2024 EMERGENCY SERVICES FORUM

NEWPORT BEACH

Are You Ready to Submit Your APOT Reduction Protocol by September 1?

California Hospital Association

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Sutter Health Hospital Over Capacity Scale (SHHOCS) & Surge Response

Barbara Bond, M.D., FACEP
CHA EMS Conference
Newport Beach
5/6/24

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Got Capacity?

- Who struggles with overcapacity in their hospital and ED?
- How many have a surge plan?
- How many have a surge plan that works?
- How many have had a near miss or lobby death in the past 2 years?
- Who feels boarding is an ED problem and not a hospital problem?
- Who feels nothing can be done about boarding?
- Who feels prepared for an MCI?
- Who struggles with APOT?

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SHHOCS and Surge

- **S**utter
- **H**ealth
- **H**ospital
- **O**ver
- **C**apacity
- **S**cale

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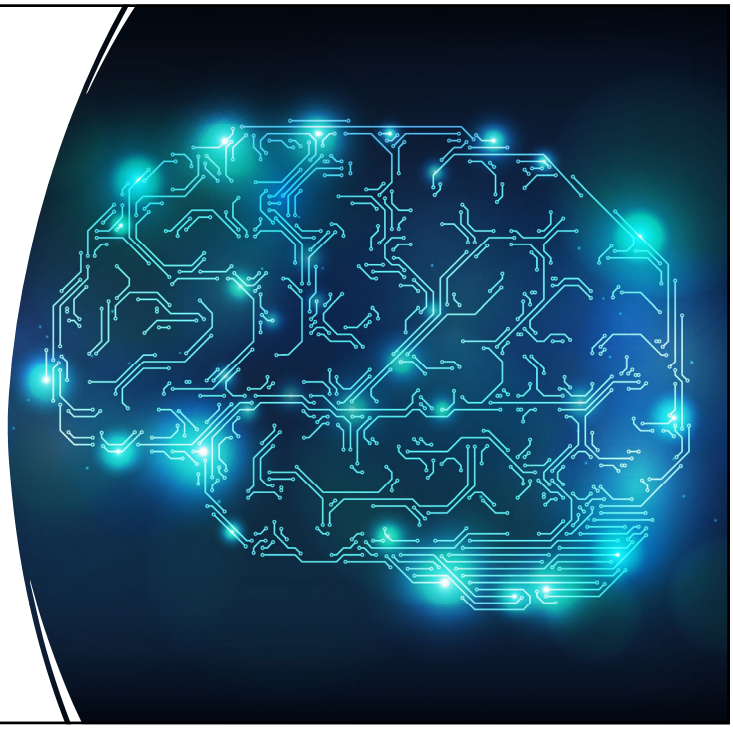
What will we talk about?

- Surge plan: why it matters
- The Sutter journey to develop SHHOCS and surge plan
- How it helps lots of metrics you care about – APOT, LWOT, LOS, Sepsis
- What makes an effective surge plan process
- Pitfalls
- For administrators: How to make it work
- No one thing improves throughput – change management
- Required for AB40 Compliance
- Materials presented today are transportable



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SHHOCS: A tool that serves 2 vital functions

Disaster Response

Day-to-Day Overcapacity

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Who am I?

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ED Boarding - "Whole House" Problem

- **Increases Mortality** – almost double when ED boarding <2 hr. vs > 12 hr.
- **Increases Hospital LOS** – 1 day less LOS for 5-hour reduction in ED LOS
- **Patient Experience** – ED and HCCAPS
- **Provider/ED Staff Satisfaction** – significant cause of burnout
- **Patient Safety** – CAUTI, HAPU, sepsis, falls
- **Fiscal** – loss of inpatient days
- **Capacity** – Increases LOS for discharged patients
- **Increases** – **LWOT and APOT**

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Hourly Cost of ED Boarding?

- Hourly labor cost
- **Plus** at least 1% increase cost to each admission
- **Plus** – **LWBS**
- **Plus** – Opportunity cost for growth
- **Plus** – APOT fines?
- $250-$1,000/ hr.?
- Est. 30,000 visit ED with 24 hr. boarding and 10% admit rate almost $30,000,000 annual loss

Cost of psych boarding:
https://hospitalcouncil.org/the-cost-of-the-status-quo-the-consequences-of-prolonged-ed-boarding/

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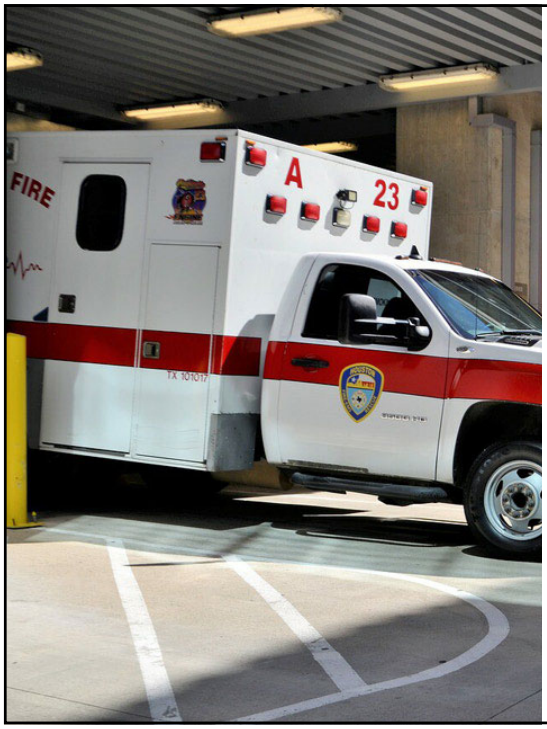

