Platinum Pediatric Surge Playbook: Catastrophic Capable for Operational Impact

*Transforming Strategies to Strengthen & Support CONOPs Plans across State Boundaries for Regional Health Systems & Hospitals*

__Cynthia Frankel, RN, MN__
Pediatric Surge Lead, HPP LEMSA Liaison and EMSC Coordinator
WRAP-EM Working Group & Alameda County EMS

__Michael Frogel, MD__
Senior Advisor ASPR WRAP-EM Pediatric Center of Excellence
Chairman National Pediatric Disaster Coalition
Co-Principal Investigator NYC Pediatric

__Vicki Sakata, MD, FAAEM, FAAP__
Senior Medical Advisor
Northwest Healthcare Response Network

__Damien Siwik__
Project Manager
University of Michigan, C.S. Mott Children’s Hospital
Disclosures

The projects described were supported by Award Number 6 U3REP190616-01-02 from the Office of the Assistant Secretary for Preparedness and Response (ASPR). The contents are solely the responsibility of the authors and do not necessarily represent the official views of ASPR or the Department of Health and Human Services.

Western Regional Alliance Pediatric Emergency Management (WRAP-EM) Surge Group

- Funded through the ASPR Pediatric Center of Excellence
  - Includes WA, OR, CA, NV, AZ, UT, & NY
LEVERAGED WRAP-EM SURGE GROUP — SMEs

Western Regional Alliance Pediatric Emergency Management (WRAP-EM) Surge Group
  • Funded through the ASPR Pediatric Center of Excellence
  • Includes WA, OR, CA, NV, AZ, UT, & NY

DElIVERABLES:
Collectively identified Pediatric Surge Planning Gaps
Optimized Access to Best Practices
State & Multi-Jurisdiction Pediatric Surge PLAYBOOK *
Maximized Response Capabilities
RAISING THE BAR:
REGIONAL PEDIATRIC SURGE CATASTROPHIC CAPABLE

TRANSLATING MULTI-LEVEL HEALTH SYSTEM PLANS INTO EFFECTIVE OPERATIONAL ACTION

• **GOAL:** To strengthen & increase health care system children’s medical surge response capability & capacity across state, multi-jurisdiction & health system boundaries & borders with a PLAYBOOK *

• **MISSION:** To inspire & leverage surge pediatric emergency preparedness plans & response capability with collective state & multi-jurisdiction pediatric surge PLAYBOOK implementation — that results in response that matches resources to needs for best outcomes

https://www.canva.com/
GOALS

DRIVING READINESS & ACTION IN DYNAMIC TIMES

1. Share “Platinum Pediatric Surge PLAYBOOK“ components & resources — to reframe inclusive & effective pediatric medical surge readiness & enable optimal health system pediatric surge response

2. Provide PLAYBOOK Strategies & Benchmarks to support health system plan development & disaster-resilient health care systems

3. Facilitate transformative & sustainable pediatric medical surge readiness & response recommendations & tools to support Concept of Operations (CONOPs)
Learning Objectives

1. Facilitate understanding of *proposed* Model State & Multi-Jurisdiction Pediatric Surge PLAYBOOK (Guide Toolkit) adapted for hospitals with evidence based essential elements, & “best practices”

2. Provide access to pediatric subject matter experts (SMEs), guidance, & strategic options
   - For “real time” catastrophic event situation awareness & response capabilities

3. Describe benefits of leveraging government response ICS systems, HICS, & coalitions collectively across states & jurisdictions

4. Identify how reframed & inclusive pediatric surge plans enable optimal health system pediatric surge response in exercises & “real events”

5. Provide multi-state transformative pediatric surge approaches, recommendations, & solutions

https://www.canva.com
QUESTIONS FOR PRESENTERS & HEALTH SYSTEM PARTNERS

1. How do you define/describe “PLATINUM PLAYBOOK: Catastrophic Capable” Pediatric Surge & RESPONSE components & domains?

2. How have you addressed catastrophic pediatric surge planning & response across regional borders to support overwhelmed hospitals?

3. What are health system & hospital pediatric surge priority ingredients, tools, & RECIPE FOR SUCCESS for pediatric integration in Health system & hospital plans?

4. What are the pediatric surge gaps, PROMISING PRACTICES & strengths?

5. What are the CHALLENGING operational response NEEDS & solutions including checklists, tools, & products (WRAP-EM)?

6. What is the FUTURE SOLUTION for regional PLAYBOOK pediatric surge coordinated plans?
The Perfect Storm in Pediatric Emergency Care
EMS & Hospital Challenges

• Children NOT on hospital’s RADAR screen on day-to-day & surge events
• Pediatric Center Care “hyper-regionalized”
  - staffing challenges
• Increased transfers to pediatric regional centers
• Community Hospital Reduced inpatient pediatric capability but expanded NICU
• Limited Transportation Resources
  • Competing shared 911 & Inter-Facility
  • Transport (IFT) Demands
• Tertiary pediatric resource concentration urban hubs

DISASTERS
TREAT VICTIMS OF ALL AGES

- Pediatric population a challenge — physiologically vulnerable
  - **NOT SMALL ADULTS - 25% of Population**
  - Developmental differences - lack motor skills to escape
  - Lack cognitive decision-making skills
  - Vulnerable to aerosolized biological/chemical agents
  - Children may be soft targets
  - Pediatric psychological triage difficult
  - Children will be disproportionally affected
  - Benign Neglect
    - Previous National Commission on Children & Disasters Report

Expect children to be impacted in high-consequence disasters
"PEDIATRIC NEAR MISS"
SURGE CAPACITY & CAPABILITY CHALLENGES

LESSONS LEARNED

- H1N1 (2009) *
- Civil Unrest (2009-10)
- Hurricane Sandy (2012)
- Asiana accident (2013)
- Northern California firestorms (2017 - 2022)
- COVID-19 Pandemic – Hospital Surge
- Ukraine Mariupol Children’s Hospital Bombing

POTENTIAL RISK – Earthquake & Pandemic 300% increase in need for PICU beds

- Hospital surge impact — Limited PICUs - (33 PICU BEDS CA ALAMEDA COUNTY)
COVID-19 Adult Patient Movement Challenge

---------------------------------
What if Pediatrics?
Which hospitals are available to take transfers from out of region?

PROBLEM
• Limited non-impacted counties
• ICU overwhelmed; not able to take secondary transfers
• Transfer Centers Report Essential Elements of Information (EEIs) & Definitions Inconsistent. – Lack of Pediatric Standardization
• Pediatric Bed Data Reliability Issue

SOLUTION
• CA requires hospitals to accept transfer patients from areas with low ICU capacity as of 8/18/2021
Health Officer Surge Order Load Leveling
SCENARIOS – Not Catastrophic Enough - What if Pediatrics?

- **SIMULTANEOUS COMPLEX EVENTS** result in adult & pediatric patient surge in ICU / PICU
- Pediatric MCI in schools or mass gathering event at multiple sites
- Pediatric hospital evacuation, virulent novel strain, & / or MCI impacting pediatric critical care

  - Every regional pediatric specialty center becomes mega PICU
  - 1000 pediatric hospitalizations per day

https://www.canva.com/
WELL-PREPARED HEALTH CARE SYSTEM

PEDIATRIC SURGE PLAN

• **Plans & Prepares** for healthcare consequences of pediatric disasters
• **Responds** quickly & with agility to support local needs & pediatric resource matching throughout regions & states
• **Functions** under adverse circumstances
  • An immediate & prolonged surge of pediatric patients in need of acute critical care & transportation in all-hazard catastrophic events – causes:
    ○ Disruption incident management chains of command
    ○ A contaminated or contagious environment
    ○ Loss of infrastructure — Poor situational awareness

Requires connected robust Pediatric Surge PLAYBOOK

• Prepared collectively across regions & health systems
• **Identifies OPERATIONAL RECOMMENDATIONS FOR ACTION** to support State, Multi-Jurisdiction, & Hospital ICS CONOPs
REGIONAL & LOCAL PEDIATRIC SURGE CAPABILITY
Envisioned – Across States

High reliability, highly collaborative, cross-sector – Living Plan Daily

• **Rapidly expand capacity:**
  To provide guidance on how to rapidly expand capacity of health care system — multiple levels

• **Align, scale, coordinate, & integrate:**
  To ensure integrated regional children’s medical emergency management response system — consistent with established ICS, Hospital Incident Command System (HICS), Medical Operations Center Cells (MOCCs), EMS for Children (EMSC benchmarks, ASPR Hospital Preparedness (HPP) capabilities, & existing surge plans

