U.S. Department of Health and Human Services

ASPR Administration for Strategic Preparedness & Response

Sustainable Medical Operations Coordination Centers (MOCCs): Making them Work for You

December 12, 2024

TRACIE
HEALTHCARE EMERGENCY PREPAREDNESS INFORMATION GATEWAY

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Rachel Lehman
Acting ASPR TRACIE Program Director

ASPR Key Priorities

ASPR TRACIE: Three Domains

TECHNICAL RESOURCES (TR)

- Self-service collection of audience-tailored materials
- Subject-specific, SME-reviewed “Topic Collections”
- Unpublished and SME peer-reviewed materials highlighting real-life tools and experiences

asprtracie.hhs.gov

ASSISTANCE CENTER (AC)

- Personalized support and responses to requests for information and technical assistance
- Accessible by toll-free number (1844-5-TRACIE), email (askasprtracie@hhs.gov), or web form (ASPRtracie.hhs.gov)

1-844-5-TRACIE

INFORMATION EXCHANGE (IE)

- Area for password-protected discussion among vetted users in near real-time
- Ability to support chats and the peer-to-peer exchange of user-developed templates, plans, and other materials

askasprtracie@hhs.gov

John Hick, MD
Moderator
Hennepin Healthcare & ASPR TRACIE

Session Objectives

1. Describe how jurisdictions can incorporate Medical Operations Coordination Centers (MOCCs) for daily, specialty, and mass casualty surge incidents.
2. Learn how MOCCs can incorporate pediatric and burn considerations for specialty care.
3. Describe ASPR TRACIE resources that can help support MOCC operations.

What is a Medical Operations Coordination Center (MOCC)?

- Regional hub for healthcare capacity management
- Backstops, does not replace usual referral mechanisms
- Monitors regional healthcare capacity
- Key functions
  - Transfer management
  - Load-balancing
  - Single point of contact for all hospitals when usual referral mechanisms overloaded

Why Use a MOCC?

- Gets patients to the right resources as quickly as possible
  - o Reduces time to transfer during periods of surge
  - o Can reduce mortality caused by delays and overcrowding
- Maintains equity of access to care
- Supports consistent regional standard of care
- Ensure patients in community hospitals have access to emergent specialty care
- Facilitates “care-in-place” consultation when transfers are not possible
- Prioritizes transfers during high volume periods when not all requests can be met
- Can interface with EMS to arrange transfers

ASPR TRACIE MOCC Toolkit, Version 3

- Original version created during pandemic by NRCC Healthcare Resilience Task Force
- Updated twice
- Incorporates wide variety of SME input / lessons learned

https://files.asprtracie.hhs.gov/documents/fema-mocc-toolkit.pdf

Contents

- MOCC Background
- Attributes
- Organization
- Initial Considerations
- MOCC Funding Options
- RMOCC, SMOCC, IMOCC Considerations
- MOCC Operations

Appendix

- Acronyms
- Patient Transfer Checklist
- Pediatric Considerations for MOCCs
- Burn Considerations for MOCCs
- MOCC Pre-Scripted Mission Assignment (PSMA) Template
- MOCC Patient Transfer Workflow

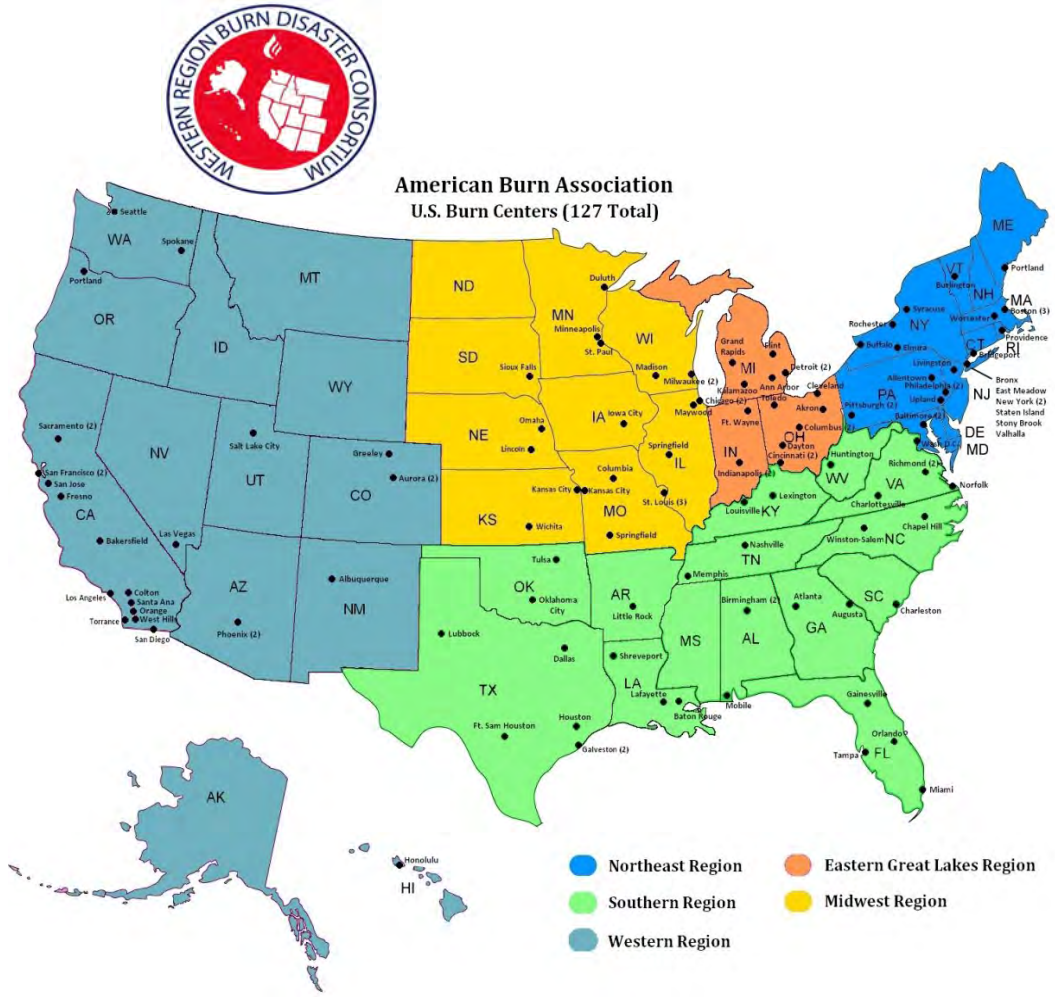
Key Points

- MOCC will have varied constructs depending on the area
- Basing MOCC on daily operational constructs likely much more effective than “disaster-only” function
- Many jurisdictions face daily capacity / transfer management issues that a MOCC can help mitigate (strain rather than surge)
- Legal protections and regulatory environment may differ substantially during non-disaster operations
- Funding issues
- Access to SMEs
- Integrate with “next level” of distribution (IMOCC, sub-specialty care)

