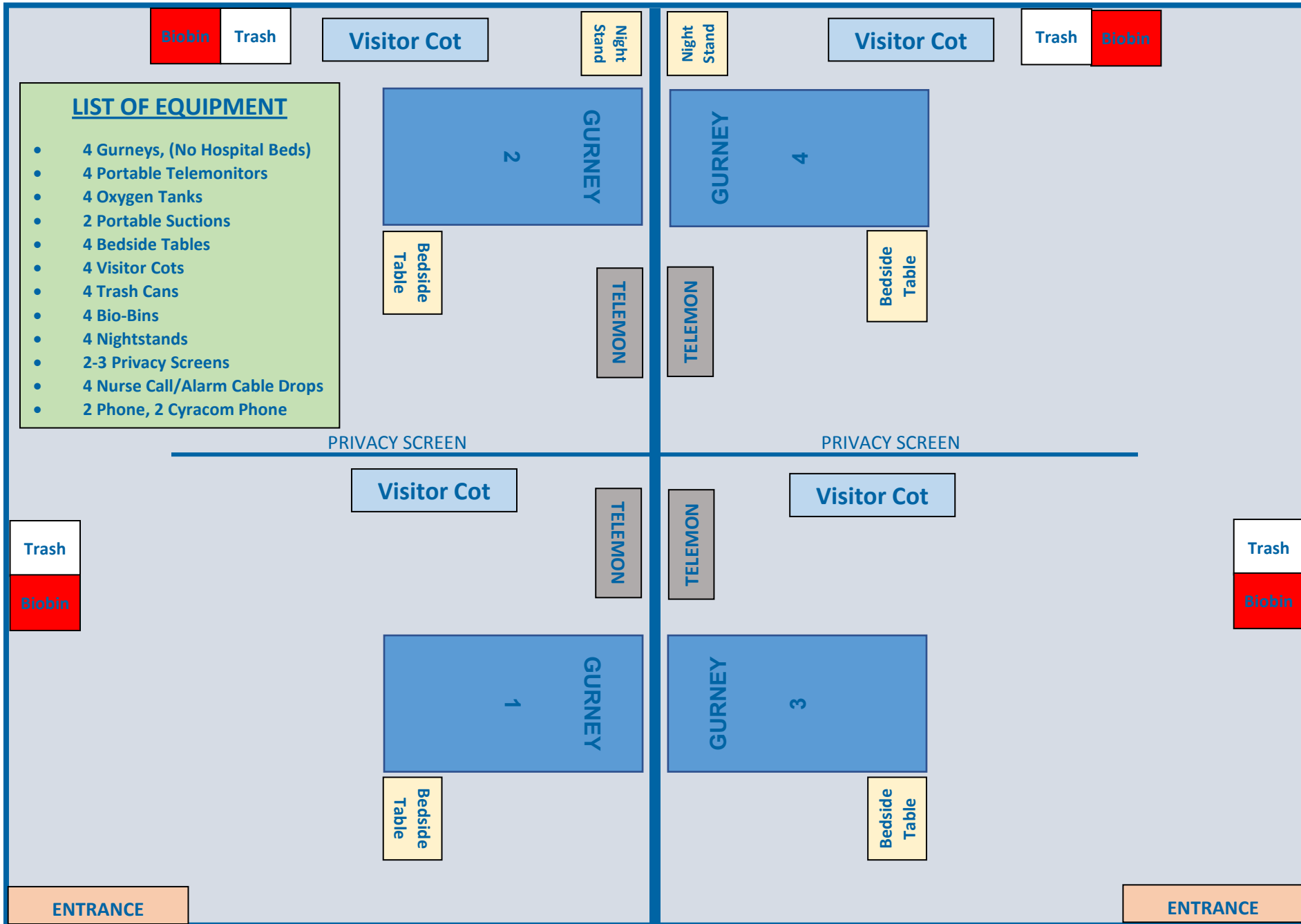
Normal State 5E Playroom