• **Customize to divergent regions** & operational sections of other plans

• **High-level synthesis & support for many existing EOCs, MOCCs, PCCCs, HICS plans & surveillance** – not siloed
Starting Point – State & Multi-Jurisdiction PEDIATRIC SURGE PLAYBOOK: CATASTROPHIC CAPABLE

1. PLAYBOOK (Master Guide) Framework – NOT A CONOPS – JUST TOOLS

2. PILLARS OF SUPPORT for OPERATIONAL RESPONSE:
   • TARGET GROUP: State ICS government organizations, EOCs, & regional Pediatric Coordinating Centers with benefits to healthcare system HICS

3. DESIGNED TO INFORM “REAL TIME” DECISIONS

4. IDENTIFIES EVIDENCE-BASED CUSTOMIZED PEDIATRIC SURGE SOLUTION OPTIONS
   • Event specific strategic recommendations, & “best practice” resources for time-sensitive event needs
# State & Multi-Jurisdiction Pediatric Surge PLAYBOOK

## ICS Pediatric SME Advisor

### Objective: The Pediatric Surge SME makes data-driven decisions to ensure high-quality care, decisions (and ensure high-quality care, decisions (and the potential to provide other resources) from one site to another to

### Mission: Advise the Incident Commander or Senior Medical Officer on pediatric transport, and surge response.
- Collecting, analyzing, and disseminating data
- Acting as a single point of contact for regions capacity
- Integrate pediatric patient transfers (including management as a function of the

### Immediate Response (0 – 2 hours)

#### Receive appointment
- Obtain a briefing from the SME
  - Size, location (s) and complex
  - Expectations of the Incident Command Team
  - Incident objectives
  - Involvement of state, regional, regional health systems, transport
  - The situation, incident activities
- Assume the role of Medical-Tech
- Review this Job Action Sheet
- Put on position identification (e.g. EOC, MOCC, and or PCC or from others)
- Notify WRAP-EM, PPN, and your

#### Assess the operational situation
- Assess/monitor state and/or multi
  - Hospitals
  - Pediatric Specialty Centers
  - Health System Hubs
  - Transfer Centers
  - Transport Availability
  - EMS
- Review information as available

### Activities
- Meet with the Incident Commander, Operations and Planning Section Chiefs, and the Operations Section Medical Care Branch Director to plan for and project pediatric patient care needs.
- Identify the pediatric surge operational course of action as needed.
- Verify the situation with leadership.
- Gather intel and report the following to the Incident Commander:
  - Type and location of pediatric incident (s)
  - Number and condition of expected pediatric patients at each site (hospitals, primary sites in the field).
  - Identify pediatric destinations
  - Estimate number of patients needing transport and patient movement priority decisions.
  - Resource needs for transport, hospital expansion and decompensation.
  - Any unusual or hazardous environmental exposure.
- Provide pediatric care guidance to Operations Section Chief and Medical Care Branch Director based on incident scenario and pediatric response needs.
- Ensure pediatric patient movement
  - Transport Priority
  - Identification
  - Tracking Procedures
  - Telehealth
  - Behavioral Health Support Are Considered And Implemented
- Communicate and coordinate with the Logistics Section Chief to determine pediatric needs:
  - Medical pediatric transport needs
  - Consider Transfer Centers
  - Medical care equipment and supply needs
  - Medications with pediatric dosing
  - EMS Transportation availability and needs (EMS 911, EMS IFT/CCT) and other
  - cubs, wheel chairs, etc.
- Additional Pediatric SME(s) and other Pediatric Teams
- Communicates with the Planning and Logistics Section Chiefs to determine overarching pediatric capability:
  - Regional Hospital Bed availability
  - Ventilators
  - Pediatric trained medical sub-specialty, SME needs (Pediatric Intensivist, MD, RN, PA, NP, PIRT, etc.)
  - Additional short- and long-range pediatric response needs
  - Ensure that appropriate pediatric standards of care are being followed in all clinical areas.
  - Evaluate need for contingency and crisis standards of care
- Collaborate with the Public Information Officer to develop media and public information messages specific to pediatric surge and care recommendations and treatment.
- Participate in briefings and meetings, and contribute to the Incident Action Plan (IAP), MAC, as requested.
STATE & MULTI-JURISDICTIONAL PEDIATRIC SURGE PLAYBOOK

INSIDER EXPERTS IDENTIFIED GAPS & INFUSED CONTENT FOR OPERATIONAL PLAYBOOK. (State & Regional Medical Operations Coordination Centers (MOCCs), WRAP-EM, & regional hospital hubs)

- Outline **BROAD RECOMMENDATIONS & OPERATIONAL COURSE OF ACTION**
- Describe potential immediate & long-term **RESPONSE STRATEGIES**
- Outline **RESOURCES** to support pediatric surge response

Recommendations & strategies are provided at a high-level as needs & resources of impacted communities will vary dramatically.

https://www.canva.com
1. **UNIVERSAL OPERATIONAL TOOLS**, standard operating procedures, & guidance for state & multi-jurisdiction ICS with **Pediatric Advisor Subject Matter Experts & Resources**.

2. **PRIORITY DOMAINS - MODELS, PARADIGMS, & MISSION SETS**
   - **1. Priority Patient Transfer** – Patient Tracking & Communications *
   - **2. Load-balancing**
   - **3. Critical Care Expansion Solutions** - - Across healthcare facilities & systems
     - To ensure **highest possible level of care** can be provided to all pediatric patients who need that care prior to transitioning to crisis measures.

Maximizes & leverages pediatric surge operational capability during catastrophic events across local, state, & regional borders.
DOMAINT 1
PEDiatric HICS INTEGRATION
Recommendations into
Concept of Operations
(HICS; MOCCs; or PCCCs)

DOMAINT 2
“UNIVERSALLY GENERALIZED”
PEDiatric COORDINATION
FUNCTION
ADAPTABLE TO ICS

DOMAINT 3
Pediatric Capacity & Capability
SITUATION AWARENESS
REPORTING

DOMAINT 4
STANDARDIZED PEDIATRIC
SURGE DEFINITIONS & TIERS

DOMAINT 5
Resource Matching:
Recommendations for
Coordinating Pediatric Resources
with Critical Needs

PEDIATRIC SURGE PLAYBOOK
-------------
DOMAINS & MISSION SETS
Adapt for Hospitals

Adapt for
Hospitals
PEDiatric Surge Playbook

Domains & Mission Sets

Domain 6
Pediatric Load Leveling
Critical Care Expansion & Decompression Options

Domain 7
Strategies for Pediatric Surge
Patient Movement: Priority Secondary Transfer

Domain 8
Priority Operational Course of Action:
Behavioral Health

Domain 9
Priority Operational Course of Action:
Telehealth, Contingency Standards of Care, Family Resource Centers

Domain `10
Incident Response Guides & HVAs
**Designated Pediatric SME Advisor**

**What Is your Operational Course of Action?**

<table>
<thead>
<tr>
<th>DOMAINS</th>
<th>Situation Assessment / Needs</th>
<th>Mission Goal / Objectives / Needs</th>
<th>Decision Options</th>
<th>Resources &amp; SME Access (Including WRAP-EM)</th>
<th>Preferred Action</th>
<th>Action Taken</th>
</tr>
</thead>
</table>

**Domain 1**

- **ICS Pediatric Integration & Coordination:**
  - Recommendations and a concept of operations for the many aspects of pediatric surge as they fit within an overall regional, state, or multi-state disaster response
  - Integrate Pediatric MOCC components (Examples: Pediatric Integration in WA-MOCC; MI-MOCC)
  - Establish Pediatric MOCC or PCCC
  - HICS

---

**CHA Hospital Activation of the Emergency Operations Plan Checklist**

The initial response to an emergency begins with recognition that an incident may, or has, occurred. In cases where the incident is likely to impact or disrupt routine operations and may require coordination of efforts and response involvement among hospitals, Health Care Coalition partners, EMS, public health, and environmental health. Key management issues involving situational status, incident characteristics and resource capabilities must be quickly determined and communicated amongst response partners in order to establish a common operating picture.