AB 40 and APOT

- CA State Assembly Bill 40 (2023) – is in effect
- 30-minute offload time
- Mitigation Protocol is required by AB 40 to reduce offload times

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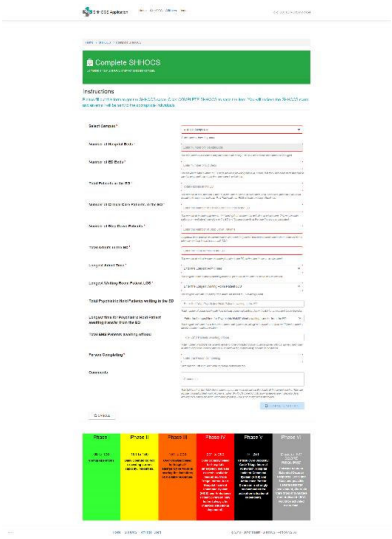
History of SHHOCS @ Sutter Health



- Modified NEDOCS score (Roseville)
- Collaboration with SHEMS for system project
- Surge plan standard work (Eden)
- Toolkit/site visits system spread 2017
- Very successful when there is inpatient buy in
- Transportable to any hospital system

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SHHOCS Scale

Phase I	Phase II	Phase III	Phase IV	Phase V	Phase VI
00 to 100	101 to 150	151 to 200	201 to 250	>= 251	Disaster: NO SCORE REQUIRED
Normal Operations.	Daily Operations: Not exceeding current capacity / resources.	Over Crowded: Need for hospital / emergency services is nearing the limitations of available resources.	Over Capacity: Need for hospital / emergency services exceeds available resources. Code Triage Internal Alert, Hospital Incident Command System (HICS) and Ambulance Patient Diversion may, but not always, be initiated (situational dependent).	Critical Over Capacity: Code Triage Internal Activation, Hospital Incident Command System (HICS) and Ambulance Patient Diversion is strongly recommended for activation (situational dependent).	Extreme Acute or Extended Disaster Response, Local and State and possible Federal Disaster involvement, Alternate Care Sites and Austere Care Activated. HICS would be activated every time.

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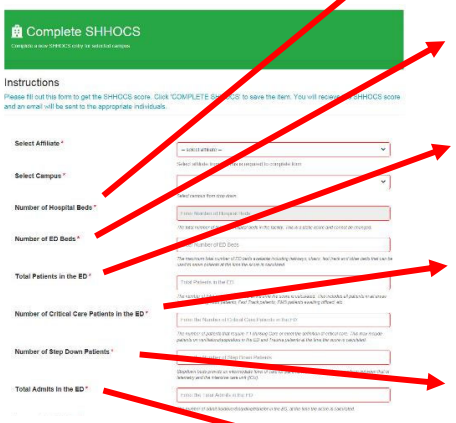
In Detail



Hospital Beds
The total number of licensed hospital beds in the facility. This is a static score and cannot be changed.

ED Beds
The maximum total number of ED beds available including hallways, chairs, fast track, and other beds that can be used to serve patients at the time the score is calculated.

Total Patients in ED
The number of total patients in the ED at the time the score is calculated. This includes all patients in all areas including waiting room patients, Fast Track patients, EMS patients awaiting offload, etc.

Critical Care Patients
The number of patients that require 1:1 Nursing Care or meet the definition of critical care. This may include patients on ventilators/respirators in the ED and Trauma patients at the time the score is calculated.

Step Down Patients
Stepdown beds provide an intermediate level of care for patients with requirements somewhere between that of telemetry and the intensive care unit (ICU). If this field does not apply to your affiliate, leave at zero (0).

Total Admits in ED (including transfers)
The longest admit holdover/boarding/transfers (in hours) at the time the score was calculated.

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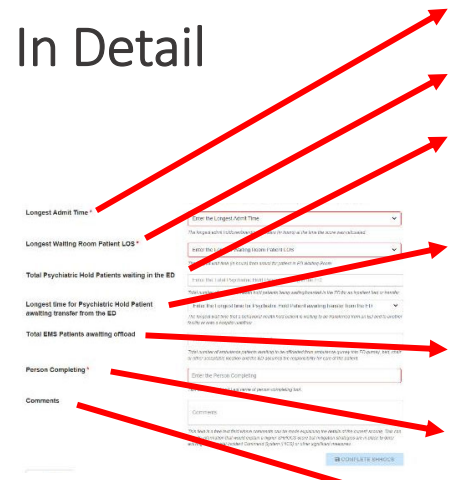
In Detail



Longest Admit
The longest admit holdover/ boarding/transfer (in hours) at the time the score was calculated.