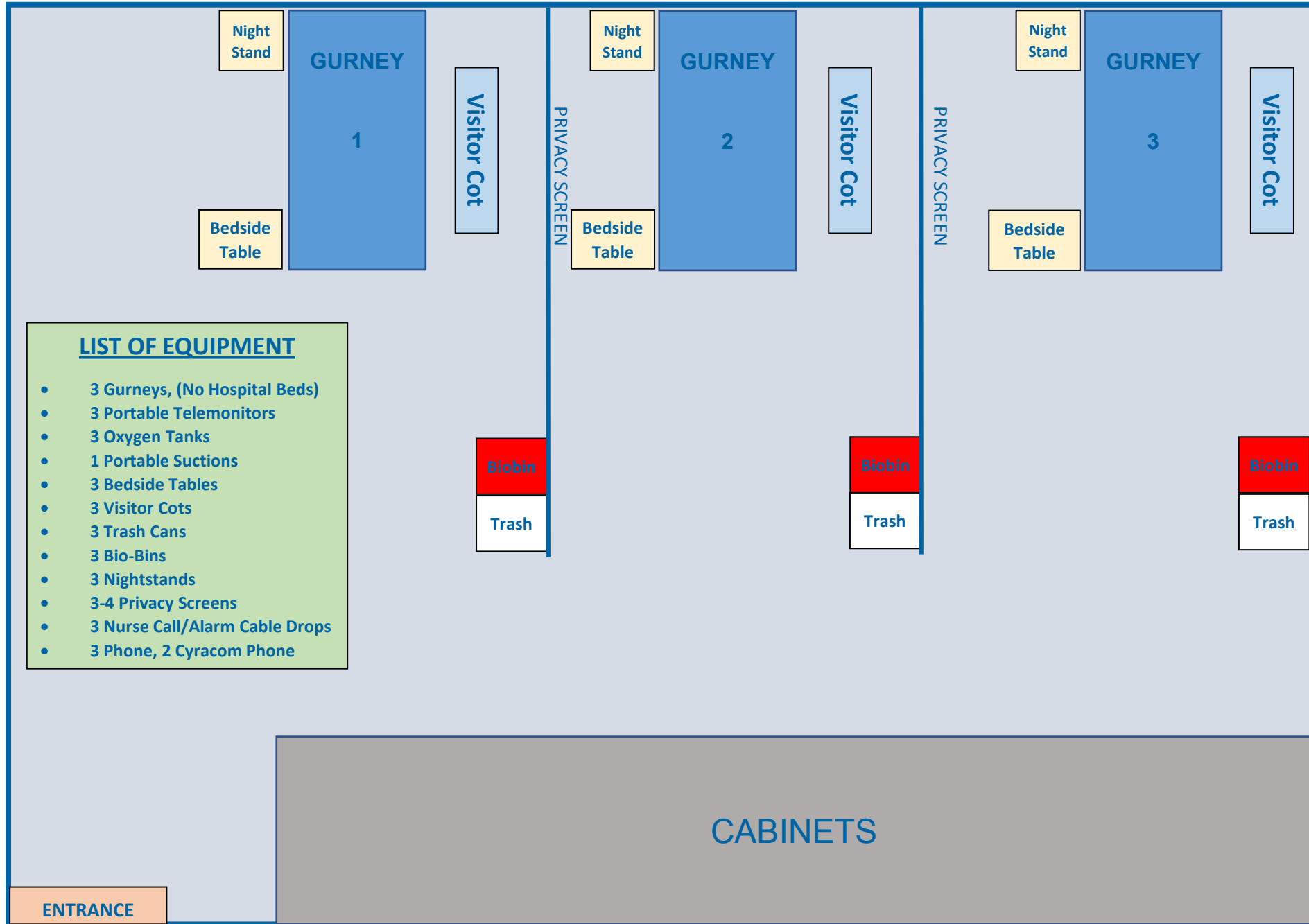
5 EAST PLAYROOM SURGE LAYOUT & RECIPE CARD