<table>
<thead>
<tr>
<th></th>
<th>Date/Time</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Initiate policy and procedure for activation of the Emergency Operations Plan</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Activate Hospital Command Center</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Activate Hospital Incident Management Team</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Incident Commander activates needed positions down to the Chief Level and holds an Initial briefing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Each Chief (Operations/Planning/Logistics/Finance) activates needed Branches/Units in their Section</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Provide Job Action Sheet to each activated position</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Provide HICS 214 Activity Log to each activated position. Each activated position initiates the 214 to document basic incident activity and details notable details.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Provide position identification (e.g., vests, hats)</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Provide associated HICS Incident Response Guides (IRG) to each Chief and above position as appropriate</td>
<td></td>
</tr>
</tbody>
</table>
GOAL: California Pediatric Surge Concept of Operations (CONOPS) & Function-specific Annex to Support Response

— BUILT ON CAPACITY MODEL —

• Establish Catchment Areas Around Regional Hospital
• Identify Regional Health System Hubs to Authorize Patient Movement
• Integrate Transfer Centers with Tiered Hospitals Around Levels of Care
• Expectations Beyond National Pediatric Readiness Project (NPRP)
• Plan = Response CONOPS with Response Partners – (i.e. Telehealth)
• Patient Movement Decision Coordination for Transfers with Pediatric Tiers & SMEs; Integrate TRAIN
• Promote Connectivity Across States & Coalitions – EOCs
• Ensure “Day-to-day” & Surge Pediatric Assets – Living Plan Daily
Right Patient, Right EMS Resource, Right Destination

- Leverage & integrate CA state & regional pediatric medical surge plans with coalitions, patient movement plans; coordinate ESF8
- Ensure best utilization of region’s pediatric resources;
- Maximize every asset at all levels of capabilities for all hospitals (including Trauma & PICU, NICU)
- Recognize coordinated & integrated response requires state ICS; Regional Disaster Medical / Health Coordinator (RDMHS); & Medical/Health Operational Area Coordinator (MHOAC)
- Strive to equitably maximize # of children receiving appropriate level of care (at pediatric & adult hospitals)
PLAYBOOK INTEGRATES COALITION PEDIATRIC SURGE ANNEX
Hospital requirements provides direction for health system hubs & hospitals

RISKS, MAPPING PEDIATRIC ASSETS, & CONOPS
Hospitals, Other HCFs, & EMS - Components
• Hospital capacity for pediatrics (i.e. PICU, NICU) - Surveillance
• Hospitals to facility TIER based on current capacity
• Pediatric Readiness to tiering & expansion
• Supply vendors for pediatric-specific equipment
• Transport (EMS & specialized transfer capabilities)
• Coordination with dedicated children’s hospital, trauma Centers, & hospitals with PICUs *
• Surge inpatient/referral & transport resources; MCI -Patient Tracking
• Prioritization method for specialty transfers
• Process for accessing pediatric experts in prioritization
• Prepared to care-in-place at non-pediatric centers
COVID-19 CHANGES THE “PLAYBOOK” LANDSCAPE
“Children are No Longer Hidden Victims”

COVID-19 HOSPITAL REPORTING REQUIREMENTS
Hospitals, Hospital Laboratory, & Acute Care Facility Data

CHALLENGING TRADITIONAL PREPAREDNESS

情勢意識工具

COVID-19 TRACKING

Thank you for your participation

All the request of the Governor's office, please update you data on a daily basis by noon. To do so, click the main link below and then click on the one for your hospital. If you had access to an older version of the COVID Tracking Tool, you will automatically be granted access through this portal. If you don't have access, you can use the request access link in the upper right corner of this dashboard and follow the prompts. Instructions for how to input your data can be accessed through the link to instructions and links to data dictionary in the upper right corner of this dashboard.

Please direct any questions to COVIDTracking@cdph.ca.gov

CLICK THE LINK BELOW TO ACCESS THE CHA COVID TRACKING TOOL

- CHA & California Department of Public Health developed COVID-19 Tracking Tool for collecting hospital information.
- CDPH requires hospitals to report data via tracking tool
- CDPH then shares information with U.S. Department of Health & Human Services
EMS PEDIATRIC PRIORITY OPERATIONAL RESPONSE TOOLS

PEDiatric EMS ACTIVATION CHECKLIST

PATIENT EVACUATION TRANSFER FORM
**Contingency**

- Institutional level loading: direct patient transports to like institutions with remaining capacity consistent with EMTALA requirements

- Upstaffing with licensed outside support (travelers, per diem); expansion of scope of practice

- Compare current staffing contingencies at hospitals within area to ensure consistent level of care provided as possible

- Activate telemedicine & outpatient resources to support acute care needs

---

**PEDIATRIC SURGE EXPANSION MODELS**

**PANDEMIC – 3Cs OPTIONS**
1. Hospitals increase pediatric beds by 5% above total licensed beds
2. Hospitals with ICU & PICU double numbers of staffed beds
3. Hospitals take 5 additional patients in their ICU & PICU
4. Hospitals increase bed capacity by 10%–20% above licensed beds

Consider criteria for pediatrics that define children at greatest need for pediatric specialty care (i.e., complex congenital conditions, children with special needs, neonates) with Pediatric advisors

https://www.canva.com
### ALAMEDA COUNTY MEDICAL SURGE PLAN

**CRITICAL CARE EXPANSION MODELS — OPTIONS**

<table>
<thead>
<tr>
<th>Hospital Capability (Based on Licensed Beds)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITICAL CARE FOR PEDIATRICS</strong></td>
<td></td>
</tr>
<tr>
<td>- PICU (UCSF Benioff Children's Hospital; Kaiser Permanente Oakland)</td>
<td>PEDIATRIC PICU</td>
</tr>
<tr>
<td>- NICU</td>
<td>NICU</td>
</tr>
<tr>
<td>- ICU</td>
<td>ICU</td>
</tr>
<tr>
<td>- TRAUMA CENTERS</td>
<td>ADULT &amp; PEDIATRIC TRAUMA CENTERS</td>
</tr>
<tr>
<td><strong>GENERAL MEDICAL/SURG CARE FOR PEDIATRICS</strong></td>
<td></td>
</tr>
<tr>
<td>- GENERAL PEDIATRIC BEDS</td>
<td>PEDIATRIC ACUTE BEDS</td>
</tr>
<tr>
<td>- GENERAL MED/SURG BEDS; NO LICENSED PEDIATRIC BEDS</td>
<td></td>
</tr>
<tr>
<td><strong>NO INPATIENT IN-PATIENT PEDIATRIC BEDS</strong></td>
<td></td>
</tr>
<tr>
<td>- NO PEDIATRIC CRITICAL CARE; NO PEDIATRIC BEDS - - -</td>
<td></td>
</tr>
<tr>
<td>- EMERGENCY ROOM ONLY</td>
<td></td>
</tr>
</tbody>
</table>

**EMS Intervention**

Pediatric Surge Bed Preservation Model
Pediatric Bed Decompression & Expansion Load Leveling

Pedi Inpatient Bed Expansion 0-12 yrs
Pedi Inpatient Bed Expansion 0-1 yr
Pedi Inpatient Bed Expansion >12-14 yrs
PICU/Complex Care Bed Expansion 0-12 yrs
Community Hospitals with Pediatric Units
Community Hospitals with Nsy/NICU Capacity
All Community Emergency Departments
Pedi ED Boarding 0-14 yrs

scan to Join NPDC
https://www.npdcoalition.org/
HEALTHCARE COALITION
PEDiatric SURGE SCENARIOS

Triggers for Pediatric Regional Bed Expansion

STATE
- Planning

REGIONAL
- Planning
- RATE & SCALE OF DEMAND FOR PEDIATRIC BED CAPACITY

LOCAL
- Planning
- RESPONSE READY

CAPABILITY
- Pediatric Surge Within Community Disaster
e.g. Pandemic, BioTerrorism, Earthquake
"Doing the Best You Can With What You Have"

A rapid sudden need for pediatric critical care.
Pediatric load leveling
 e.g. Pediatric MCI, School Shooting, Bus Accident

Pediatric Referral Center Saturation. May occur rapidly or incrementally
 e.g. Pedi center offloading or evacuation

Prolonged Periods of Saturation Reaching Limits of Local Resources Supported by Local Mutual Aid
 e.g. Prolonged ED boarding, Inpatient bed Expansion

Intermittent Periods of Pediatric Bed Saturation
Children 30-50% of ED visits + 10-15% admission rate
 e.g. H1N1

Normal Operations
Children 18-25% of ED visits + <10% admission rate

 Courtesy of Patricia Frost PNP Vice Chair National Pediatric Disaster Coalition
CALIFORNIA - ALAMEDA COUNTY
EMERGENCY OPERATIONS CENTER (EOC)
ACTIVATION & ON-GOING RESPONSE

------------------------------------
LINK WITH OPERATIONAL AREA (OA) MEDICAL
OPERATIONAL AREA COORDINATOR (MHOAC)

OA EOC Children’s SMEs
Effective Decisions

Coordinate with EMS
Procurement Center for Pediatrics

Coordinate with critical care pediatric consultant (to Regional Healthcare Hubs, Hospital HICS, Transfer Centers, & Jurisdiction ICS) to engage in decision-making
MEDICAL-TECHNICAL SPECIALIST: PEDIATRIC CARE