Longest Waiting Room Patient LOS (in hours)
The longest wait time (in hours) from arrival for patient in ED Waiting Room.

Total Psychiatric Hold Patients waiting in the ED
Total number of behavioral health hold patients waiting/being boarded in the ED for an inpatient bed or transfer.

Longest time for Psychiatric Hold Patient awaiting transfer from the ED (in hours)
The longest wait time that a behavioral health hold patient is waiting to be transferred from an ED bed to another facility or onto a hospital unit/floor.

Total EMS Patients awaiting offload
Total number of ambulance patients awaiting to be offloaded from ambulance gurney into ED gurney, bed, chair or other acceptable location and the ED assumes the responsibility for care of the patient.

Person completing
Typed name of the person submitting the SHHOCS scoring/report. This is a required field and the form will not be submitted without.

Comments
This field is a free text field where comments can be made explaining the details of the current scoring. This can include information that would explain a higher SHHOCS score but mitigation strategies are in place to defer activing the Hospital Incident Command System (HICS) or other significant measures.

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SHHOCS Report

- Auto-generated email sent out to key stakeholders

Sutter Roseville Medical Center SHHOCS: 179

Sutter Health <noreply@sutterhealth.org>
To

Date: 10/14/2020 1:45:07 PM

Sutter Roseville Medical Center SHHOCS 179

Institutional Constants

Number of ED Beds: 40

Number of Hospital Beds: 352

Total Patients in ED: 46

Total Number of Critical Care Patients in the ED: 1

Step Down Patients: 0

Longest Admit Time (in hours): 62

Model Specific

Total Admissions waiting in the ED: 14

Longest waiting Room wait time for last patient called (in hours): 1

Event Causes:

Other Comments

Comments

10/14/2020 1:40 PM - TEST ONLY OF UPDATED SHHOCS TOOL. BASED ON THE 1119 SURGE SCORE

Phase I:	Phase II:	Phase III:	Phase IV:	Phase V:	Phase VI:
00 to 100 Normal Operations	101 to 150 Daily Operations: Not exceeding current capacity / resources.	151 to 200 Over Crowded: Need for hospital / emergency services is nearing the limitations of available resources.	201 to 250 Over Capacity: Need for hospital / emergency services exceeds available resources. Code	251 Critical Over Capacity: Code Triage Internal Activation, Hospital Incident Command System (HICS) and	Disaster: NO SCORE REQUIRED Extreme Acute or Extended Disaster Response, Local and State and possible

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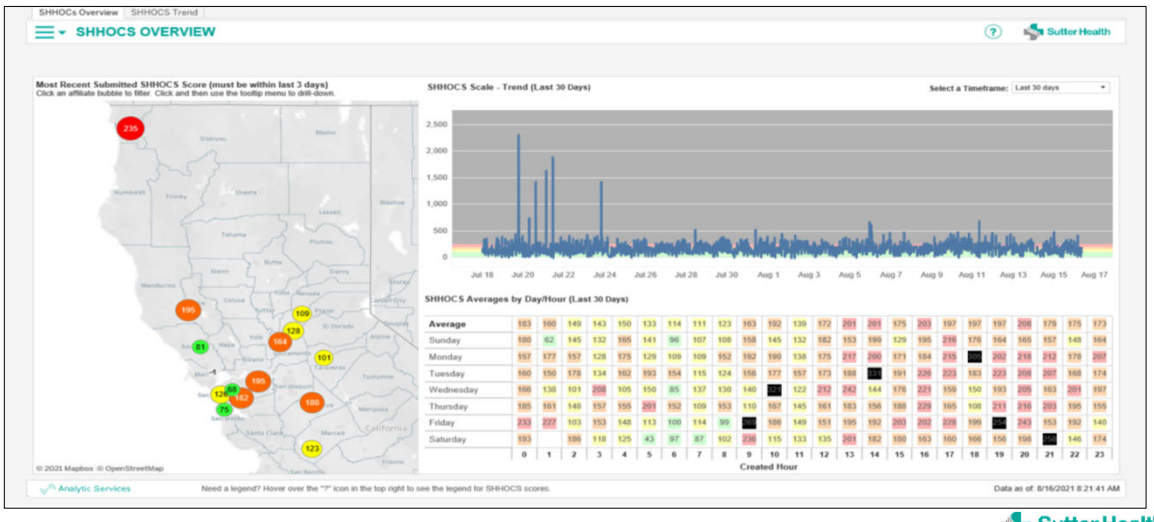
Visibility within Sutter Health