5th FLOOR CLASSROOM SURGE LAYOUT & RECIPE CARD



5th FLOOR GYM SURGE LAYOUT & RECIPE CARD



Respiratory Emergency Bags

Respiratory Supply Box

This box contains:

Ambu-Bags

Infant – 100164

Pediatric – 100163

Adult – 100162

Suction Catheters

5/6 French – 100407

8 French – 100410

10 French – 100412

12 French – 100415

Inflatable Face Masks for Ambu-bags

Size 1 Neonatal – 100856

Size 2 Infant – 100854

Size 3 Toddler – 100873

Size 4 Child/Small Adult – 100872

Size 5 Medium Adult – 100871

Nasal Aspirator

Boogiebaby Premie Tip – 933030

Boogiebaby Flair Tip – 219857

Boogiebaby Olive Tip – 219713

If you open the box, you are responsible for the following:

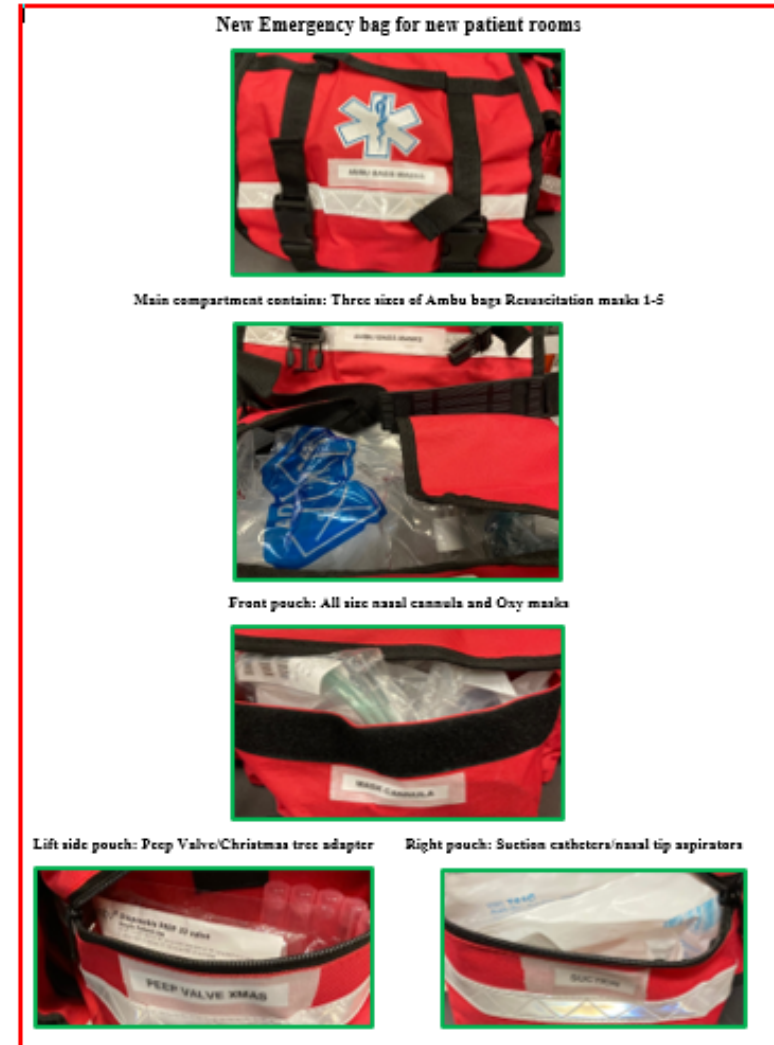
Re-stocking items which were removed

Updating Expiration Check List

Re-locking box

(locks are located in the Narc Drawer)

Note: All items in the yellow boxes have an expiration date. These items must be filled out on the Expiration Date Sheet located inside this box. Be sure to include your Name, Date checked and Date of the Item to expire first on the Expiration Date Sheet.