HICS 260 – PATIENT EVACUATION / TRANSFER TRACKING FORM

Position Assigned to: __________________________ Date ___/___/___ Start ___:___ End ___:___
Signature: __________________________ Initials: ___

Position Assigned to: __________________________ Date ___/___/___ Start ___:___ End ___:___
Signature: __________________________ Initials: ___

Position Assigned to: __________________________ Date ___/___/___ Start ___:___ End ___:___
Signature: __________________________ Initials: ___

Immediate Response (0 – 2 hours)

Receive report:
- Obtain a briefing from the Incident Commander on:
  - Role and responsibilities of the incident
  - Expectations of the Incident Commander
  - Incident objectives
  - Involvement of outside agencies, stakeholders, and organizations
  - The situation, incident activities, and any special concerns
- Assume the role of Medical-Technical Specialist: Pediatric Care
- Review the Incident Action Plan
- Put on appropriate identification (e.g., position card)
- Notify your usual supervisor of your assignment

Assess the operational situation:
- Assess hospital pediatric staff availability and resources
- Provide information to the Incident Commander regarding the pediatric staff situation including capabilities and limitations

Activities:
- Work with the Incident Commander, Operations and Planning Section Chiefs, and the Operations Section Medical Care Branch Director to plan for and project pediatric patient care needs
- Verify with the emergency department leadership and report the following to the Incident Commander:
  - Type and location of incident
  - Number and condition of expected pediatric patients
  - Estimated arrival time to hospital
  - Any unusual or hazardous environmental exposure
- Provide pediatric care guidance to Operations Section Chief and Medical Care Branch Director based on incident scenario and response needs
- Ensure pediatric patient identification and tracking procedures are implemented
- Communicate and coordinate with the Logistics Section Chief to determine pediatric treatment

Medical-Tech Specialist: PEDIATRIC CARE

HOSPITAL INCIDENT COMMAND SYSTEM

DIRECTOR OF INCIDENT COMMAND SYSTEM

HICS 260 – PATIENT EVACUATION / TRANSFER TRACKING FORM

1. Name: __________________________
2. Phone Number: __________________________
3. Medical Record Number: __________________________
4. Age: __________________________
5. Weight: __________________________
6. Diagnosis: __________________________

Transport:
- Hospital: __________________________
- Origin: __________________________
- Destination: __________________________
- Method of Transport: Spacecraft / Airplane
- Return Date: __________________________
- Return Time: __________________________
- Return Location: __________________________

Transportation:
- Available Equipment (check those that apply):
  - Aircraft with Taking Off
  - Radio, Communication
  - Portable X-ray
  - Oxygen
  - Medical Oxygen
  - Airway
  - Ventilator
  - Other

Hospital CTC:
- CTC Name: __________________________
- CTC Position: __________________________
- CTC Phone Number: __________________________
- CTC Fax Number: __________________________

Physicians:
- Attending Physician: __________________________
- Covering Physician: __________________________

Infection Control:
- Infection Control Officer: __________________________
- Infection Control Phone Number: __________________________

Note:
- This form is to be completed by the Medical-Tech Specialist assigned to the pediatric care role.
**PEDiatric ChAMPIONS**

Pediatric Emergency Care Coordinators (PECCs)

Checklist of Essential Pediatric Domains and Considerations for Every Hospital’s Disaster Policies

- **Disaster plan includes:**
  - Pediatric surge capacity for injured & non-injured children; considerations (e.g., patient tracking; reunification, & peds decontamination):
    - Availability of medications, vaccines, equipment, supplies, & trained providers for children
  - Access to behavioral health resources for children
  - Minimization of parent-child separation & methods for reuniting children
  - All disaster drills include pediatric patients


Supports California EMSC Regulations
https://emsa.ca.gov/ems-for-children/
GOALS
• To conduct assessment of ED pediatric readiness (“Day-to-Day” & Surge Events)
• To review site-visit self-assessment tool (support NPRP)
• To gather pediatric data per the CA EMS for Children Regulations for quality improvement
• To conduct in-situ pediatric simulations
• To provide expert feedback, identify opportunities for improvement & pediatric hospital designation.
• To facilitate on-going collaboration & future training

HOSPITAL TARGET GROUP
• ED Managers, Directors, PECCs, & Staff
• Pediatric Intensivist & Pediatric Champion SMEs
• Emergency Preparedness & Safety Leads
• Administration
# Neonatal/Pediatric TRAIN™ Tool

<table>
<thead>
<tr>
<th>Transport</th>
<th>Blue/Car</th>
<th>Green/BLS</th>
<th>Yellow/ALS</th>
<th>Orange/ CCT</th>
<th>Red/ Specialized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Support</td>
<td>Stable</td>
<td>Stable +</td>
<td>Minimal</td>
<td>Moderate</td>
<td>Maximal</td>
</tr>
<tr>
<td>Mobility</td>
<td>Car/Carseat</td>
<td>Wheelchair or Stretcher</td>
<td>Wheelchair or Stretcher</td>
<td>Stretcher</td>
<td>Incubator or Immobile</td>
</tr>
<tr>
<td>Nutrition</td>
<td>All PO</td>
<td>Intermittent Enteral</td>
<td>Continuous Enteral or Partial Parenteral</td>
<td>TPN Dependent</td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td>PO Meds</td>
<td>IV Intermit meds</td>
<td>IV Fluids</td>
<td>IV Drip x1</td>
<td>IV Drip ≥2</td>
</tr>
</tbody>
</table>

## Life Support
- **Stable +** = Low flow oxygen
- **Minimal** = Oxygen hood, chest tube, etc.
- **Moderate** = CPAP/BiPAP/Hi-Flow, Conventional Ventilator, Peritoneal Dialysis, Externally paced, continuous nebulizer treatments, etc.
- **Maximal** = Highly specialized equipt., e.g., Neonatal Ventilator, HFOV, ECMO, iNO, CVVH, Berlin Heart, wt ≤ 1.5 kg, specialized medical personnel, etc.

## Mobility
- **Car/Carseat** = Able to ride in automobile with age-appropriate restraints
- **Incubator** = Transport incubator with equipment for connecting to ambulance
- **Immobile** = Unsafe to move without special equipment e.g., neurosurgical/bariatric

## TRAIN (Triage by Resource Allocation for In-patients)

### EVACUATION

<table>
<thead>
<tr>
<th>EVACUATION (“TRAIN” Categories)</th>
<th>TOTAL COUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulatory to Evacuate</td>
<td></td>
</tr>
<tr>
<td>BLS to Evacuate</td>
<td></td>
</tr>
<tr>
<td>ALS to Evacuate</td>
<td></td>
</tr>
<tr>
<td>CCT</td>
<td></td>
</tr>
<tr>
<td>SPECIALIZED</td>
<td></td>
</tr>
</tbody>
</table>
REGIONAL PEDIATRIC SURGE – MOMENTUM INTO THE FUTURE

TRANSLATING EFFECTIVE PLANS INTO OPERATIONAL REGIONAL ACTION

• Implement PLAYBOOK components “day to day” with response partners
• Coordinate & integrate collective health system corporate command & coalitions
• Test pediatric CONOPS across jurisdictions
• Join WRAP-EM & other Regional Alliances; Connect across states & coalitions
• Expectations beyond NPRP for pediatric surge readiness – Use site visits & Pediatric Emergency Care Coordinators (PECCs)
• Use Operational “Just in Time” Tools (i.e., Activation, Expansion, Telehealth & Burn)
• Ensure plans realistic to address simultaneous complex catastrophic events
• COVID changing landscape & new baseline — Expand partners
• Campaign to inspire & strengthen regional surge pediatric emergency response

https://www.canva.com
CYNTIA FRANKEL, RN, MN
• Surge Group Lead, WRAP-EM
• EMS for Children, ReddiNet, HPP LEMSA Liaison & EMS Coordinator
• Alameda County Emergency Medical Services, California
• (510) 295-9601; Cynthia.Frankel@acgov.org
• http://ems.acgov.org/ClinicalProcedures/EMS-C.page?