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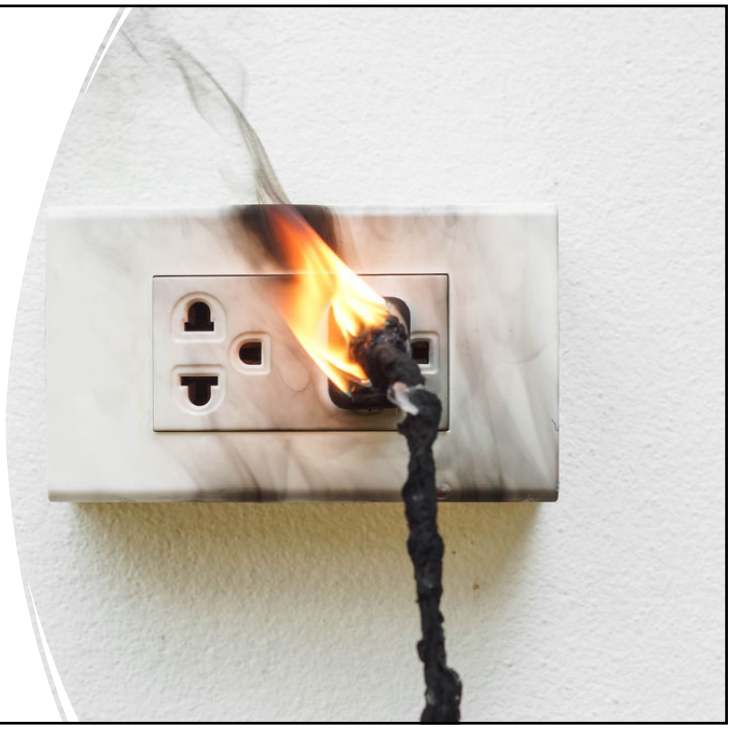
SHHOCS can't work without an effective surge plan



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The project

- Executive sponsorship is key
- Kaizen – 4 hours! key stakeholders vital
- Developed their own surge plan actions
- Education campaign
- Throughput committee with key stakeholders
- Validated scale

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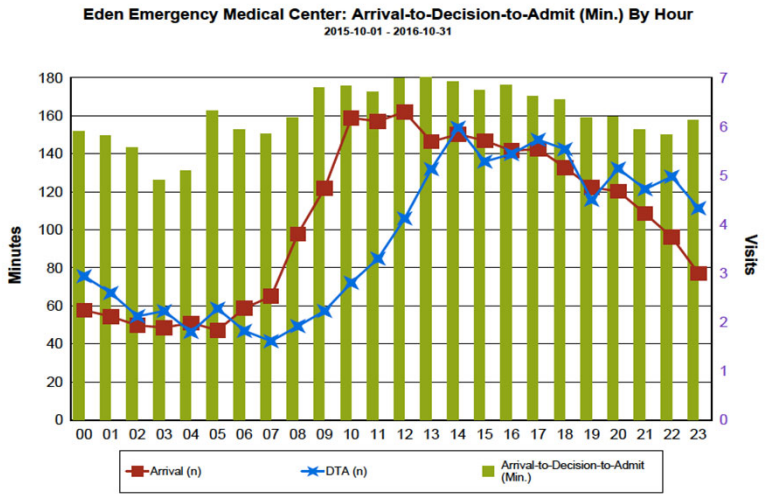
Data informs change



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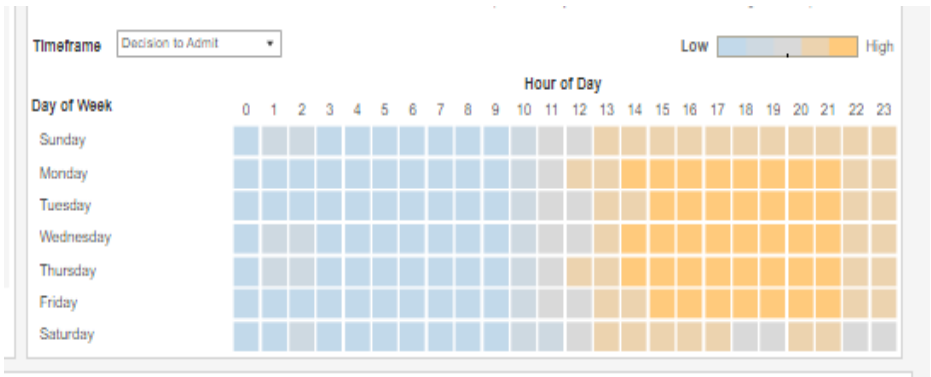

Predictable Trends

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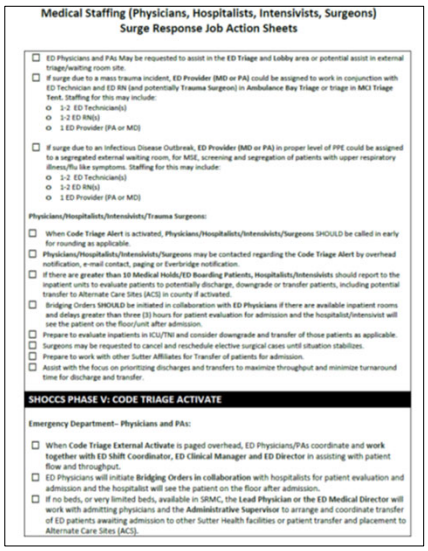
SHHOCS Response Process

Each SHHOCS Phase has associated tasks by role



Medical Staffing (Physicians, Hospitalists, Intensivists, Surgeons)
Surge Response Job Action Sheets

