

P415 – A Centralized Throughput Office Drives Bed Turnover and Reduces ED Boarder Hours

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Who is Stony Brook Medicine?

- 624 bed hospital
- Regional Trauma Center on Long Island, NY
- Heart Institute
- Cancer Center
- Children's Hospital
- Neurosciences Institute

Project Scope:

Understanding and managing throughput is fundamental to providing effective and expeditious patient care. Stony Brook Medicine's mission is to provide a safe, compassionate and efficient experience by creating a pull system of flow, wherein, patients are discharged in a timely manner resulting in increased bed turnover and shorter emergency room holds for admitted patients.

Due to high demand for services, increasing patient complexity and capacity challenges, a Centralized Throughput Office (CTO) structure was initiated in **November 2019** to provide oversight over patient flow by improving coordination of care and accelerating patient disposition for new admits, discharges and bidirectional transfers within our health system.

Who is the Centralized Throughput Office (CTO)?

The CTO occupies physical space within the hospital and is staffed 24 hours a day with employees from nursing, bed control, housekeeping and transport departments. They regularly interface with:

- | | |
|------------------------|-----------------------|
| Social Work | Nursing Leadership |
| EMS | Radiology |
| Hospitalist Service | Physical Therapy |
| Transport Services | Occupational Therapy |
| Environmental Services | Care Management |
| Nursing Office | Hospital Epidemiology |

Learning Objectives

1. Identify key drivers of patient flow and hospital throughput.
2. Describe how a centralized throughput office operates in a hospital environment.
3. Outline modalities to standardize workflows that improve throughput.

References: IHI Hospital Flow Professional Development Program, Spring 2023

No one in a position to control the content of this educational activity has relevant financial relationships with ineligible companies.