WRAP-EM  https://wrap-em.org/
NATIONAL PEDIATRIC READINESS PROJECT (NPRP)
• https://emscimprovement.center/projects/pediatricreadiness/
  • Readiness Toolkit • EIIC (emscimprovement.center)
NATIONAL PEDIATRIC DISASTER COALITION
• http://www.npdcoalition.org/resources/
NATIONAL ADVISORY COMMITTEE ON CHILDREN & DISASTERS
• https://www.phe.gov/Preparedness/legal/boards/naccd/Pages/default.aspx
PEDiatric SURGE DISASTER PLANNING

Michael Frogel, MD, FAAP
Senior Advisor ASPR WRAP-EM Pediatric Center of Excellence
Chairman National Pediatric Disaster Coalition
Co-Principal Investigator NYC Pediatric
Summary Pediatric Surge Planning Considerations

- Pre-event Planning is necessary for Surge, Evacuation, Shelter in Place and Supply Chain for Hospitals/ED/NICU/PICU/Ob/Newborn/General, Long Term Care Facilities and Community-Based Providers (OPD, Urgent Care etc.), Schools, Daycare
- Surge Capability includes Communications Space, Staff, Equipment and Supplies not just beds
- Plan from initial site incident through primary, secondary transport, surge and or evacuation
- For Transport: Tier Facilities and Utilize a Pediatric Care Response Team to prioritize patients
- Electronic shared situational awareness, Web based bed matching capabilities
- Utilize Pediatric EEIs from transferring (evacuating) to receiving surge facility
- Match patient transport needs to available resources (e.g. Train)
Summary (cont.)

- Consider Supply Chain including, Pharmaceuticals /Therapeutics, Equipment (Evacuation/vents)
- Provide SME experts for SME, Trauma/Burns, Poison control, patient prioritization, Pediatric Intensivist Response Team (PIRT) etc.
- ESF8 real time participation (include above SME representation)
- ESF6, ESF7, interaction, Non-medical impacts, Food, Shelter, Clothing
- Mental Health Response Hospital/Community Providers/School: Screen/Refer (e.g. PsyStart), Treatment
- Education
- Training e.g. Pediatric NICU Evacuation
- Health Care Disparities
- Exercises/ Real World Events/Lessons Learned-Restart Planning Cycle
The Pediatric Disaster Coalition and their collaborative planning team created a comprehensive Pediatric Disaster Plan from the onset of the event and first response through pediatric intensive care surge.
Pediatric Intensivist Response Team (PIRT)

- Provides prioritization triage consultation service to EMS for inter-facility transfer of patients and SME during disasters
- Volunteer Pediatric Intensivists
- Serve under Medical Reserve Corps umbrella
- All currently practice in PICUs
PIRT’s Role in the Pediatric Disaster Plan

1. Upon activation of the Pediatric Disaster Plan, sending hospital will contact EMS to request a transfer

2. EMS will collect basic data and details of patient’s injuries or illness

3. EMS will relay the request and information to PIRT Physician on call

4. PIRT Physician will triage/prioritize the patients based on acuity and need for specialized services, and relay this information to EMS

5. New York City Fire Department Bureau of Emergency Medical Services (FDNY EMS) will use this information as well as the list of available beds in Tiered Pediatric Disaster Admitting Destinations to determine inter-facility transfer destinations
Secondary Transport Details

6. EMS will assign Pediatric Disaster Ambulance Destination
7. Sending physician will then speak with receiving PDAD physician
8. EMS will utilize available resources to match patient needs to transport resources. - e.g. TRAIN (Triage by Resource Allocation for IN-patients)
9. EMS may also use specialized pediatric transport services if available
10. EMS will be notified upon completion of transfer
Patient Information Shared between FDNY & PIRT

A. Patient identifier
B. Patient age or size (infant, toddler, child, adolescent)
C. Nature of injury/injuries
D. Respiratory Support
E. Medications
   • Chronic
   • Currently administered
PIRT SME Activities

• Advisory Board to the Pediatric Disaster Coalition
• PDC, PIRT and Pediatric Critical Care Society provide SME to
  • Department of Health and Mental Hygiene (DOHMH)
  • ESF8
Pediatric Essential Elements for the Transport of Pediatric Patients Model Draft

Utilization Guidance for the Collection and Reporting of the Pediatric Essential Elements of Information for Secondary Transport:

• EEIs should be utilized based on your local Pediatric Disaster Plan for secondary transport of patients
• Transferring facility collects the patient related EEI data and transmits it to the transfer center and the receiving facility. The receiving facility provides the facility related EEI data to the transfer center and sending facility.
• If patient needs are potentially met. The sending physician will speak to the receiving physician, confirm the information and notify the transfer center to proceed.
• Transfer will take place if the patient care needs are matched by the facility available capabilities.
• The transfer center will decide on the type of transport need based on the transmitted EEIs (e.g. TRAIN) and transfer the patient to the appropriate level of care at a facility designated in the EEIs (e.g. Trauma, Burn Tiered facilities in your plan, neonatal Level 1-4 etc.).
Pediatric Essential Elements for Transport of Pediatric Patients Model Draft (cont.)

• If there are limited transport capabilities due to magnitude of the disaster the transfer center will contact the Pediatric Intensivist Response Team (PIRT) physician on call to prioritize the patients based on their EEIs (clinical severity, treatment, subspecialty and equipment needs).

• The transfer center will decide on the site and type of transport need based on the PIRT recommendations and EEIs.

• The collection of information should be done electronically preferably by email web-based platform or text that is accessible to both facilities and the transfer center.

• For citywide large scale events overall facility surge capacity based on the EEI current facility information would allow for best overall outcomes.

• In the event of a power or computer system failure a paper back up system should be utilized. If possible, the patient’s complete medical record should accompany them to the receiving facility.
## EEI Spreadsheet (Sending/Receiving Hospitals) Example

<table>
<thead>
<tr>
<th>Sending hospital/contact number/requesting physician</th>
<th>Receiving Hospital contact number/receiving physician</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Facility and/or Unit</strong></td>
<td></td>
</tr>
<tr>
<td>• Trauma Center, (General Level 1, Level 2, Pediatric Level 1, 2</td>
<td></td>
</tr>
<tr>
<td>• Burn Center</td>
<td></td>
</tr>
<tr>
<td>• Pediatric Ambulance Destination (Tier 1, Tier 2)</td>
<td></td>
</tr>
<tr>
<td>• Neonatal Unit Level 1-4 (Refer to Neonatal reference for description)</td>
<td></td>
</tr>
<tr>
<td>• Newborn</td>
<td></td>
</tr>
<tr>
<td>• PICU</td>
<td></td>
</tr>
<tr>
<td>• PICU Vent</td>
<td></td>
</tr>
<tr>
<td>• Peds Med/Surgery/Telemetry</td>
<td></td>
</tr>
<tr>
<td>• Physical Rehab Peds</td>
<td></td>
</tr>
<tr>
<td>• Psychiatry Peds</td>
<td></td>
</tr>
</tbody>
</table>

**Subspecialty Availability**

- Pediatric orthopedics
- Pediatric vascular surgery
- Pediatric trauma surgery
- Pediatric general surgery
- Burns
- Pediatric ophthalmology
- Pediatric mental health psychiatry
- Pediatric cardiothoracic Surgery
- Pediatric neurology
- Pediatric neurosurgery
- Pediatric ENT
- Re-Implant (Please advise if body part available, properly maintained)

**Other (specify)**

**Specialized Equipment Availability**

- ECMO
- Neonatal Ventilator
- Inhaled Nitrous Oxygen (iNO)
- High Frequency Oscillating Ventilator
- Berlin Heart (Ventricular Assist Device)
- Continuous Veno-Venous Hemofiltration
- Incubator

**Other (please specify)**
**EEI Spreadsheet (Patient Information e.g.)**

- Parental consent for treatment
- Accompanying Family Member
- Primary diagnosis
- Co-morbidities
- Chronic Conditions
- Current Medications
- VS, Glasgow coma scale, 02 Saturation, ETCO2,
- Pupils

**Burn:** thermal, chemical, electrical, Depth, location If chest or extremity, circumferential? (potential for compartment syndrome/need for escharotomy)

**Critical Imaging Findings**

**Critical Lab Findings**

**Treatment /Current Interventions**

- Type of Care by Unit Need
- Subspecialty Need
- Special Equipment Need (ECMO, Vent etc.)
- Specialized Transport Need (TALS, TRAIN)
Supply Chain Considerations

Pharmaceuticals / Therapeutics
   Immediate vs. delayed availability based on HVA
   Countermeasures vs. Intravenous immunoglobulin (IVIG) for Multisystem Inflammatory Syndrome in Children (MISC)

Equipment
   Evacuation: Vertical/Horizontal, NICU, PICU, OB/Newborn
   Respiratory: Oxygen, BiPAP, CPAP, Ventilators
   Blood Supply

Non-Medical
   Food
   Clothing
   Shelter
SME Considerations

• General Pediatric SME
• Trauma
• Burns
• CBRN Explosions, Utilize Poison Control,
• Develop Just in Time Training
• Transport Patient Prioritization by Pediatric Intensive Care Response Team
• Specialized Mobile Response Teams
Pediatric Disaster Mental Health Considerations