- ☐ ED Physicians and PAs May be requested to assist in the **ED Triage** and Lobby area or potential assist in external triage/waiting room site.
- ☐ If surge due to a mass trauma incident, **ED Provider (MD or PA)** could be assigned to work in conjunction with ED Technician and ED RN (and potentially **Trauma Surgeon**) in **Ambulance Bay Triage** or triage in **MCI Triage Tent.** Staffing for this may include:
  - o 1-2 ED Technician(s)
  - o 1-2 ED RN(s)
  - o 1 ED Provider (PA or MD)
- ☐ If surge due to an Infectious Disease Outbreak, **ED Provider (MD or PA)** in proper level of PPE could be assigned to a segregated external waiting room, for MSE, screening and segregation of patients with upper respiratory illness/flu like symptoms. Staffing for this may include:
  - o 1-2 ED Technician(s)
  - o 1-2 ED RN(s)
  - o 1 ED Provider (PA or MD)

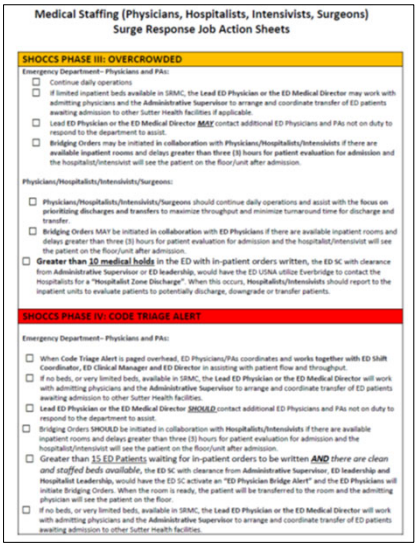
Physicians/Hospitalists/Intensivists/Trauma Surgeons:

- ☐ When **Code Triage Alert** is activated, **Physicians/Hospitalists/Intensivists/Surgeons** SHOULD be called in early for rounding as applicable.
- ☐ **Physicians/Hospitalists/Intensivists/Surgeons** may be contacted regarding the **Code Triage Alert** by overhead notification, e-mail contact, paging or Everbridge notification.
- ☐ If there are **greater than 10 Medical Holds/ED Boarding Patients, Hospitalists/Intensivists** should report to the inpatient units to evaluate patients to potentially discharge, downgrade or transfer patients, including potential transfer to Alternate Care Sites (ACS) in county if activated.
- ☐ Bridging Orders **SHOULD** be initiated in collaboration with **ED Physicians** if there are available inpatient rooms and delays greater than three (3) hours for patient evaluation for admission and the hospitalist/intensivist will see the patient on the floor/unit after admission.
- ☐ Prepare to evaluate inpatients in ICU/TNI and consider downgrade and transfer of those patients as applicable.
- ☐ Surgeons may be requested to cancel and reschedule elective surgical cases until situation stabilizes.
- ☐ Prepare to work with other Sutter Affiliates for Transfer of patients for admission.
- ☐ Assist with the focus on prioritizing discharges and transfers to maximize throughput and minimize turnaround time for discharge and transfer.

SHOCCS PHASE V: CODE TRIAGE ACTIVATE

Emergency Department– Physicians and PAs:

- ☐ When **Code Triage External Activate** is paged overhead, ED Physicians/PAs coordinate and **work together with ED Shift Coordinator, ED Clinical Manager and ED Director** in assisting with patient flow and throughput.
- ☐ ED Physicians will initiate **Bridging Orders in collaboration** with hospitalists for patient evaluation and admission and the hospitalist will see the patient on the floor after admission.
- ☐ If no beds, or very limited beds, available in SRMC, the **Lead Physician or the ED Medical Director will** work with admitting physicians and the **Administrative Supervisor** to arrange and coordinate transfer of ED patients awaiting admission to other Sutter Health facilities or patient transfer and placement to Alternate Care Sites (ACS).



Medical Staffing (Physicians, Hospitalists, Intensivists, Surgeons)
Surge Response Job Action Sheets

SHOCCS PHASE III: OVERCROWDED

Emergency Department– Physicians and PAs:

- ☐ Continue daily operations
- ☐ If limited inpatient beds available in SRMC, the **Lead ED Physician or the ED Medical Director** may work with admitting physicians and the **Administrative Supervisor** to arrange and coordinate transfer of ED patients awaiting admission to other Sutter Health facilities if applicable.
- ☐ **Lead ED Physician or the ED Medical Director *MAY*** contact additional ED Physicians and PAs not on duty to respond to the department to assist.
- ☐ **Bridging Orders** may be initiated in collaboration with **Physicians/Hospitalists/Intensivists** if there are **available inpatient rooms and delays greater than three (3) hours for patient evaluation for admission** and the hospitalist/intensivist will see the patient on the floor/unit after admission.