Annette Newman, MS, RN, CCRN
Community Outreach/Burn Disaster Coordinator, Western Region Burn Disaster Consortium Coordinator

ABA Disaster Region Review

- Five U.S. ABA Disaster Regions
- One Canadian Region
- Don’t match FEMA or RDHRS regions
- Regional Example: Western Region Burn Disaster Consortium (WRBDC)
  - 28 Burn Centers & multiple partners
    - o 13 states/11 with Burn Centers
    - o WRAP-EM/PPN
  - 469 + Regional burn beds
    - o 185 (avg.) immediately available beds
    - o 259 (avg.) surge capacity
  - Coordinator on call /BMCI MedPic app
- **Burn Bed Counts - Nevada Watchboard**



Response to Burn Surge – Within the State & Beyond

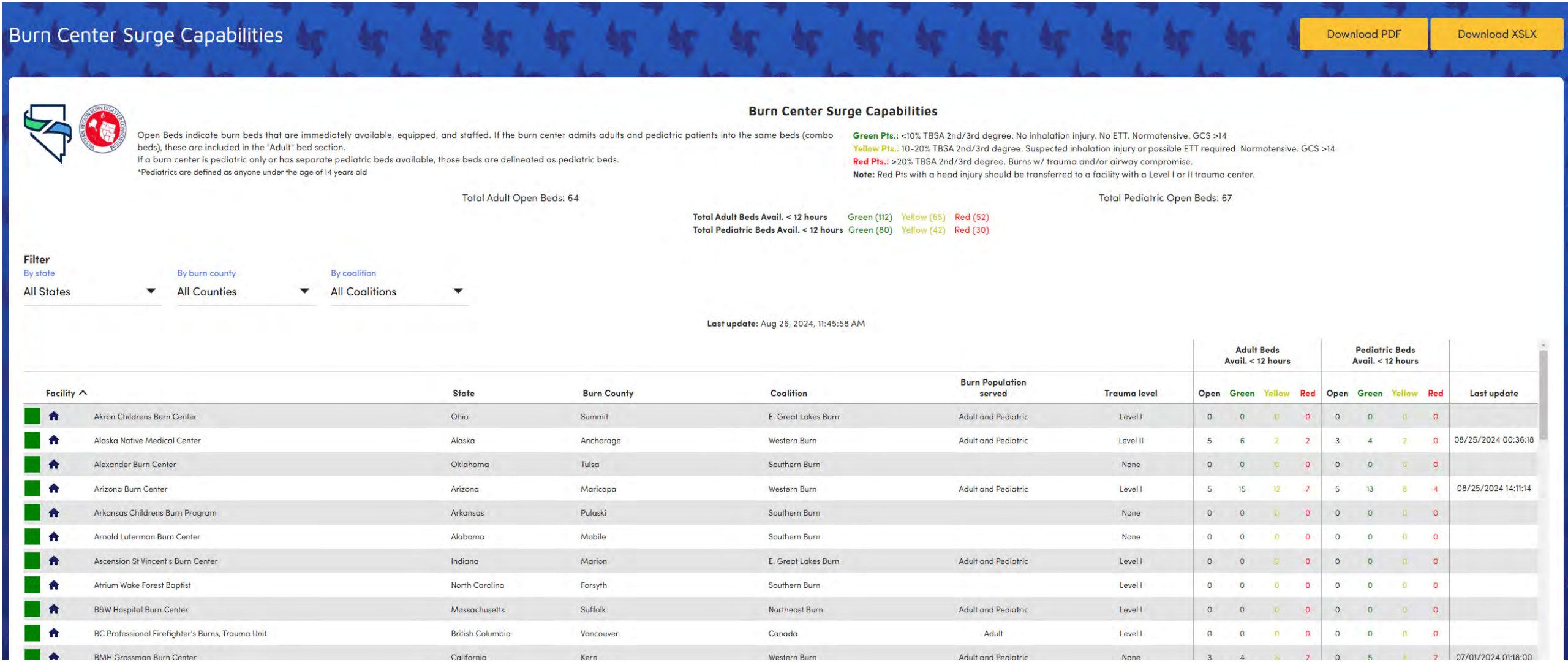
Activate and respond to a no-notice burn mass casualty incident (BMCI)

Provide just in time **situational awareness** to local and state agencies to inform BMCI response

Support and assist with the **coordination of care** at non-burn centers prior to transfer to a burn center

Partnership Benefits: MOCC augmentation / not limited by typical geographic boundaries

Nevada Hospital Association (NHA) Burn Watchboard: Nowcasting Situational Awareness



Facility	State	Burn County	Coalition	Burn Population served	Trauma level	Adult Beds Avail. < 12 hours				Pediatric Beds Avail. < 12 hours				Last update
						Open	Green	Yellow	Red	Open	Green	Yellow	Red	
Akron Childrens Burn Center	Ohio	Summit	E. Great Lakes Burn	Adult and Pediatric	Level I	0	0	0	0	0	0	0	0	
Alaska Native Medical Center	Alaska	Anchorage	Western Burn	Adult and Pediatric	Level II	5	6	2	2	3	4	2	0	08/25/2024 00:36:18
Alexander Burn Center	Oklahoma	Tulsa	Southern Burn		None	0	0	0	0	0	0	0	0	
Arizona Burn Center	Arizona	Maricopa	Western Burn	Adult and Pediatric	Level I	5	15	12	7	5	13	8	4	08/25/2024 14:11:14
Arkansas Childrens Burn Program	Arkansas	Pulaski	Southern Burn		None	0	0	0	0	0	0	0	0	
Arnold Luterman Burn Center	Alabama	Mobile	Southern Burn		None	0	0	0	0	0	0	0	0	
Ascension St Vincent's Burn Center	Indiana	Marion	E. Great Lakes Burn	Adult and Pediatric	Level I	0	0	0	0	0	0	0	0	
Atrium Wake Forest Baptist	North Carolina	Forsyth	Southern Burn		Level I	0	0	0	0	0	0	0	0	
B&W Hospital Burn Center	Massachusetts	Suffolk	Northeast Burn	Adult and Pediatric	Level I	0	0	0	0	0	0	0	0	
BC Professional Firefighter's Burns, Trauma Unit	British Columbia	Vancouver	Canada	Adult	Level I	0	0	0	0	0	0	0	0	
BMH Grossman Burn Center	California	Kern	Western Burn	Adult and Pediatric	None	3	4	3	2	0	5	3	2	07/01/2024 01:18:00

