



Hospital Bed and EMS Data System (HBEDS)

California Department of Public Health
Center for Preparedness and Response

Presenter



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Tricia Blocher is the deputy director of the Center for Preparedness and Response. She serves as the State Preparedness Director and oversees over \$75 million dollars of federal and state general fund grants to support state and local health department, emergency services, and health care coalitions in their disaster preparedness and response. During a public health emergency or disaster, Tricia oversees the Medical Health Coordination Center. Tricia previously served as the Special Assistant to the Director of CDPH, and prior to CDPH, was an executive director of a nonprofit organization.

Presenter



Kate McHugh

Project Manager

**Preparedness and Response at the California
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Kate McHugh is a project manager for the Center for Preparedness and Response at the California Department of Public Health. Among other projects, she is the lead project manager for the Hospital Bed and EMS Data System (HBEDS) that is housed within the Center for Preparedness and Response's Intelligence Hub.

Disclosure of Relevant Financial Relationships

Tricia Blocher, MS reports no relevant financial relationships or relationships she has with ineligible companies of any amount during the past 24 months.

Katie McHugh reports no relevant financial relationships or relationships she has with ineligible companies of any amount during the past 24 months.

What is HBEDS?

- **Hospital Bed and EMS Data System**
- A bed capacity system being developed in California to track real-time hospital bed availability
- System will be **automated** and there is **no manual entry**
 - The system takes **staffed** bed capacity data (no PHI) from hospital EHR systems through a one-way automated feed every 15 minutes
- The program is being funded through governmental funds

Why do we need this?

- Bed capacity data in California is currently manually entered by hospitals
 - Manual bed data is outdated as soon as it is input to a system
 - Hospital staff and local preparedness staff waste valuable time entering and collating this data
- COVID and other medical surges like the 2022 winter RSV/flu surge demonstrated the importance of accurate, real-time data for coordination between hospitals and public health

How does it help?

- Emergencies
 - Emergency management partners can use the system more quickly to coordinate patient movement during mass casualty or medical surge events
- Day-to-day
 - Quicker patient transfers
 - Hospitals can look at the dashboard to see what nearby facilities have availability and call those facilities first
 - Other states, like Oregon, have implemented similar systems and have seen large reductions in patient transfer times

What data does it collect?

- All bed-related data is **staffed** bed availability
- Data collected is the same as the data that hospitals are required to submit to CDC's National Healthcare Safety Network
- No PII is collected
- Data is not used in any way for licensing purposes
 - Program is managed by CDPH's Center for Preparedness and Response
- Data is for specific bed types
 - ED data, adult and pediatric ICU and observation beds, specialty beds, etc.
 - Full list of elements listed in slide appendix

National Healthcare Safety Network (NHSN)

- Collects data from hospitals and health care facilities, primarily regarding health care associated infections but also bed capacity
- NHSN has standardized bed capacity data elements to be collected
- There is a [CMS rule](#) that requires reporting bed capacity to NHSN
 - This gives state and federal officials a complete picture on what is occurring nationally with bed capacity and respiratory hospitalizations
- The data CDPH collects will be reported to NHSN on behalf of hospitals

Dashboard Example

CALIFORNIA CAPACITY SYSTEM Region County State

B Search by Hospital Name or Location

Notification For: State-Wide
Subject: Staging Site

Details:
 Welcome to the staging site , please be advised the data is in process of being validated.

Created On: 10/14/2024 10:39
Modified On: 10/14/2024 10:39
Modified By: CA_Apprise_Admin