- Mental Health Response Hospital/Community Providers/School
- Immediate vs. Long Term Response
- Psychological First Aid
- Screen (Scene, shelters and transfer facilities, Primary Care Providers, Schools)
- Refer (e.g.PsyStart)
- Treatment: Short vs Long Term
Education and Training

• Education
  • Pediatric Advanced Life Support (PALS), Advanced Pediatric Life Support (APLS), Disaster

• Training e.g.
  • Expand PICU capabilities force multiplication
    • Pediatric Fundamental Critical Care Support (PFCCS) Course, Cross train staff
  • Pediatric NICU Evacuation
Health Care Disparities Considerations

- Pediatrics: 25% of Population and most vulnerable with special needs during disasters
- Poverty
- Lack of Access or Functional Capability
- Long Term Care Facilities
- Racial, Ethnic
- Language Barriers
- Lack of Healthcare Information
- Relationships
- Include in all disaster planning
Exercise Considerations

• Exercises (Integrate pediatrics into all exercises)
  • Tabletop
  • Functional (targeted)
  • Full Scale
  • Real World Events
• Include Health Care Disparities in Scenarios
• After Action Reports
• Lessons Learned
• Restart Planning Cycle
Planning is a Continuous Process
Consider Resiliency Building in Process
Exercise Description

Description: This exercise was a functional exercise (virtual) planned for a maximum of six hours for exercise play and Hot Wash activity. The exercise included 28 hospitals that care for pediatric patients in New York City and the following agencies; New York Fire Department (FDNY), New York City Emergency Management (NYCEM), the New York City Department of Health and Mental Hygiene (DOHMH), New York City Medical Reserve Corps (MRC) and the Pediatric Intensivist Response Team (PIRT). The exercise was designed to prepare New York City for a catastrophic pediatric event. The scope included hospital surge, communications, activation of the NYC Pediatric Disaster Plan and secondary transport.
Exercise Scenario

Scenario: It is a Thursday morning, approximately 8AM, with spring like weather conditions. An explosion of unknown origin occurs on a school bus at a nearby school. Patients begin to arrive to your hospital that have been self-evacuated. You learn from FDNY that several ambulances are headed your way with patients of various acuity levels. Similar incidents have taken place throughout New York City.
28 Hospital Exercise Video

https://youtube/1g1bGj-_Rb4
Key findings from 28 Hospital Surge Exercise
Surge Beds/Capacity/Capability

• Added 1105 Surge Beds (baseline pediatric inpatient unit beds 1039) – double capacity
• Added 254 PICU Surge Beds (baseline 224 beds) – more than double capacity
• 304 ED Critical Care Surge Beds
• 312 ED Non-Critical Care Surge Beds
• 203 OR Surge beds
• 268 Adult Medical ICU Surge Beds
• 120 Additional Adult Surgical ICU Surge Beds
• 342 Pediatric Ventilator capable surge beds
• NICU total surge beds available after rapid patient discharge 247
Key Findings from 28 Hospital Pediatric Surge Exercise

Communications:
• Over 70% of the participating hospitals utilized phone calls, emails, text messaging, and face-to-face discussions to communicate situational awareness
• Almost all hospitals were able to communicate with staff and to contact them about coming in during the surge event

Supplies:
• Over half (54%) of participating hospitals reported having gaps in their pediatric supplies during the exercise due to the influx of critical patients
• 6 hospitals reported not having a burn cart to deploy during a disaster
Key Findings from MSEL Question Responses (cont.)

Staffing:
• Some hospitals had difficulty providing pediatric subspecialty services such as, Neurosurgery, Ear Nose and Throat (ENT), Orthopedics, Plastics, Vascular Surgery and Trauma Surgery
• 100% of Hospitals created Mental Health Response Teams for patients and Staff

Transfer:
• All hospitals were able to identify patients requiring secondary transport and to provide information on the transport form
• Only 39% of participating hospitals identified appropriate staff to accompany patients during FDNY secondary transport
• The Fire Department was able to send the Pediatric Intensive Care Review Team a list of patient’s for secondary transport and subsequently receive the PIRT’s triage and prioritization patient list
Key Findings from MSEL Question Responses (cont.)

Patient Tracking:
- 93% of hospitals were able to track patients during the event
- 70% of the participating hospitals utilized paper to track and register patients, approximately 50% also used electronic methods

Surge: Mental Health/Risk Communications
- 100% of hospitals established Family Information Service Centers for Reunification
- 100% of Hospitals created Mental Health Response Teams for patients and Staff
- 100% of Hospitals established an area for press briefings and a designated Public Information Officer
Lessons Learned

• Working directly with hospitals to create and implement pediatric specific surge/evacuation plans as part of overall preparedness improved surge and secondary transport capabilities.

• Conducting multiple group and individual exercise planning meetings yielded many valuable changes in hospital plans even before the exercise took place.

• Assessing the availability of sufficient pediatric subspecialty and intensive care staff for a surge of critically ill pediatric patients is necessary for good outcomes.

• Adult staff and surge capabilities should be incorporated into the pediatric surge response, especially at Tier-2 hospitals.

• Disaster mental health issues should be addressed for children, families and hospital staff with the provision of adequate staff and appropriate space.

• A Family Reunification and Information Service Center (FISC) should be part of Surge planning.
Lessons Learned (Cont.)

• Preparing sufficient onsite pediatric surge equipment and supplies is essential especially:
  
  Ventilators
  
  Blood/Blood Products
  
  Burn Supplies
  
• There is a need for “babysitters” to care for pediatric patients throughout the hospital process thereby freeing clinical staff to participate in patient care.
  
• Site specific areas should be pre-designated and staffed for various surge tasks.
  
• Begin triaging patients for secondary transport early during a surge event.
  
• Utilize Ambulatory Care Resources for space staff stuff and integrate into hospital plans.
  
• It is important to have sufficient personnel to assist the controller/incident commander in data collection, communications and reporting during exercises and real time events.
  
• Situational awareness and communication with staff and agencies is essential.
Response: Emergency Management Considerations

ESF8 real time participation (include above SME representation as needed)
ESF6, ESF7, interaction, Non-medical impacts, Food, Shelter, Clothing
Resiliency Building

- Essential pre-event to improve outcomes from disaster physical, psychosocial, disaster mental health impacts
- Should address special needs of the pediatric population in the overall context of disasters for children, their families and the overall population
- Should address health care disparities
- Should become part of disaster mental planning, response and recovery
Regional Pediatric Surge Planning Proposed Model

• Regional Situational Awareness collected from each state, bed availability, needs/resource availability
• Web based real time situational awareness, communications, bed matching
• Coordination of External Resources, ESF8/ESF6, ESF7, Local, County, State to National (ASPR/FEMA/CDC etc. input)
• Regional Incident Command Structure, Control of Asset across State Lines
• Regional Resource Response Telemedicine, CBRNE/Poison Control, Response Teams, National Guard, DOD, mutual aid transport
• Regional PsyStart/ Mental Health match Needs/Resources, local state, regional
• Regional Transport/ Train Utilization match needs to resources
• Education, Training, Exercises within regional model that includes Health Care Disparities and pediatric patients as represented in the population
WASHINGTON WMCC and PEDIATRIC SURGE PLAN

Vicki L. Sakata, MD, FAAEM, FAAP
Senior Medical Advisor
Northwest Healthcare Response Network
Clinical Associate Professor, University of Washington
WA-DMAT CMO
Take aways

• The “joy” of being first...
• Kids ARE just small adults (!) ... and
• What the dogs hears
Serving the state’s medical epicenter

- 15 counties and 25 Tribal Nations
- 5.3 million residents
- 64 hospitals and ~150 skilled nursing facilities
- Nearly 70% of the state’s hospital and skilled nursing beds
- Largest concentration of critical medical specialty services in Pacific Northwest
Snohomish County man has the United States’ first known case of the new coronavirus

Jan. 21, 2020 at 10:54 am | Updated March 7, 2020 at 1:00 pm

First Patient With Wuhan Coronavirus Is Identified in the U.S.

A man in Washington State is infected with a new respiratory virus. Federal officials plan to expand screenings for the infection at major airports.

By Seattle Times staff & news services


By Roni Carryn Rabish

Publication: Jan 21, 2020 | Updated: Mar 7, 2020
King County patient is first in U.S. to die of COVID-19 as officials scramble to stem spread of novel coronavirus

First death due to novel coronavirus (COVID-19) in a resident of King County

January 29, 2020

Summary

Public Health – Seattle & King County and the Washington State Department of Health are announcing new cases of COVID-19, including one death. The individual who died was a man in his 50s with underlying health conditions who had no history of travel or contact with a known COVID-19 case. Public Health is also reporting two cases of COVID-19 virus connected to a long-term care facility in King County.