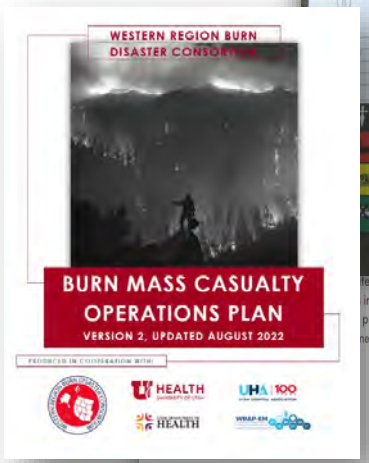
Partnership Benefits: Regional view of open beds (pediatric & adult) and surge capabilities

Sub-specialty Considerations: Standardization

Partnership Benefits

- Standardized language
  - Optimal communication
  - Infers specific resources
  - Staff/stuff/space/systems
  - Blue sky education
- Mirrors existing traffic light protocol
  - Pre-hospital
    - START, JumpSTART
  - In hospital
    - Crisis, contingency, conventional

Definition of BURN Patient Condition
Green (minor): <10% TBSA 2nd/3rd Degree Burn. No Inhalation Injury, not intubated, normotensive GCS >14
Yellow (serious): 10-20% TBSA 2nd/3rd Degree Burn. Suspected Inhalation Injury or potentially requiring intubation, normotensive GCS >14
Red (critical): >20% TBSA 2nd/3rd Degree Burn. Burns with multiple trauma, burns with definitive airway compromise
Pediatrics are defined as anyone under the age of 14 years old
Priority for red patients/patients with a head injury will be transferred to a level 1 or 2 facility



Burn Center Surge Capabilities

Green Pts.: <10% TBSA 2nd/3rd degree. No inhalation injury. No ETT. Normotensive. GCS >14
Yellow Pts.: 10-20% TBSA 2nd/3rd degree. Suspected inhalation injury or possible ETT required. Normotensive. GCS >14
Red Pts.: >20% TBSA 2nd/3rd degree. Burns w/ trauma and/or airway compromise.
Note: Red Pts with a head injury should be transferred to a facility with a Level I or II trauma center.

Total Adult Open Beds: 105

Total Pediatric Open Beds: 49

Total Adult Beds Avail. < 12 hours Green (136) Yellow (83) Red (58)
Total Pediatric Beds Avail. < 12 hours Green (65) Yellow (39) Red (33)

Filter
By state: All States
By burn county: All Counties
By coalition: Western Burn

Last update: Jun 19, 2024, 8:57:13 AM

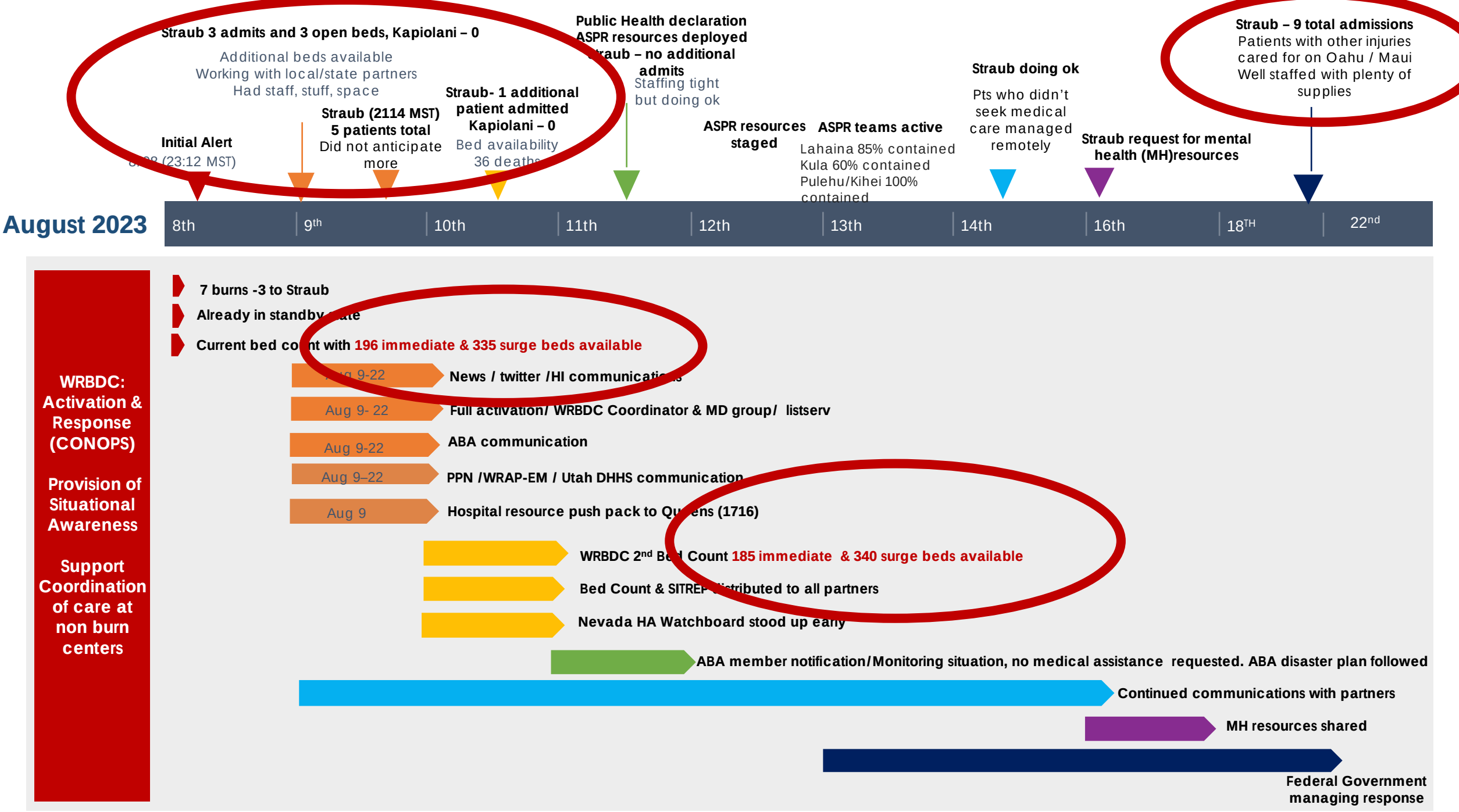
Facility	State	Burn County	Coalition	Burn Population served	Trauma level	Adult Beds Avail. < 12 hours: Open	Green	Yellow	Red	Pediatric Beds Avail. < 12 hours: Open	Green	Yellow	Red	Last update
Alaska Native Medical Center	Alaska	Anchorage	Western Burn	Adult and Pediatric	Level II	0	1	1	1	6	2	2	2	6/3/2024 6:15:00 PM
Arizona Burn Center	Arizona	Maricopa	Western Burn	Adult and Pediatric	Level I	15	20	15	10	7	12	10	8	6/3/2024 9:00:00 PM
Banner UMC Burn Center	Arizona	Pima	Western Burn	Adult and Pediatric	Level I	3	2	0	1	0	3	0	2	5/21/2024 11:54:00 PM
BMH Grossman Burn Center	California	Kern	Western Burn	Adult and Pediatric	None	1	2	2	1	0	2	2	1	6/3/2024 10:10:00 PM
Bothin Burn Center	California	San Francisco	Western Burn	Adult and Pediatric	None	1	3	3	1	0	3	3	0	5/20/2024 7:03:00 PM
Children's Hospital CO Burn Center	Colorado	Adams	Western Burn	Pediatric	Level I	0	0	0	0	7	4	3	3	6/3/2024 7:30:00 PM
Eastern Idaho RMC Burn Center	Idaho	Bonneville	Western Burn	Adult and Pediatric	Level II	8	7	2	3	4	0	0	0	6/3/2024 9:18:00 PM
Hirschman Burn Center ARMC	California	San Bernardino	Western Burn	Adult and Pediatric	Level I	2	2	1	1	0	1	1	0	6/3/2024 6:44:00 PM
Kapiolani MC Pediatric Trauma	Hawaii	Honolulu	Western Burn	Pediatric	None	0	11	6	2	13	11	0	2	5/22/2024 1:46:00 AM