Physicians/Hospitalists/Intensivists/Surgeons:

- ☐ **Physicians/Hospitalists/Intensivists/Surgeons** should continue daily operations and assist with the focus on **prioritizing discharges and transfers** to maximize throughput and minimize turnaround time for discharge and transfer.
- ☐ **Bridging Orders** MAY be initiated in **collaboration with ED Physicians** if there are available inpatient rooms and delays greater than three (3) hours for patient evaluation for admission and the hospitalist/intensivist will see the patient on the floor/unit after admission.
- ☐ **Greater than 10 medical holds** in the ED with in-patient orders written, the ED SC with clearance from **Administrative Supervisor** or **ED leadership**, would have the ED USNA utilize Everbridge to contact the Hospitalists for a **"Hospitalist Zone Discharge"**. When this occurs, **Hospitalists/Intensivists** should report to the inpatient units to evaluate patients to potentially discharge, downgrade or transfer patients.

SHOCCS PHASE IV: CODE TRIAGE ALERT

Emergency Department– Physicians and PAs:

- ☐ When **Code Triage Alert** is paged overhead, ED Physicians/PAs coordinates and **works together with ED Shift Coordinator, ED Clinical Manager and ED Director** in assisting with patient flow and throughput.
- ☐ If no beds, or very limited beds, available in SRMC, the **Lead ED Physician or the ED Medical Director** will work with admitting physicians and the **Administrative Supervisor** to arrange and coordinate transfer of ED patients awaiting admission to other Sutter Health facilities.
- ☐ **Lead ED Physician or the ED Medical Director *SHOULD*** contact additional ED Physicians and PAs not on duty to respond to the department to assist.
- ☐ Bridging Orders **SHOULD** be initiated in collaboration with **Hospitalists/Intensivists** if there are available inpatient rooms and delays greater than three (3) hours for patient evaluation for admission and the hospitalist/intensivist will see the patient on the floor/unit after admission.
- ☐ Greater than 15 ED Patients waiting for in-patient orders to be written ***AND*** *there are clean and staffed beds available*, the ED SC with clearance from **Administrative Supervisor, ED leadership and Hospitalist Leadership**, would have the ED SC activate an **"ED Physician Bridge Alert"** and the **ED Physicians** will initiate Bridging Orders. When the room is ready, the patient will be transferred to the room and the admitting physician will see the patient on the floor.
- ☐ If no beds, or very limited beds, available in SRMC, the **Lead ED Physician or the ED Medical Director** will work with admitting physicians and the **Administrative Supervisor** to arrange and coordinate transfer of ED patients awaiting admission to other Sutter Health facilities.

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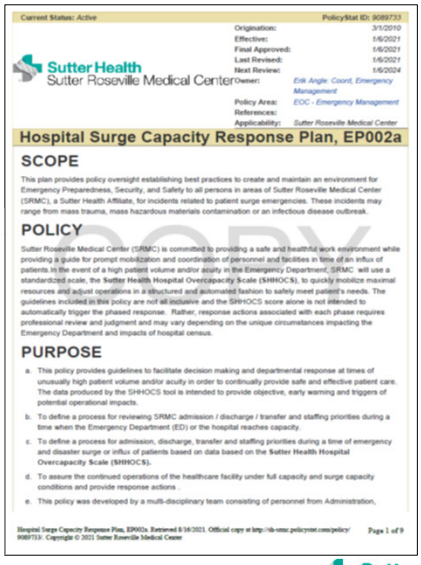
SHHOCS Capacity Management Policy

- The SHHOCS based Hospital Surge Capacity Response Plan and key attachments.

Attachments

- Attachment A: All Departmental Surge Capacity Job Action Sheets
- Attachment A1: Emergency Department Personnel Surge Capacity Job Action Sheets
- Attachment A10: Department of Protective Services (DPS)/Personnel Surge Capacity Job Action Sheets
- Attachment A11: Medical Staffing Personnel Surge Capacity Job Action Sheets
- Attachment A12: Plant Operations Maintenance (POM) Personnel Surge Capacity Job Action Sheets
- Attachment A13: PBX/Patient Access Personnel Job Action Sheets
- Attachment A14: Pastoral Care/Chaplaincy Surge Capacity Job Action Sheets
- Attachment A15: External Agency Response in Disasters Job Action Sheets
- Attachment A2: Administrative Supervisor Surge Capacity Job Action Sheets
- Attachment A3: Hospital Administration Surge Capacity Job Action Sheets
- Attachment A4: Inpatient Units Surge Capacity Job Action Sheets
- Attachment A5: Diagnostic Imaging Surge Capacity Job Action Sheets
- Attachment A6: Laboratory Personnel Surge Capacity Job Action Sheets
- Attachment A7: Respiratory Therapy Personnel Job Action Sheets
- Attachment A8: EVS/Transportation Personnel Job Action Sheets
- Attachment A9: Pharmacy Personnel Surge Capacity Job Action Sheets
- Attachment B: Admitted Inpatient Hallway Patient Information
- Attachment C: Table of Internal Alternate Care Sites
- Attachment D: California Department of Public Health Temporary Permission Form for Emergency Program Flexibility
- Attachment E: Infectious Disease Surge Response Guidelines



Current Status: Active — PolicyStat ID: 9089733

Sutter Health
Sutter Roseville Medical Center

Origination: 3/1/2010
Effective: 1/6/2021
Final Approved: 1/6/2021
Last Revised: 1/6/2021
Next Review: 1/6/2024
Owner: Erik Angle: Coord, Emergency Management
Policy Area: EOC - Emergency Management
References:
Applicability: Sutter Roseville Medical Center

Hospital Surge Capacity Response Plan, EP002a

SCOPE

This plan provides policy oversight establishing best practices to create and maintain an environment for Emergency Preparedness, Security, and Safety to all persons in areas of Sutter Roseville Medical Center (SRMC), a Sutter Health Affiliate, for incidents related to patient surge emergencies. These incidents may range from mass trauma, mass hazardous materials contamination or an infectious disease outbreak.