CALIFORNIA			ALL BEDS	ADULT		PEDS						
Census	Unocc	Capacity		TOTAL	ICU	NON-ICU	TOTAL	ICU	NON-ICU	TOTAL	TOTAL NON-CRIB	NICU
Total			3687 43%	3088 49%	560 48%	2528 50%	5 42%	5 42%	-	594 25%	404 44%	40 57%
ADVENTIST HEALTH GLENDALE ADVENTIST HEALTH	T		182 47%	174 56%	-	174 56%	-	-	-	8 10%	5 17%	-
PROV TARZANA/CEDARS-SINAI PROVIDENCE	T	S	172 54%	135 74%	50 59%	85 87%	-	-	-	37 28%	22 47%	-
QUEEN OF THE VALLEY PROVIDENCE	T		75 29%	55 37%	5 25%	50 38%	-	-	-	20 18%	16 31%	-
LITTLE CO OF MARY-SAN PEDRO PROVIDENCE	T	S	82 35%	70 33%	30 75%	40 23%	-	-	-	12 57%	12 57%	-
PROVIDENCE ST JOSEPH-HUMB... PROVIDENCE	T	S	123 55%	106 69%	13 35%	93 80%	-	-	-	17 25%	12 39%	-
ADVENTIST HEALTH AND RIDEO... ADVENTIST HEALTH	T		122 56%	113 74%	5 42%	108 77%	-	-	-	9 14%	7 18%	2 33%
ADVENTIST HEALTH BAKERSFIE... ADVENTIST HEALTH	T		161 74%	154 74%	13 43%	141 79%	-	-	-	7 78%	-	7 78%
ADVENTIST HEALTH WHITE ME... ADVENTIST HEALTH	T		162 78%	138 82%	10 53%	128 85%	-	-	-	24 63%	-	24 63%
NATIVIDAD NATIVIDAD	T	S	139 68%	70 67%	14 47%	56 75%	-	-	-	69 70%	62 75%	7 47%
ADVENTIST HEALTH SIMI VALLEY ADVENTIST HEALTH	T		69 54%	69 54%	6 25%	63 61%	-	-	-	-	-	-
MISSION HOSPITAL LAGUNA BE... PROVIDENCE	T	S	26 21%	26 21%	14 27%	12 16%	-	-	-	-	-	-

Who will use the system?

- **Participating hospitals** will have access to the dashboard to easily monitor their own status and can view other hospitals' bed availability data for quicker day-to-day transfers.
- **Local/regional entities** (MHOACs, LEMSAs, RDMHS's, relevant public health partners, etc.) will have access to more easily support both day-to-day situations and mass casualty/medical surge events.
- **State government** will have access for general situational awareness.

Use Case 1 : Mass Casualty Event

- Example – Passenger train derailment
- Local government officials (such as your MHOAC) coordinating the incident can look at the capacity of the nearest hospitals in real-time to help direct patient movement to the most appropriate facilities
- Bed availability is real-time, so hospital staff can focus on patient coordination and care rather than bed capacity data entry



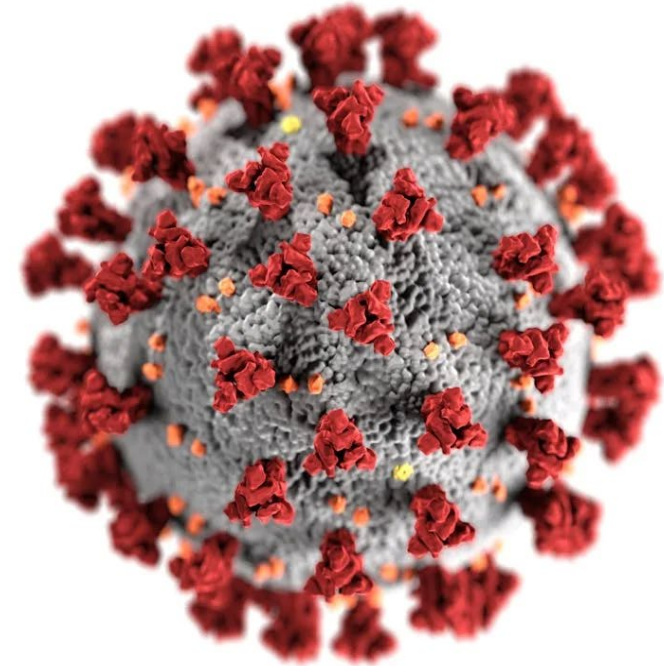
Use Case 2 : Gas Explosion

- Example – Large industrial gas explosion
- This is a mass casualty event where patients need varying levels of care and some need treatment in burn centers
- Health care personnel and local government supporting the response can use the real-time bed availability to quickly find open beds to transfer patients to appropriate facilities