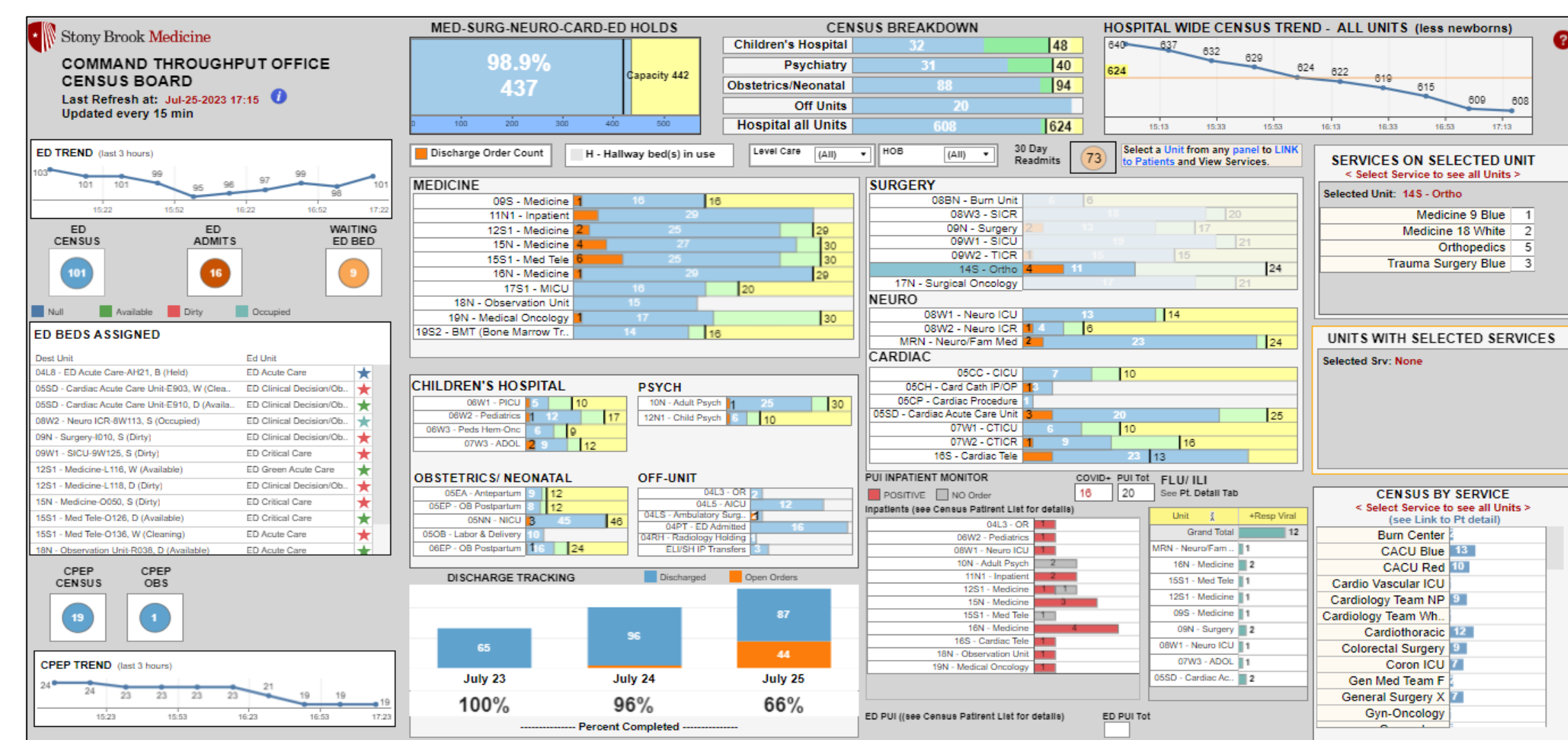


Changes implemented:

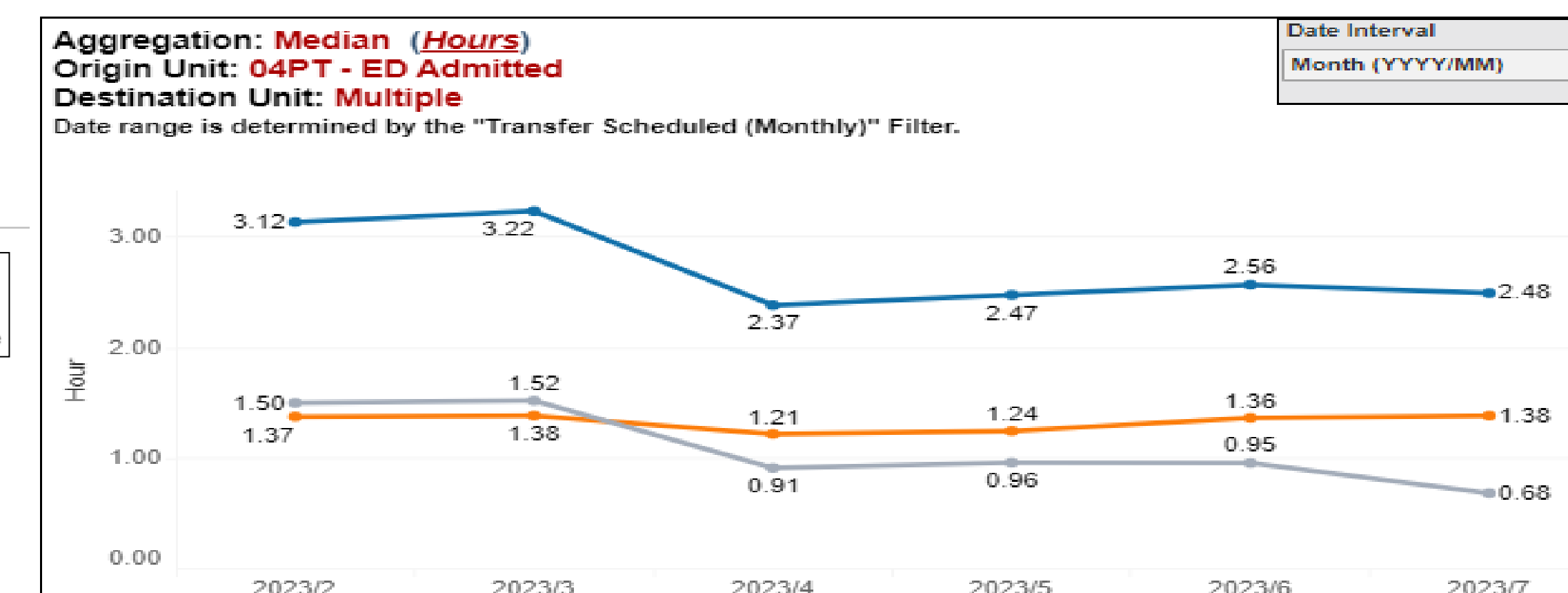
The CTO introduced a structure for interprofessional communication supported by EPR and Tableau tools