Read more.
Feb 27, 2020

LTCF COVID-19 Outbreak
Overwhelms Single Hospital

81 residents (117)
34 staff (50)
14 visitors
23 deaths (35)

33/37 Transported to Evergreen

23 deaths (35)
WA Medical Coordination Center

Disaster Medical Coordination Center (DMCC)

Regional COVID Coordination Center (RC3)
Harborview Medical Center/King County
Northwest Health Response Network

Washington Medical Coordination Center (WMCC)
What is a MOCC?

Medical Operations Coordination Center (cell)

- Facilitate patient movement, healthcare staffing, and life-saving resource allocation
- MOCCs are cells often located within emergency operations centers (EOCs) at the sub-state regional, state-wide, and federal regional levels (FEMA/HHS regions)

A MOCC AIMS TO:

- Move patients, staff, and supplies
- to the right provider
- at the right time, in the right way
- to improve patient well-being

Medical Operations Coordination Cells Toolkit Second Edition
State Coordination Strategies

- Coordination across all aspects of Washington healthcare leadership
  - **Governmental/regulatory/Public Health**
    - Governor, DOH, Sec of Health, WA State Health Officer; LHJs
  - **Healthcare Facilities**
    - WA Hospital Association (WSHA), Health System Executive Leadership; LTC
  - **Healthcare coalitions**
    - Northwest Healthcare Response Network, REDI Network

Key Healthcare Partners:
- Hospital Associations; Professional Organization; Clinical Societies
Plan for Success: Agree on Basic Operating Principles

• All entities must agree to submit data to support situational awareness and respond in a timely manner
• All entities must agree to provide staff who can communicate with each other and communicate back with their organizations to individuals with authority to make decisions.
• Acute care facilities agree to accept patients based on the triage decisions of the MOCC
• Facilities agree to minimize the number of “reserved” or “closed” beds and maximize additional surge capacity
• Agree that patients may need to travel long distances to align with fair and equitable processes
• Facilities seeking assistance will establish communication with the MOCC as early as possible and all patient transfers related to the incident (COVID-19) will be coordinated through the RMOC during this crisis.
• Aeromedical services and EMS ground transport agencies agree to support patient movement as directed by the MOCC
• All representatives agree to participate in regular “virtual” briefings and hold each other accountable for the principles and processes previously described

https://www.facs.org/for-medical-professionals/covid-19/clincial-guidance/rmoc-setup/
Guaranteed Acceptance Policy

- Activated when the “highest urgency” patients cannot be placed
- WMCC Triage Categories
  - High Urgency: expected clinical decline 8-12 hours
    - Example: cardiogenic shock in need of CABG, GI bleeding requiring frequent transfusion, impacted and infected kidney stone with sepsis
  - Moderate Urgency (stable, no urgent procedure/surgery necessary)
    - GI bleeding not requiring frequent transfusion, acute coronary syndrome (ACS) requiring heparin and/or nitroglycerin with down trending troponin/stable symptoms but requiring drips
  - Low Urgency (no expected short-term decline, would benefit by specialty consultation)
    - resolving sepsis without need for surgical source control, biliary stone without evidence of acidosis/pancreatitis

- There is no such thing as “no”
How is the WMCC Utilized?

*Backstop when normal transfer patterns can’t be utilized*

- Hospitals utilized their normal transfer patterns
  - Typically contact 2-4 hospitals
- When normal transfer destinations not available > WMCC
- WMCC works with partner hospitals across Washington state to find appropriate destination
- Over 5,000 requests for assistance
  - 73% from rural hospitals
Total WMCC Call Volume by Month
got kids?
Western Washington Coalition

1,118,523

67%

7.7 / 1.6
(21.7%)

got kids?

US Census QuickFacts 2020 est

North District
Northwest District
West District
Central District
Region 4 Healthcare Preparedness Alliance
Eastern Washington Coalition
Pediatric Events and Planning - WA

2009: King County Pediatric Toolkit
2011: Pediatric Disaster Workshops - State
2013: Pierce County Pediatric Toolkit
2015: Portland Train the Trainer
2016: Annual UW/Tacoma Trauma Conferences
2020: ASPR Pediatric Annex
Pediatric Events and Planning (cont.)

2020-2021: Pediatric MIS-C/COVID-19 Surge and Pediatric BH Surge
- Some peds data entered in to WATracc but not WAHEALTH
- No peds BH data
- Started Pediatric Tracker – weekly huddles

2021: WA Pediatric Clinical Leader calls and data collection (beds/COVID/BH)
- Data now being entered into WATracc and WAHEALTH
- Calls to verify data quality and raise issues
- Data fidelity not as good for peds as it is for adults

Winter 2021-22: schools open and Delta/Omicron waves
- Pediatric Care Levels published to align NICU and PICU levels
- “PICU for the MICU” primer published for adult intensivists
- 0-5 open PICU beds
Wildfires, 2020

Cell phone rings. “Hi, it’s Carl. What’s your bed situation?”
Pediatric Events 2020-2022

• 9/11/20: OR/WA wildfire
  • 5 hospitals on notice for evacuation – including pediatric patients
  • One hospital in Level 2 already moving 60-70 patients
  • All facilities have stopped ambulance transport
  • LTC evacuations
  • OHA notification: plan on evacuees

• 2021: DMAT Deployments

• 8/25/22: Seattle Community PICU off-line
  • W. WA PICU bed availability: 0-5
  • 8/25 notification: Community PICU off-line (4-6 beds)
  • Needed urgent surge plan
PICU Capacity
WA State

SCH 64
SMC 8
HVMC 9
MB 16
MAMC: 4
PICU W WA TOTAL: 101

SPK: 20
PICU STATE TOTAL: 121

got beds?
Event: Community PICU off-line

- SCH and MB notified
- Urgent discussion with WMCC in case of Pediatric Surge
  - Developed rotating Peds Intensivist SME call
  - Developed contact list - relationships
  - MAMC Option
  - Notification of all ED’s and non-pediatric facilities of temporary procedure.
- Currently working to develop a WA State P-WMCC
  - Option 1: Peds SME support for WMCC RNs to create PMCC arm of WMCC
  - Option 2: Separate PMCC call center

Goal for Winter 2022-23: PMCC functioning as either option 1 or 2
Option 1: Peds SME support for WMCC RNs to create PMCC arm of WMCC
- Pediatric Annex up to date
- Peds Clinical MD and RN SMEs clearly identified to support WMCC
- Pediatric RNs folded in to WMCC RNs with standard peds protocols for all RNs
- Pediatric data entered in to WATrac and WAHEALTH with high fidelity by all peds centers

Option 2: Separate PMCC call center
- Pediatric Annex up to date
- Clarify if largest pediatric center (SCH) can manage call volume
- Clarify staffing at one hospital for a regional load-balancing program
- Clarify one hospital having access to regional WATrac and WAHEALTH data
Bad Data -> Poor Situational Awareness -> Bad Decisions
What we say to dogs

Okay, Ginger! I've had it!
You stay out of the garbage!
Understand, Ginger? Stay out of the garbage, or else!

What they hear

blah blah GINGER blah
blah blah GINGER blah
blah blah GINGER blah
blah blah GINGER blah
blah blah GINGER blah
AAP NICU Levels

- **Level 1:** Well Newborn
- **Level 3:** Special Care Nursery
- **Level 3:** NICU
- **Level 4:** Regional NICU

AAP PICU Triage Guidelines:

- Community PICU
- Tertiary PICU
- Quaternary PICU

WRAP-EM Pediatric Care Levels

- **Level 1:** Nursery/Ward (BLS)
- **Level 2:** Intensive (ALS)
- **Level 3:** Critical (CCT)
- **Level 4:** Specialized (Specialized)

Universal Level Designations for Hospitalized Pediatric Patients in Evacuation

Executive Summary: Criteria for Critical Care of Infants and Children: PICU Admission, Discharge, and Triage Practice Statement and Levels of Care Guidance
Levels of Neonatal Care

Committee on Fetus and Newborn; Wanda Denise Barfield, MD; Lu-Ann Papile, MD; Jill E. Baley, MD; William Benitz, MD; James Cummings, MD; Waldemar A. Carlo, MD; Praveen Kumar, MD; Richard A. Polin, MD; Rosemarie C. Tan, MD; Kasper S. Wang, MD; Kristi L. Watterberg, MD


https://doi.org/10.1542/peds.2012-1999
Pediatric Care Levels: details by level

Level I, Pediatric Acute Care Ward (General Med/Surg)