Photo credit: David Bulow for Time. Published: September 4th, 2023

Maui Wildfire: Case Study

- Climate change
  - Wildfires larger, more frequent & more widespread
  - Wildland-urban interface (WUI)
- <1900 Burn beds in the US
  - Scarce resource
  - Doesn't take many burn patients to overwhelm hospital systems
  - Situational awareness of available beds & surge capability is imperative

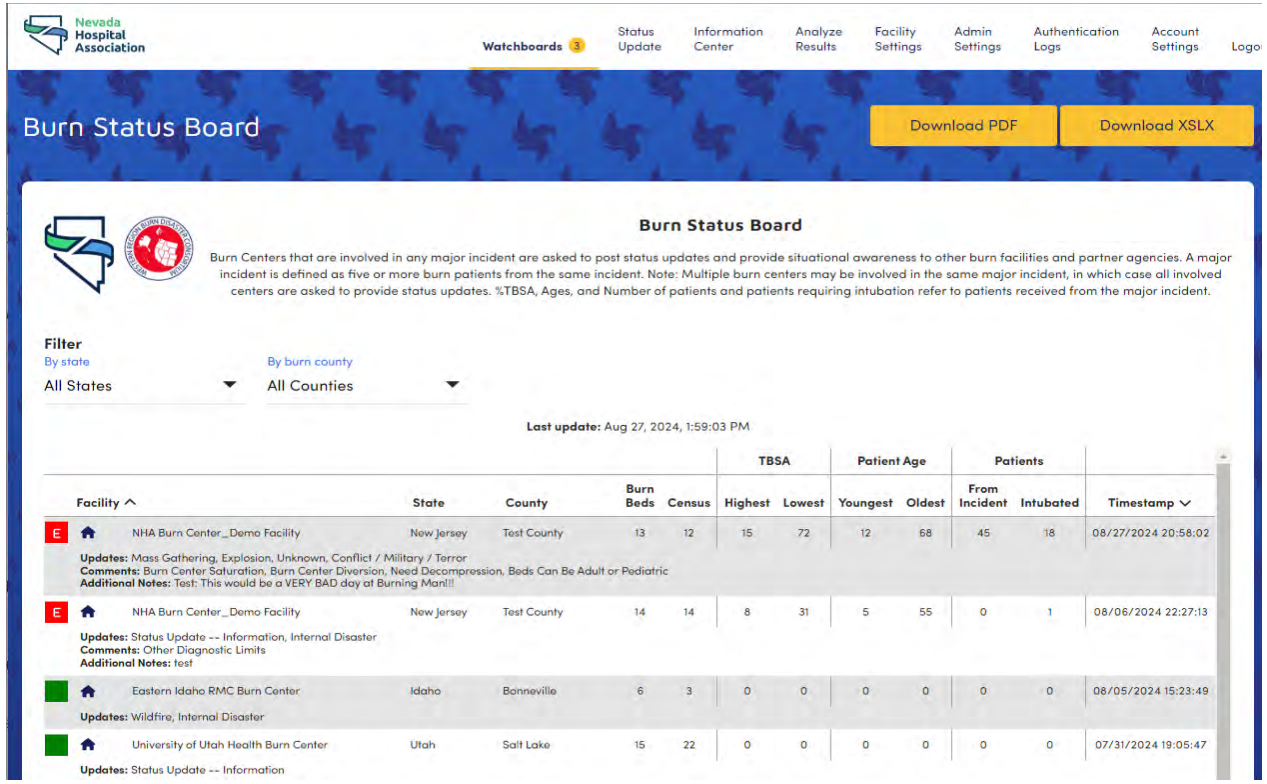
***** Partnership Benefits: Sometimes just knowing that there is enough resources brings the intensity of the situation down a little