POLICY

Sutter Roseville Medical Center (SRMC) is committed to providing a safe and healthful work environment while providing a guide for prompt mobilization and coordination of personnel and facilities in time of an influx of patients. In the event of a high patient volume and/or acuity in the Emergency Department, SRMC will use a standardized scale, the **Sutter Health Hospital Overcapacity Scale (SHHOCS)**, to quickly mobilize maximal resources and adjust operations in a structured and automated fashion to safely meet patient's needs. The guidelines included in this policy are not all inclusive and the SHHOCS score alone is not intended to automatically trigger the phased response. Rather, response actions associated with each phase requires professional review and judgment and may vary depending on the unique circumstances impacting the Emergency Department and impacts of hospital census.

PURPOSE

a. This policy provides guidelines to facilitate decision making and departmental response at times of unusually high patient volume and/or acuity in order to continually provide safe and effective patient care. The data produced by the SHHOCS tool is intended to provide objective, early warning and triggers of potential operational impacts.

b. To define a process for reviewing SRMC admission / discharge / transfer and staffing priorities during a time when the Emergency Department (ED) or the hospital reaches capacity.

c. To define a process for admission, discharge, transfer and staffing priorities during a time of emergency and disaster surge or influx of patients based on data based on the **Sutter Health Hospital Overcapacity Scale (SHHOCS).**

d. To assure the continued operations of the healthcare facility under full capacity and surge capacity conditions and provide response actions .

e. This policy was developed by a multi-disciplinary team consisting of personnel from Administration,

Hospital Surge Capacity Response Plan, EP002a. Retrieved 8/16/2021. Official copy at http://ds-srmc.policystat.com/policy/9089733/. Copyright © 2021 Sutter Roseville Medical Center — Page 1 of 9

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ARE YOU READY?

SHHOCS IS COMING

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Sutter Health Hospital Over-Capacity Scale (SHHOCS)

When the thermometer starts to rise,
don't wait until it gets too hot...
ACT NOW.

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SHHOCS Standard Work at Eden

SHHOCS score 5x/day bed huddles (RN charges, House Sup Ancillary, CM, EVS)

Surge response initiated by house supervisor with ED Charge RN

Actions taken to address current issue as appropriate

- Bedside handoff and pull to floors for ED admit
- Board inpatient halls while room is being cleaned
- EVS teams directed where needed
- Transport
- Remove discharge barriers

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Intervene early to prevent escalation of the scale

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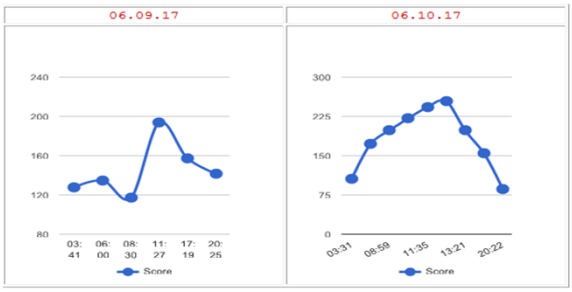
House-wide Surge Plan is Vital, and it Works

- Standard work – house wide by role
- One contiguous plan – i.e. no separation between surge and disaster plan
- Service recovery

Sutter Health Hospital
Over Capacity Scale
(SHHOCS)

ith graphs)



Time:	Score:
03:41	128
06:00	135
08:30	118
11:27	194
17:19	158
20:25	142

Time:	Score:
03:31	107
08:11	173
08:59	200
10:01	222
11:35	244
12:34	255
13:21	200
16:30	155
20:22	88

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Sutter Solano Surge Process Project

Start date 1/23

Immediately post implementation

Search Results

Search results are averaged for the time frames listed below. If a SHHOCS score was captured outside of the times listed below, it will not be included.

	x̄ at 03:30: (03:00 - 04:00)	x̄ at 08:30: (08:00 - 09:00)	x̄ at 11:30: (11:00 - 12:00)	x̄ at 16:30: (16:00 - 17:00)	x̄ at 20:30: (20:00 - 21:00)
Overall	0	86	135	214	89
Sunday	0	26	55	110	79
Monday	0	180	64	301	207
Tuesday	0	186	287	301	88
Wednesday	0	75	0	147	87
Thursday	0	27	0	0	72
Friday	0	25	0	0	43
Saturday	0	0	0	0	51

Cancel

Phase I	Phase II	Phase III	Phase IV	Phase V	Phase VI
00 to 100 Normal Operations.	101 to 150 Daily Operations: Not exceeding current capacity / resources.	151 to 200 Over Crowded: Need for hospital / emergency services is nearing the limitations of available resources.	201 to 250 Over Capacity: Need for hospital / emergency services exceeds available resources. Code Triage Internal Alert, Hospital Incident Command System (HICS) and Ambulance Patient Diversion may, but not always, be initiated (situational dependent).	>= 251 Critical Over Capacity: Code Triage Internal Activation, Hospital Incident Command System (HICS) and Ambulance Patient Diversion is strongly recommended for activation (situational dependent).	Disaster: NO SCORE REQUIRED Extreme Acute or Extended Disaster Response, Local and State and possible Federal Disaster involvement, Alternate Care Sites and Austere Care Activated. HICS would be activated every time.