- O2 by canula (simple or HFNC)
- intermittent respiratory therapies (NEB, Breathing treatment)
- IV fluids with intermittent IV medications
- simple monitoring

Level II, Community Pediatric intensive-care unit (Community PICU)

- provide pediatric resuscitation and routine mechanical ventilation (conventional or CPAP/BIPAP)
- providers can be pediatricians, family practice docs, or adult or pediatric Intensivists

Level III, Tertiary Pediatric intensive-care unit (Tertiary PICU)

- provide pediatric resuscitation and advanced mechanical ventilation (conventional, high frequency, or advanced CPAP/BIPAP)
- provide full or almost full spectrum of pediatric subspecialty access
- providers are pediatric intensivists

Level IV, Quaternary Pediatric intensive-care unit (Quaternary PICU)

- provide pediatric resuscitation and all levels of lung, heart, kidney support (including ECMO, CRRT) and typically manage complex multi system pediatric disease
- provide full spectrum of pediatric subspecialty access
- providers are pediatric intensivists
- support transport and regional education
Summary

• The “joy” of being first -> MOCC or equivalent cross-jurisdictional coordination is incredibly important, but must be done with skillful leadership.
• Kids ARE just small adults -> in a surge everyone needs the ability to care of children
• What the dogs hear -> Precise language = better communication -> improved triage and patient care.

Thank you!

vicki.sakata@nwhrn.org
Michigan Pediatric Medical Operations Coordination Cell (PMOCC)
Importance of Partnership

Damien Siwik
Project Manager University of Michigan
C. S. Mott Children’s Hospital
Facilitator Lead Pediatric Coordination Center (PCCC)
Establish a pediatric incident command cell

The cell’s main function is coordination of assets and capabilities to best support Michigan’s pediatric population during a disaster or other incident.
A pediatric cell fulfills two main functions:
1) Disaster and surge response
2) Pre-incident planning and coordination

**Founding Principle:** Investing in pre-incident planning and coordination yields the best outcomes for disaster or surge events.

The cell acts as an independent agency, not aligned to any organization or healthcare system.
Concept

1. As a stand-by, functional, incident command cell, the cell can integrate into state operations to coordinate a response for the pediatric element of a full-spectrum incident.

2. Or the cell can lead the response to a purely pediatric incident.

The cell’s main activity during response will be activating and managing the pre-existing plans and agreements.
Concept

The cell works to develop cooperative and appropriate partnerships, plans, MOUs, agreements, and policies prior to an incident.

The cell can engage and advise state leadership on pediatric specific issues.

By consolidating ongoing efforts and housing content, the cell can also serve as an education hub for Michigan pediatric readiness.
Pediatric Care Coordination Center

CONCEPT OF OPERATIONS

Appendix to the Medical Surge Plan

January 18, 2022
Our current ConOps is an over-arching, foundation document, but lacks specificity and detail.

The ConOps does not meet the need during an actual pediatric disaster or surge emergency.

A Pediatric Disaster Playbook for state officials could be a great tool to provide the useful, specific guidance, tasks, procedures, and policies for pediatric disaster response.
Standard Operating Procedure (SOP)

1. Guiding Principles
2. Standing Orders
3. Establish Communications
4. Questions to ask
5. Situational Awareness
   - Develop Contacts
   - Bed status
   - Transfer Assets
   - Pre-positioned Supply Stocks
   - Activity Log
   - Peds Critical Care Transfer
   - Air Evacuation Assets
   - Prepositioned Supply of Meds
6. Options for Additional Orders
7. Tasks
“How To” Areas

1. Patient Load Leveling
2. Patient Movement
3. Patient Tracking
4. Resource and Supply Allocation
5. Transition Hospitals to Disaster Operations
6. Telehealth
7. Behavioral Health
8. Reunification
9. Demobilize
Michigan Pediatric Medical Operations Coordination Cell (PMOCC)

Importance of Partnership
PLATINUM PEDIATRIC SURGE PLAYBOOK: CATASTROPHIC CAPABLE
RESOURCES & TOOLS FOR OPERATIONAL IMPACT

Transforming Strategies to Strengthen & Support CONOPs Plans across State Boundaries for Regional Health Systems & Hospitals
WRAP-EM GROUPS, EXPERTS, & RESOURCES
SUPPORTS STATE, REGIONS, & COALITIONS TO INFORM PLANS

- COVID-19 Focus Group - Pediatric
  Emerging Issues & COVID-19 Discussion
- Patient Movement & Tracking
  - Surge Group
  - Evacuations
  - NICU/OB Group
- Health Disparities
- Supply Chains

- State Agency Liaisons
- CBRNE/Infectious Disease
- Active Threats/MCI
- EMSC/Pediatric Readiness
- Deployable Assets
- Telemedicine
- Quality Improvement
- Behavioral Health
- Burns Focus Group

- American Academy of Pediatrics COVID-19 Guidance and Resources
  - COVID Town Halls
  - Practice Management Tips
- Centers for Disease Control and Prevention
- Project Firstline
- Emergency Medical Services for Children Innovation and Improvement Center
- Region V for Kids
- EIIC Programs
- Health Resources and Services Administration
- Office of the Assistant Secretary for Preparedness & Response
- Pediatric Pandemic Network
- Western Regional Alliance for Pediatric Emergency Management
WESTERN REGION BURN DISASTER CONSORTIUM

RESOURCES: BURN MASS CASUALTY INCIDENT

CONOPS & APPENDICES/CRISIS STANDARDS IF CARE (CSC) TRAINING SITE

http://crisisstandardsofcare.Utah.edu
Burn CSC – Apple/Android

Produced in cooperation with:

Courtesy of
Annette Newman (Matherly) MS, RN CCRN
Community Outreach/Burn Disaster Coordinator
Western Region Burn Disaster Consortium Coordinator
BEHAVIORAL HEALTH COMPONENTS

MENTAL HEALTH TRIAGE (PsySTART) MANAGER

Mission: Coordinate Disaster Mental Health Triage activities.

Date: ______ Start: ______ First: ______ Position Assigned to: ______ Initial: ______

Position Reports to: Mental Health Unit Leader Signature: ______

Hospital Command Center (HCC) Location: ______ Telephone: ______

Fax: ______ Other Contact Info: ______ Radio Title: ______

Immediate: [Operational Period 24 Hours]

<table>
<thead>
<tr>
<th>Time</th>
<th>Initial</th>
</tr>
</thead>
</table>

Acute Danger

High Risk

Moderate Risk

Low Risk

Merritt D. Schreiber, Ph.D.,
Professor of Clinical Pediatrics, Department of Pediatric, Lundquist Institute, Harbor-UCLA Medical Center, David Geffen School of Medicine at UCLA
BEHAVIORAL HEALTH COMPONENTS

Merritt D. Schreiber, Ph.D.,
Professor of Clinical Pediatrics, Department of Pediatric, Lundquist Institute, Harbor-UCLA Medical Center, David Geffen School of Medicine at UCLA

https://wrap-em.org/index.php/mentalhealth
REGIONAL PEDIATRIC SURGE – MOMENTUM INTO THE FUTURE

CONCLUSION

- PLAYBOOK OPTIONS can be adapted & modified to strengthen pediatric surge capability with “best practice” resources, access to SMEs, & with operational CONOPs
- Evidence-based essential elements & “best practices” strengthen healthcare system
- Benefits of a regional approach in leveraging partners collectively in development process across coalitions to ensure a “living” plan & readiness before a catastrophic event
- Test & evolve your PLAYBOOK in “real time” & in exercises for catastrophic events

SUPPORTS FUTURE VISION

- Recommendations can be utilized by future integrated command structure across state jurisdictions to collectively leverage & incorporate pediatric situational awareness & response capabilities
https://wrap-em.org/

Learn more about WRAP-EM and our partners.
Explore a wealth of resources and tools collected here to assist healthcare centers, public agencies, providers and families!
Questions?
Contact

Cynthia Frankel, RN, MN
Pediatric Surge Lead, HPP LEMSA Liaison and EMSC Coordinator
WRAP-EM Working Group & Alameda County EMS
cynthia.frankel@acgov.org

Vicki L. Sakata, MD, FAAEM, FAAP
Senior Medical Advisor
Northwest Healthcare Response Network
vicki.sakata@nwhrn.org

Michael Frogel, MD
Chairman
National Pediatric Disaster Coalition
mikefrogel@gmail.com

Damien Siwik
Project Manager
University of Michigan, C.S. Mott Children’s Hospital
dsiwik@med.umich.edu