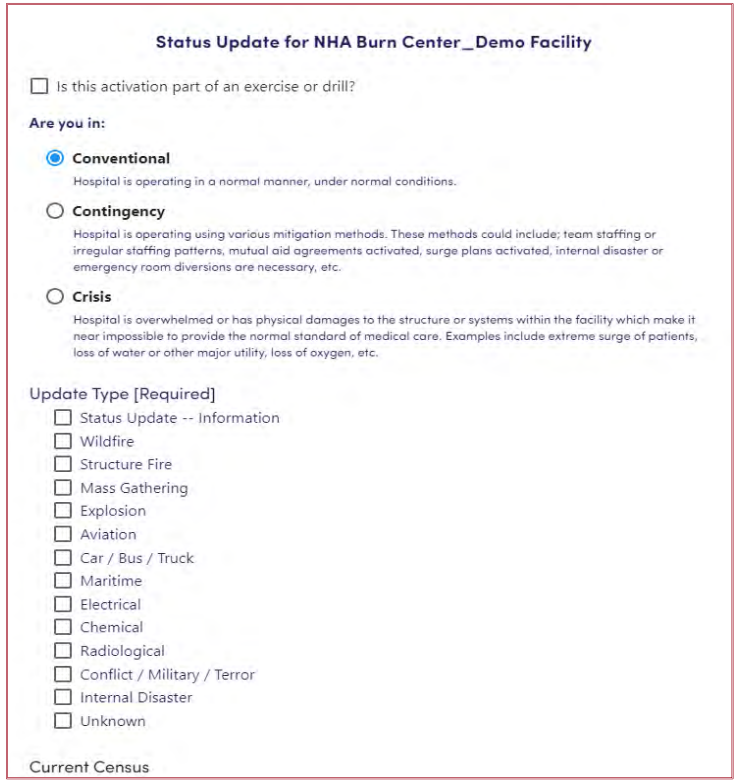

Straub 3 admits and 3 open beds, Kapiolani – 0
Additional beds available
Working with local/state partners
Had staff, stuff, space
Initial Alert
(23:12 MST)
Straub (2114 MST)
5 patients total
Did not anticipate more
Straub- 1 additional patient admitted Kapiolani – 0
Bed availability
36 deaths
Public Health declaration
ASPR resources deployed
Straub – no additional admits
Staffing tight but doing ok
ASPR resources staged
ASPR teams active
Lahaina 85% contained
Kula 60% contained
Pulehu/Kihei 100% contained
Straub doing ok
Pts who didn't seek medical care managed remotely
Straub request for mental health (MH)resources
Straub – 9 total admissions
Patients with other injuries cared for on Oahu / Maui
Well staffed with plenty of supplies
August 2023
8th
9th
10th
11th
12th
13th
14th
16th
18TH
22nd
WRBDC: Activation & Response (CONOPS)
Provision of Situational Awareness
Support Coordination of care at non burn centers
7 burns -3 to Straub
Already in standby state
Current bed count with 196 immediate & 335 surge beds available
Aug 9-22
News / twitter /HI communications
Aug 9- 22
Full activation/ WRBDC Coordinator & MD group/ listserv
Aug 9-22
ABA communication
Aug 9–22
PPN /WRAP-EM / Utah DHHS communication
Aug 9
Hospital resource push pack to Queens (1716)
WRBDC 2nd Bed Count 185 immediate & 340 surge beds available
Bed Count & SITREP distributed to all partners
Nevada HA Watchboard stood up early
ABA member notification/Monitoring situation, no medical assistance requested. ABA disaster plan followed
Continued communications with partners
MH resources shared
Federal Government managing response

Sub-specialty Considerations: Data Entry and Incorporation of Real World Lessons

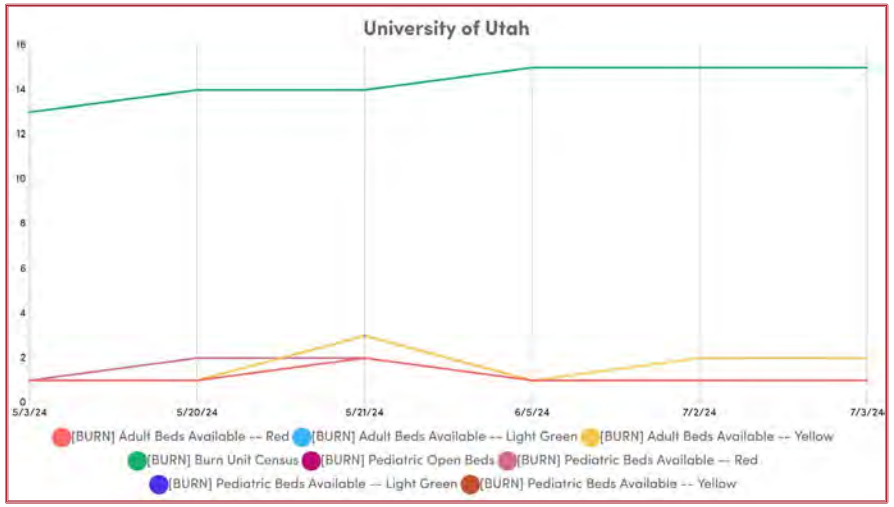
- Data easily entered from within the portal
- Appears on either the Surge or Status Boards for situational awareness
- Based on AAR and lessons learned during real events and exercises
  - Time variance between time zones – challenging for sit rep
  - Patient aggregated data reporting (TBSA, intubated, ages)
- Can be queried to gain insights into burn center operations or research purposes