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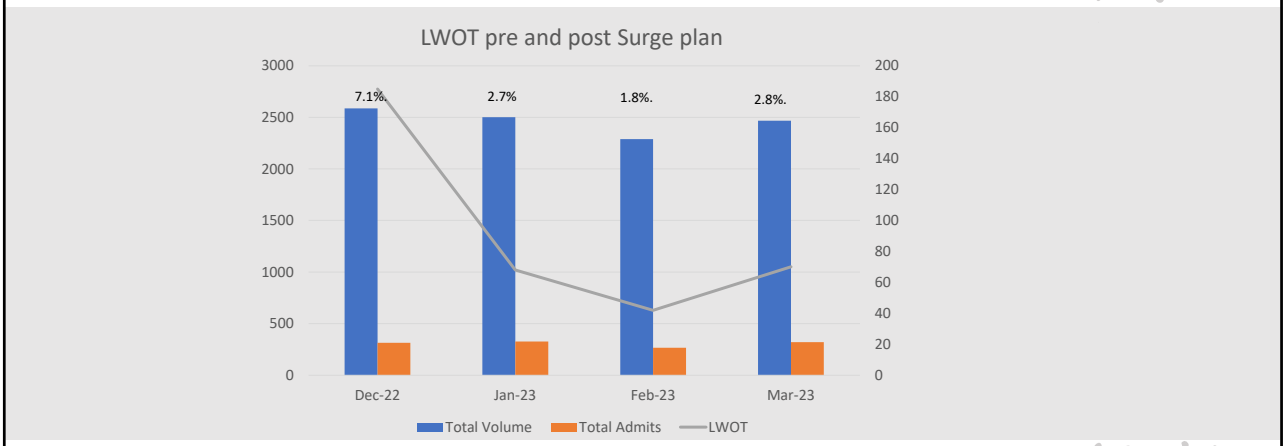
Surge Response improved LWOT



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Surge response improved boarding hours

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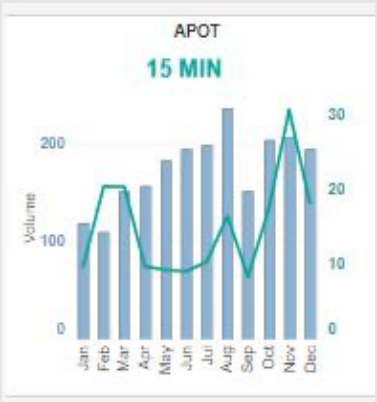
Surge response sustained APOT improvement



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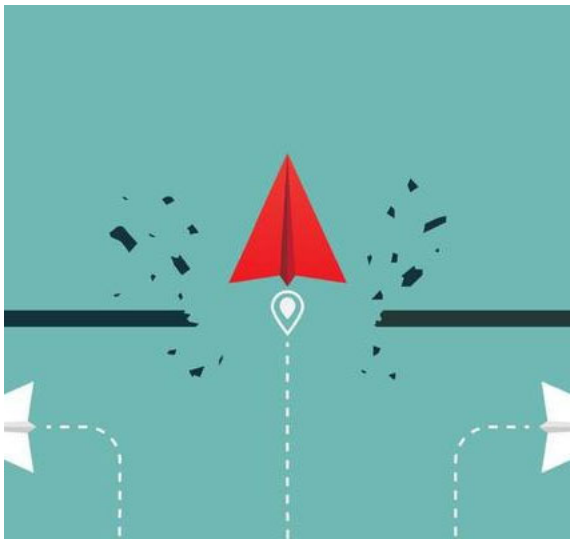
Barriers to Success SHHOCS-Surge



- Administrative and inpatient buy-in locally (nothing can be done mentality)
- Insufficient education for roll-out
- Need in person site by site guidance for initial implementation and change management
- Wait too late to activate surge plan (don't wait until red and black to act)

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AB 40 Requires

An ambulance patient offload time reduction protocol by September 1, 2024.

Mechanisms to improve hospital operations to reduce ambulance patient offload time.

The hospital to file its protocol with the authority and to report annually any revisions to its protocol.

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Take Aways

- **Over capacity is a house-wide problem that requires a house-wide response**
- **Intervene early**
- **The score is only the trigger to activate the surge plan**
- **The surge response is what matters**
- **No single solution**
- **Incorporate APOT mitigation protocol into surge response**

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Thank you!

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