Use Case 3 : Respiratory Virus Surge

- Example – Novel Influenza Virus Pandemic
- Hospital ICUs are overwhelmed with patients across the state
- MHOACs and Regional Disaster Medical Health Specialists can use real-time bed data to support patient load leveling within and across regions
- Hospitals will not be called by state officials or by multiple agencies every few hours asking for updated bed capacity like they were in the past pandemic response



Use Case 4 : Day to Day Transfers

- Example – Pediatric psychiatric patient arrives at the emergency department and needs to be transferred to an appropriate facility
- Hospital staff can look at pediatric psychiatric bed availability at nearby hospitals and call the closest hospitals with bed availability first, which can reduce the amount of time it takes to transfer the patient



Current State of the Program

- CDPH conducted a pilot of this program in 2024
 - 60 hospitals successfully onboarded to the system and transmitted data
- CDPH and Department of Healthcare Services (DHCS) are collaborating on the development of a system that can fulfill the purpose of providing real-time data for both **general acute care hospitals** and **behavioral health facilities**
- The program is currently paused, but we should have information in the near future on the continuation of the program

Questions?

Contact Information

- HBEDS@cdph.ca.gov



Appendix: Specific Data Elements - 1

- All Beds Census
- All Beds Unoccupied
- Adult Total Census
- Adult Total Unoccupied
- Adult ICU Census
- Adult ICU Unoccupied
- Adult ICU-LOC Census
- Adult Non-ICU Census
- Adult Non-ICU Unoccupied
- Adult PCU Census
- Adult PCU Unoccupied
- Adult MT/MS Census
- Adult MT/MS Unoccupied
- Adult OBS Census
- Adult OBS Unoccupied
- Peds Total Census
- Peds Total Unoccupied
- Peds ICU Census
- Peds ICU Unoccupied
- Peds ICU-LOC Census
- Peds Non-ICU Census
- Peds Non-ICU Unoccupied
- Peds PCU Census
- Peds PCU Unoccupied
- Peds MT/MS Census
- Peds MT/MS Unoccupied
- Peds OBS Census
- Peds OBS Unoccupied
- Specialty Total Census
- Specialty Total Unoccupied
- Specialty (Non-Crib) Census
- Specialty (Non-Crib) Unoccupied
- Specialty OB Census
- Specialty OB Unoccupied

Appendix: Specific Data Elements - 2

- Specialty NICU Census
- Specialty NICU Unoccupied
- Specialty NICU 1 Census
- Specialty NICU 1 Unoccupied
- Specialty NICU 2 Census
- Specialty NICU 2 Unoccupied
- Specialty NICU 3 Census
- Specialty NICU 3 Unoccupied
- Specialty NICU 3 Plus Census
- Specialty NICU 3 Plus Unoccupied
- Specialty NICU 4 Census
- Specialty NICU 4 Unoccupied
- Specialty Nursery Census
- Specialty Nursery Unoccupied
- Specialty Adult Psych Census
- Specialty Adult Psych Unoccupied
- Specialty Peds Psych Census
- Specialty Peds Psych Unoccupied
- Specialty Rehab Census
- Specialty Rehab Unoccupied
- Surge Total Active Census
- Surge Total Active Unoccupied

Appendix: Specific Data Elements - 3

- Surge Total Inactive Unoccupied
- Surge ICU Active Census
- Surge ICU Active Unoccupied
- Surge ICU Inactive Unoccupied
- Surge Non-ICU Active Census
- Surge Non-ICU Active Unoccupied
- Surge Non-ICU Inactive Unoccupied
- Burn Bed Census
- Burn Bed Unoccupied
- Neg Pressure Bed Census
- Neg Pressure Unoccupied
- Adult ED Total Census
- Adult ED Admitted Census
- Peds ED Census
- Peds ED Admitted Census
- Total ED Census
- Total ED Admitted Census