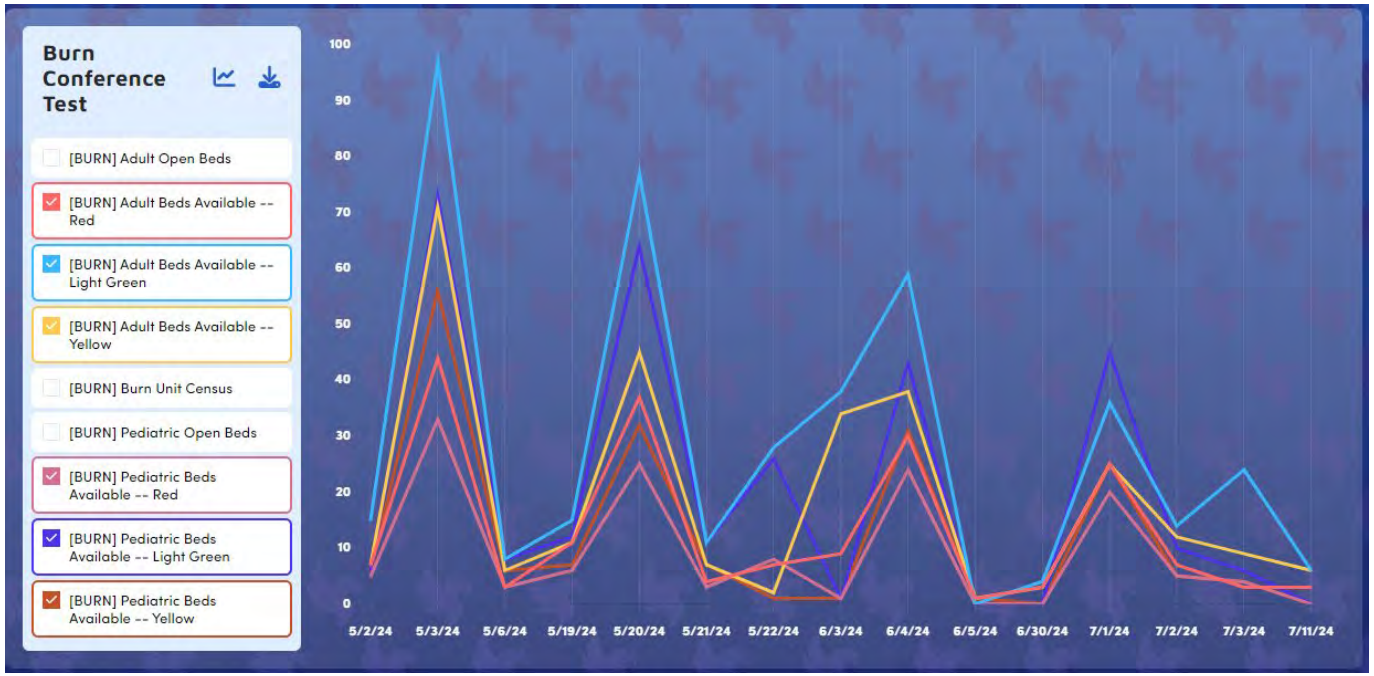
*** Partnership Benefits: Situational report updates inclusive of aggregated patient information**





Sub-specialty Considerations: Accessibility & Research





- All data accessible from within the portal.
- Reports can be generated based on facility, ABA region(s), or county.
- Data can be entered as frequently as desired
    - Some Regional Coordinators have a minimum cadence
- Data can be displayed in the portal as a graph, exported as a .png picture or Excel file

*** Partnership Benefits: sharable reports & aggregated trend monitoring**

Photo credit: Keith Bedonie

- 146 Burn Centers across the United States & Canada
- Represents 100% of the nation's burn beds
  - Verified & non-verified
- 43 States & 5 Canadian provinces
- Official watchboard of the American Burn Association
- Used by HHS, DHS, FEMA, and ASPR governmental agencies

*** Partnership Benefits: Specialty surge is a team sport!! Working with each other enhances response and saves lives**

Summary

What we can assist with:

- Effective communication and coordination among healthcare facilities.
- Optimization of resource utilization and patient care.
- Streamlined patient transfer processes.
- Supporting local and regional emergency response efforts.
- Planning, training and exercises - Whole community
- Evaluation and improvement
    - o Rapid cycle
    - o Incorporation of evolving best practices

*Not a patient movement entity

*** Partnership Benefits: Leveraging relationships & technology for human centered care**

ABA Coordinators and Burn Watchboard

ABA contact & Regional Disaster Coordinators:

ABA: Maureen Kiley kiley@ameriburn.org

Southern: Carl Flores Carl.Flores@lcmchealth.org

Northeast: Kathe Conlon Kathe.Conlon@rwjbh.org

Great Lakes: Lisa Vitale LVitale2@dmc.org

Mid West: Mark.J.Johnston@HealthPartners.Com

Western: Annette Newman annettenewman2020@gmail.com

Canada: Danielle Fuchko danielle.fuchko@ucalgary.ca

"Knowing is not enough; we must apply.
Willing is not enough; we must do."
- Goethe

To gain access to the Burn Watchboard:

Send an email requesting access that includes:

Name

Title

Hospital / Burn Center

Email Address

Cell Phone Number

To: **watchboard@nvha.net**

MOCC Adaptations During a Pediatric Surge

Statewide Pediatric Patient Load Balancing During the Tripledemic

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December 12, 2024

Northwest Healthcare Response Network (NWHRN)

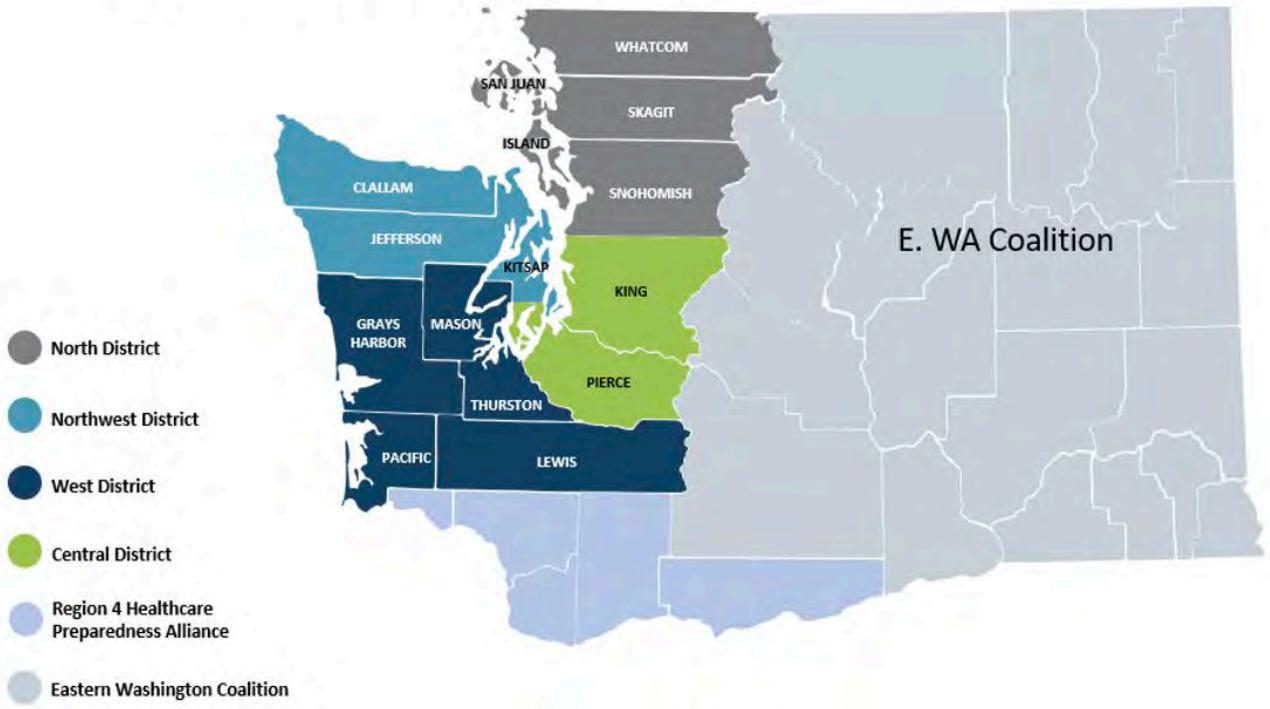
We lead regional healthcare collaboration and coordination to effectively prepare, respond and recover from emergencies and disasters so that our communities get the care they need.