Staff

Staff

Surge Space Planning mid-September

October 10 “Go-Live”

Utilized ED Overflow Staff & Physicians

Travelers and Registry to backfill

Staff/Staff families were also affected

Stuff

Stuff

**Emergency
Declaration
10/31/2022**

Resource
Requests

MHOAC

RDMHS

CDPH

Stuff (cont.)



Resource Requests

10 Requests submitted
Primarily medications
Riverside County
Los Angeles County
Orange County



Coalition Support

OCHCA
• Hoag
• Mission
• UCI Health
• Memorial Care Long Beach DRC
Southern California Pediatric Disaster Coalition

System

System

Units Requested / Distributed for Pediatric Surge Event							
11/18/22 - 12/6/22							
Item Type	Qty	Orange County	LA County	Riverside County	Unfilled Qty Request to State	State filled	Unfilled Total
Patient Gurneys	100		100		0		
Tamiflu 6mg/ml	5	5			0		
Needles (18g 1.2mmx40mm)	5000		1000		4000		
Albuterol Inhalers	1000	4	120	200	640		
Albuterol Nebulizer Solution 3ml	7500		150	4000	3350		
Albuterol 5mg/ml Solution	50				50		
Racemic Epinephrine	300				300		
Augmentin 400 mg - 57 mg/5ml Suspension	10				10		
Amoxicillin 250mg/ml Suspension	20				20		
Xofluza 40 mg	18	7		18	0		
IV Syringe Caps Monject	10000				10000		
Total Units	24003	45	1370	4218	18370		

Recovery

Business Continuity

Planning for Organizational Resiliency

Space

- Identify minimum surge space needed
- Identify triggers to surge or downgrade response


Staff

- Identify additional staff needed to expand services
- Identify triggers to increase staffing per volume
- Staff messaging to dispel external news/concerns

Stuff

- Identify par level of PPE to expand services
- Identify triggers to ramp up/ramp down services based on supply and equipment availability
- Vendor diversification

Demobilization- Outdoor Waiting Area

 COVID 19 Response- HICS 221- DEMOBILIZATION CHECKLIST


1. Incident Name WINTER VIRAL SURGE SEPT. 2022-JULY 2023	2. Operational Period DATE: FROM: _____ TIME: FROM: _____ TO: _____
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3. Section Demobilization Checklist
Use as positions and resources are demobilized. The position and the resources may only be released when the checked boxes below are signed off, all equipment is serviced and returned, and all paperwork turned in to the Documentation Unit Leader. Respective Section Chiefs must initial their sections showing approval for demobilization.

PHASE THREE: External Waiting Area Demobilization return to normal operations

Key Areas of Focus


- Equipment
 - Heaters
 - Removed as of 7/17/2023
 - Chairs
 - Return to Wade Center Storage
 - Return to ED Waiting Room (Internal)
 - Bushes/Barriers
 - Break down and place in storage
 - Signage
 - A-Frames returned to Parking Office
 - Pop-Ups to storage location to be determined (Marketing/Customer Service)
 - Sign Stands
 - Return to storage location to be determined
- Staffing
 - Re-Open ED Valet

 COVID 19 Response- HICS 221- DEMOBILIZATION CHECKLIST

- Staffing for Valet
- Valet kiosk returned to ED Entrance
- Clean Up
 - Power Wash all exterior surfaces
- Regulatory/Compliance
 - Flex Waiver Expires July 31, 2023
 - Formal notification to CDPH?
 - Just allow to expire?