- Established 2005 within local public health
- Independent non-profit corporation (501c3) since 2013
- 15 counties and 25 Tribal Nations
- Largest concentration of critical medical specialty services in Pacific Northwest

NWHRN: About Us

NORTHWEST HEALTHCARE Response Network.

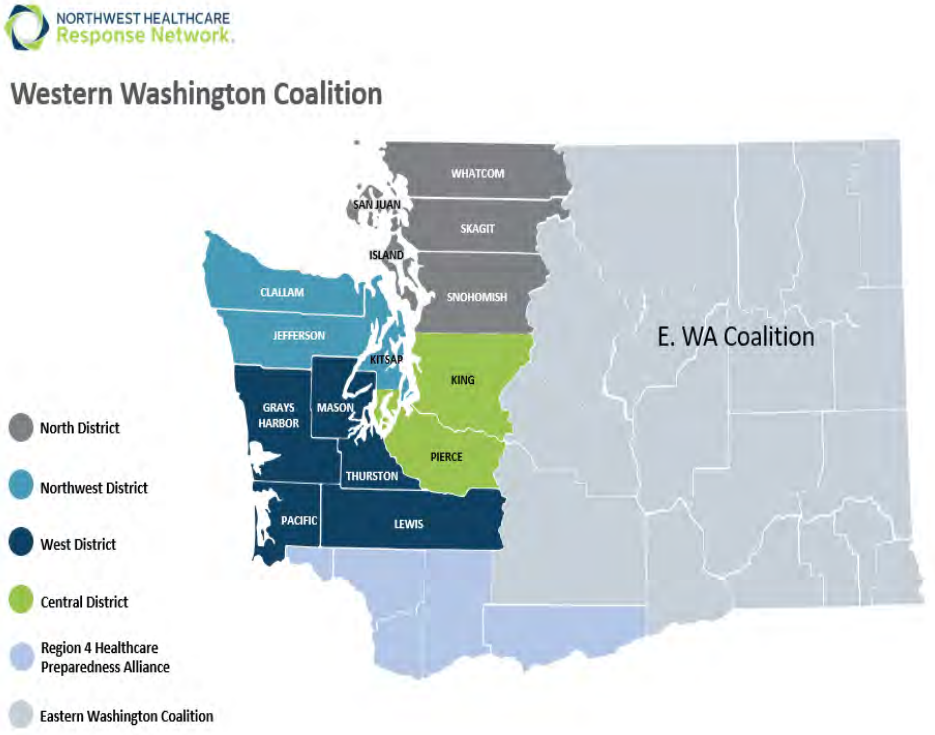
Western Washington Coalition



Washington State PICUs

- *115 beds per 1.64 million children <18 yrs = 7 beds per 100,000 kids*

- **Central WA** **96**
  - Seattle Children's 64
  - Mary Bridge 16
  - Swedish 6
  - Madigan 4
  - Harborview 6 (trauma only)
- **Eastern WA** **19**
  - Sacred Heart 19
- **Northern WA** **0**



WA Medical Coordination Center

Disaster Medical Coordination Center

Regional COVID Coordination Center (RC3)

Harborview Medical Center/King County

Northwest Health Response Network

Washington Medical Coordination Center (WMCC)

NORTHWEST HEALTHCARE Response Network.

HARBORVIEW MEDICAL CENTER
UW Medicine King County

WMCC Coordination Strategies

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

Washington Medical Coordination Center Operational Framework

Guaranteed Acceptance Policy

WMCC - Washington State Hospital Association

- *WMCC will determine when a guaranteed acceptance rotation system is necessary. WMCC will notify WSHA when this goes into effect and WSHA will notify the major hospital CEOs.*

- *"IF the WMCC says they need to come to us – they come"*
  - *Worked only with trusted PICU level triage SME's*

3 Major Challenges – Viral Respiratory Surge "Tripledemic"

1. Rapidly Expand Pediatric Health System
2. Pediatric triage support for our RNs (Adult Critical Care RNs)
   - Stay in place with support
   - Acute care bed at hospital with no PICU
   - Send to tertiary hospital with a PICU
3. Provide expert "support" for hospitals requesting assistance

Solutions: Pediatric Bed Expansion

1. Rapidly expanded use of acute care peds beds in community hospitals

1. "OK to take transfers"
2. Expanded acute care areas and stretched staff ratios

2. PICU in the MICU

1. Primarily teens with overdose

3. Neonatal ICU Expansion

1. Some limited success
2. Resistance from community groups (academic med centers more malleable)

4. Support in Place

1. Assistance from PICU consultant at tertiary referral center

Solutions: Subject Matter Experts

1. Utilized "On-call" PICU Attendings as Subject Matter Experts

1. PICU Faculty from Harborview > during their "off-season"
2. Provided triage support in decision making
    1. Became trusted resource for referral hospital AND receiving hospitals
    2. Clinical support for referring ERs
    3. Supported triage RN in determining fit between child resource need and bedspace