Area of Focus	Item(s)	Responsibility	Target Date	Completion Date	Storage Location
Equipment	Heaters (Propane)	Facilities	7/14/23	7/14/23	Collins Warehouse
	Chairs	Facilities/Torrez Trucking/EVS	7/31/23		Wade Center
	Bushes/Shrubbery	Facilities/Torrez Trucking	7/31/23		Torrez Trucking
	Signage	Facilities/Torrez Trucking	7/31/23		Torrez Trucking
Staffing	Reopen ED Valet Services	Parking/Valet	8/1/23		N/A
	Valet Staffing	Parking/Valet	7/31/23		N/A
	Valet Kiosk to ED Entrance	Parking/Valet	8/31/23		N/A
Clean-Up	Power Wash all Exterior Surfaces	Facilities	7/31/23		N/A
	Replace/Update External Signage	Facilities			N/A
Regulatory	Formal Notification to CDPH?	Regulatory	8/1/23		N/A


Demobilization-Purple Zone

 COVID 19 Response- HICS 221- DEMOBILIZATION CHECKLIST

1. Incident Name WINTER VIRAL SURGE SEPT. 2022-JULY 2023	2. Operational Period DATE: FROM: _____ TIME: FROM: _____ TO: _____
3. Section Demobilization Checklist <small>Use as positions and resources are demobilized. The position and the resources may only be released when the checked boxes below are signed off, all equipment is serviced and returned, and all paperwork turned in to the Documentation Unit Leader. Respective Section Chiefs must initial their sections showing approval for demobilization.</small>	

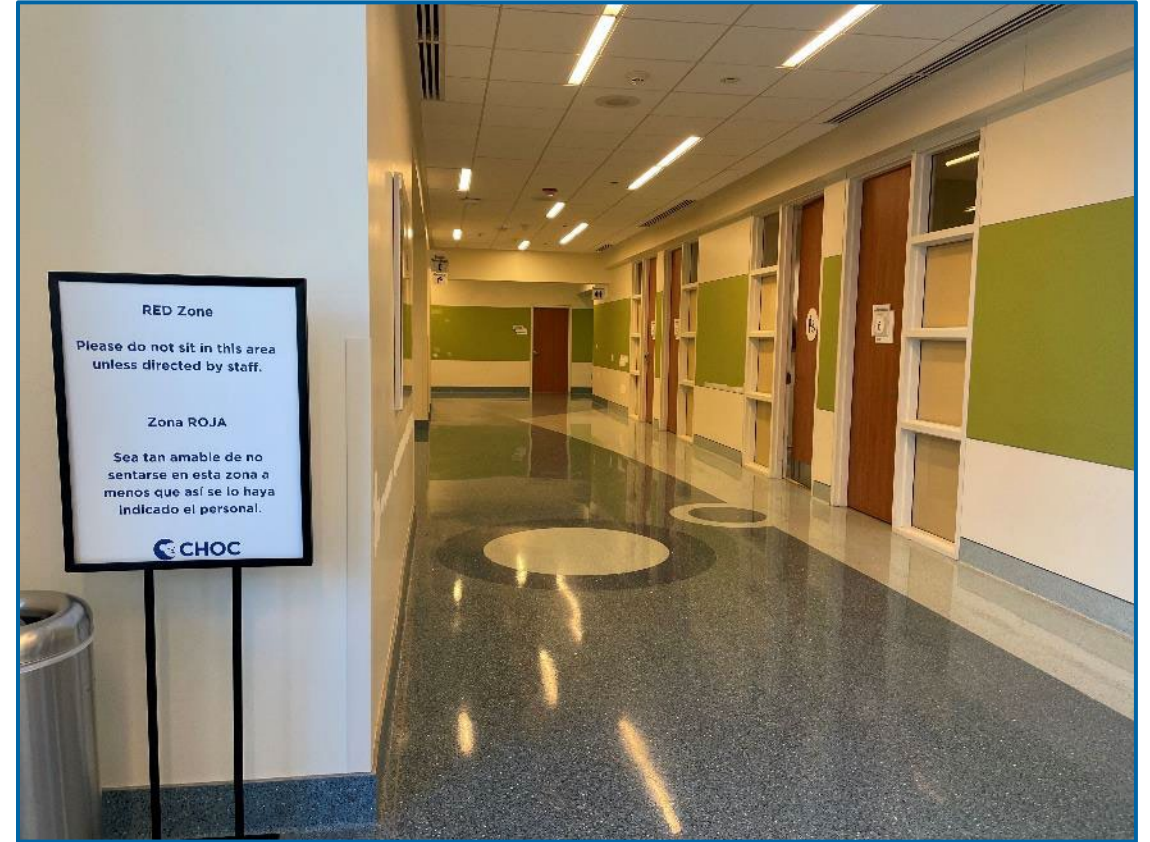
PHASE THREE: Purple Zone Demobilization return to normal operations