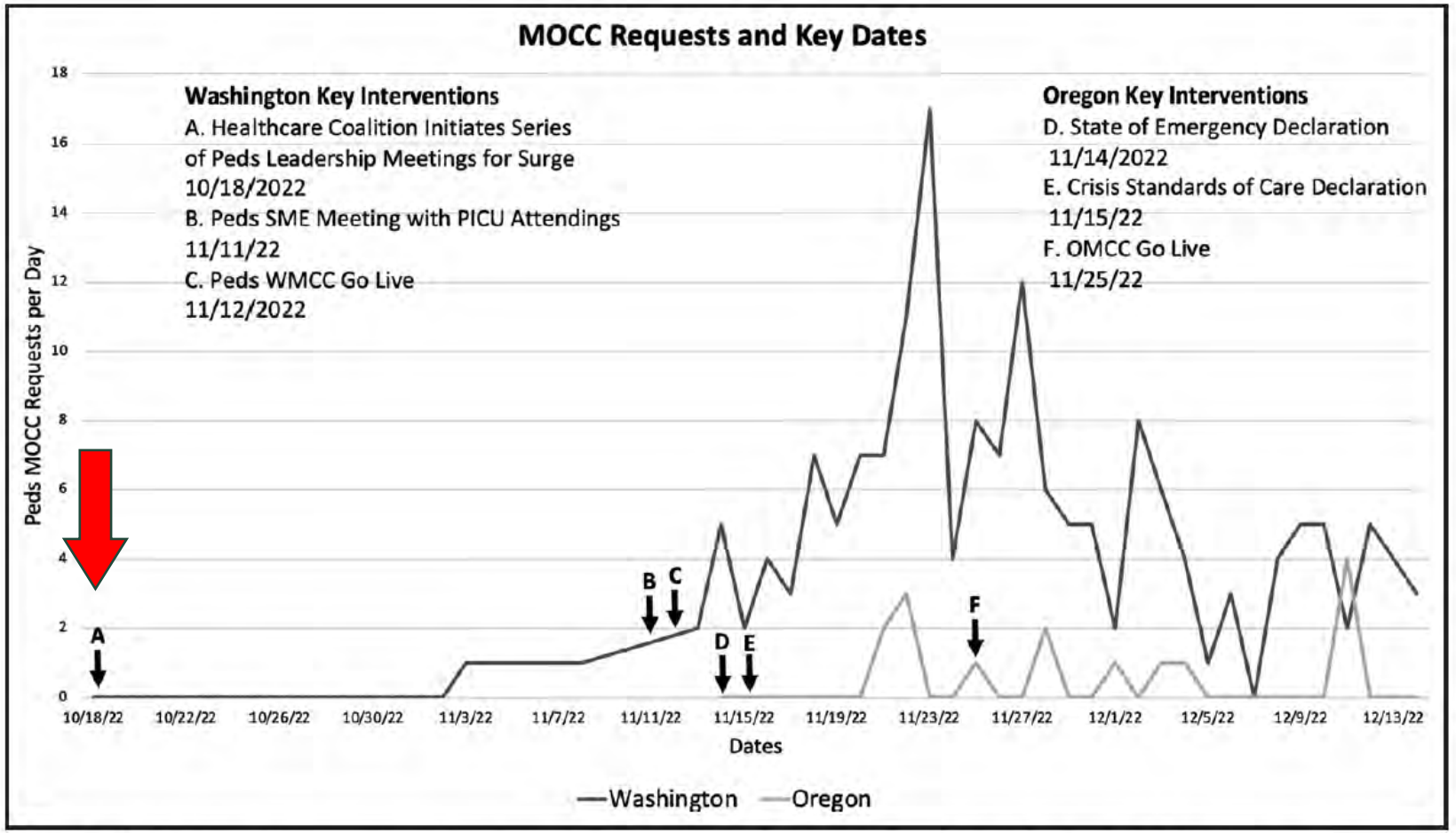


Figure 1. Key dates and summary of Washington and Oregon Medical Operations Coordination Center (MOCC) requests. Key interventions in pediatric MOCC development and pediatric hospital requests for assistance by date in Washington and Oregon. Region 1 = region within the Oregon Health Authority Emergency Response Plan encompassing the Portland, Oregon metropolitan area, SME = subject matter expert, WMCC = Washington Medical Coordination Center.

Mitchell SH, Merkel MJ, Eriksson CO, Sakata VL, King MA. Using Two Statewide Medical Operations Coordination Centers to Load Balance in Pediatric Hospitals During a Severe Respiratory Surge in the United States. Pediatr Crit Care Med. 2023 Sep 1;24(9):775-781. doi: 10.1097/PCC.0000000000003301. Epub 2023 Jun 1. PMID: 37260321.

Results Summary

November 1, 2022 - December 14, 2022

- All pediatric acute and critical care beds over capacity (~135-150%)
- WMCC Managed:
  - 171 pediatric requests
    - 16% for ≤ 3 months old
    - 37% <1 one year old
    - 17% from Critical Access Hospital
    - 58% were critically ill children
    - 100% “accepted” with mean time of acceptance 3 hours in WA

Pediatr Crit Care Med. 2023 Sep 1;24(9):775-781.

PMOCC Bed Placement Trends Observed

- Most less sick kids placed in community hospital beds without PICUs (low HFNC)
- Some sick babies placed in NICUs who don’t typically take readmits (HFNC, CPAP)
- Some sick teens placed in adult ICUs (ingestions)
- Sicker kids placed at Peds hospitals with PICUs (high HFNC, CPAP/BIPAP, ETT)

PMOCC Lessons Learned

- RNs need to know **pediatric-specific resource capability limitations** at each hospital (such as flow level of HFNC allowed on a given pediatric ward)
- **Pediatric transport** must be integrated
- **NICUs** should be included in pediatric MOCC planning/response
- **Established relationships** between Pediatric and HCC leaders allowed for teamwork
- **PICU SME was highly utilized** (~25% of cases) and changed dispo in 38% of these

Resources for Developing PMOCC Capability

WRAP-EM Surge Playbook:
https://wrap-em.org/index.php/jit-resources/pediatric-surge-playbook

Pediatric Critical Care Medicine Article:
Using Two Statewide MOCCs to Load Balance in Pediatric Hospitals During a Severe Respiratory Surge in the United States
https://journals.lww.com/pccmjournal/fulltext/2023/09000/using_two_statewide_medical_operations.8.aspx#

Moderator Roundtable

Questions

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