Area of Focus	Item(s)	Responsibility	Completion Date	Storage Location
Regulatory	<input type="checkbox"/> Formal notification to CDPH?	Compliance Team		
	<input type="checkbox"/> Officially terminate Flex Waiver			
ISD	<input type="checkbox"/> Purple Zone Tracking Board	ED Manager		
	<input type="checkbox"/> Remove Chair/Bed numbers			
Infection Prevention	<input type="checkbox"/> No Action Required	N/A		
ED Staffing	<input type="checkbox"/> Absorb Staff back into Department	ED Manager		
ED Physician Staffing	<input type="checkbox"/> Resume normal operations (Pre-Surge Staffing)	ED Medical Director		
Admitting	<input type="checkbox"/> Return Rooms to Service	?		
Facilities	<input type="checkbox"/> Remove floor coverings and dispose	Facilities Team		
	<input type="checkbox"/> Return office equipment to room			
	<input type="checkbox"/> Deep clean (or replace) carpeting			
	<input type="checkbox"/> Return office equipment to Admitting rooms			
	<input type="checkbox"/> D/C Badge access to room 8			
Security	<input type="checkbox"/> Return boys rest room to service	N/A		
	<input type="checkbox"/> No Action Required			
	<input type="checkbox"/> Privacy Screen to storage		EM Manager	

 COVID 19 Response- HICS 221- DEMOBILIZATION CHECKLIST

Emergency Management	<input type="checkbox"/> Absorb supplies into disaster cache			
Safety	<input type="checkbox"/> Final walk to ensure compliance	Safety Officer		
Supplies/Equipment	<input type="checkbox"/> Privacy Screens	ED Leadership EM Manager		
	<input type="checkbox"/> Return Gurneys			
	<input type="checkbox"/> Return Otoscopes			
	<input type="checkbox"/> Return Medical Equipment from rooms			
Pharmacy	<input type="checkbox"/> Remove Pyxis from Room 7	Pharmacy Manager		
	<input type="checkbox"/> Return Stock as appropriate			
Patient Experience	<input type="checkbox"/> Return Signage to department/storage	PX Manager		
Respiratory	<input type="checkbox"/> Return O2 tanks	Respiratory Manager		
AV	<input type="checkbox"/> Return TV to AV Department	AV Team		
Radiology	<input type="checkbox"/> No Action Required	N/A		
Radios	<input type="checkbox"/> Return to Charge Nurses or Security	ED Manager Safety Officer ED Manager		

Converting Back



Repurposed Space



ED Valet Returns



Resources

- WRAP-EM
 - Pediatric Surge Playbook
 - <https://wrap-em.org/index.php/jit-resources/pediatric-surge-playbook>
 - JIT ED Adult Provider Pediatric Patient Management
 - [Peds Disaster Handbook WRAP-EM ED Sec Recommendations Oct 12 2021 Version](#)

Thank you for the opportunity to share our experience.

We would also like to thank everyone who assisted us in our time of need.



2023

CHA

DISASTER PLANNING
CONFERENCE

SACRAMENTO

Questions

Contact Information

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LONG LIVE CHILDHOOD