- The CTO strategically engages stakeholders from all disciplines, departments and services in twice daily huddles Monday through Friday at 10:30am (since 11/ 2019) and 3:30pm (since 12/2022). Weekend huddles were introduced January of 2023.
 - Hospital performance is communicated on an on-going basis at a regularly occurring quality committee, CTO POD (Program of Distinction), established in September 2022. This multidisciplinary forum drives progress for targeted PI projects aimed at impacting hospital-wide, service specific and departmental throughput metrics.
- The command center leverages use of IT in daily operations. IT innovations include
- Dedicated m-page for coordination of needed services pending discharge by patient
 - Real-time tableau dashboards to monitor patient flow and capacity allowing for around the clock coordination
 - Retrospective Throughput Dashboards track improvement over time by team & unit
 - MS Teams groups/chats to improve throughput for specific populations: HED, Psychiatry, etc.

Command Center Dashboard



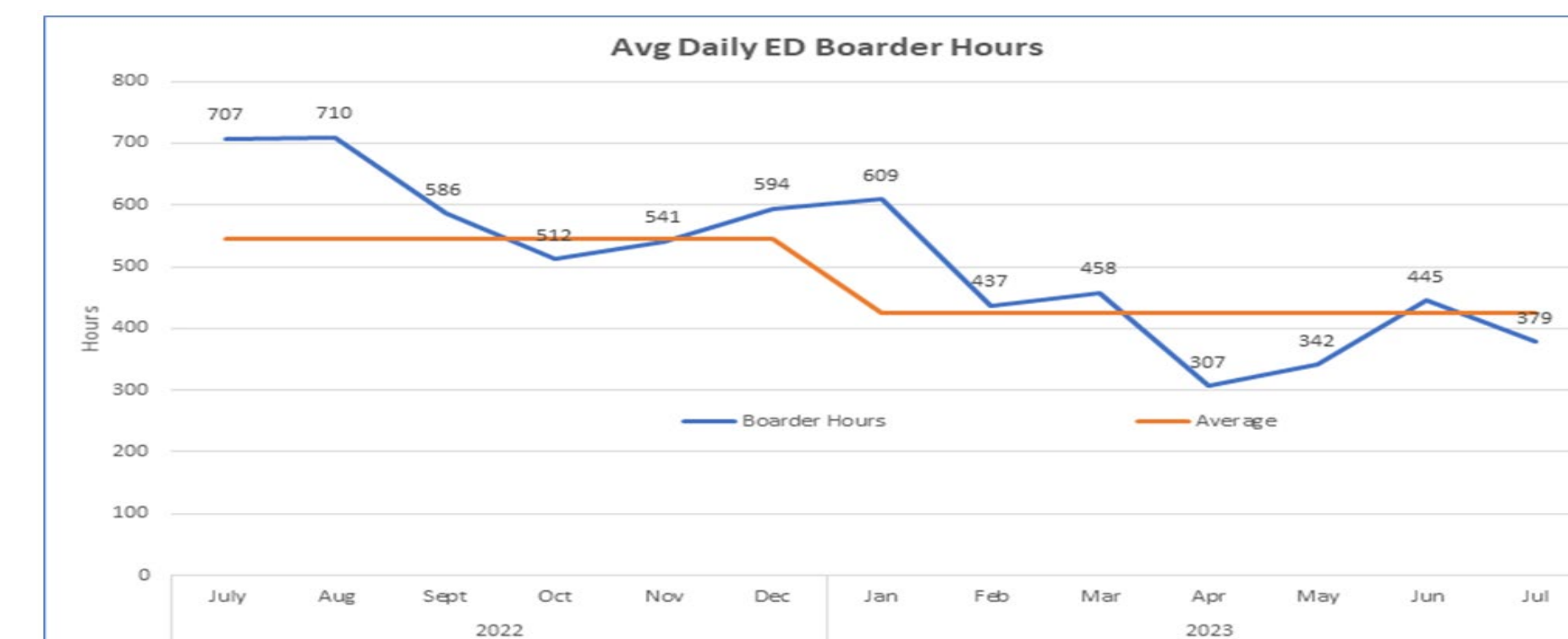
Transfer Movements Throughput Dashboard



Key Performance Indicators:

The goal of the CTO is to reduce patient LOS and ensure each patient is in the right bed as soon as possible. Bottlenecks in the process can prolong a patient's LOS as a boarder in the ED or PACU, thus negatively influencing safety outcomes and pt/provider satisfaction.

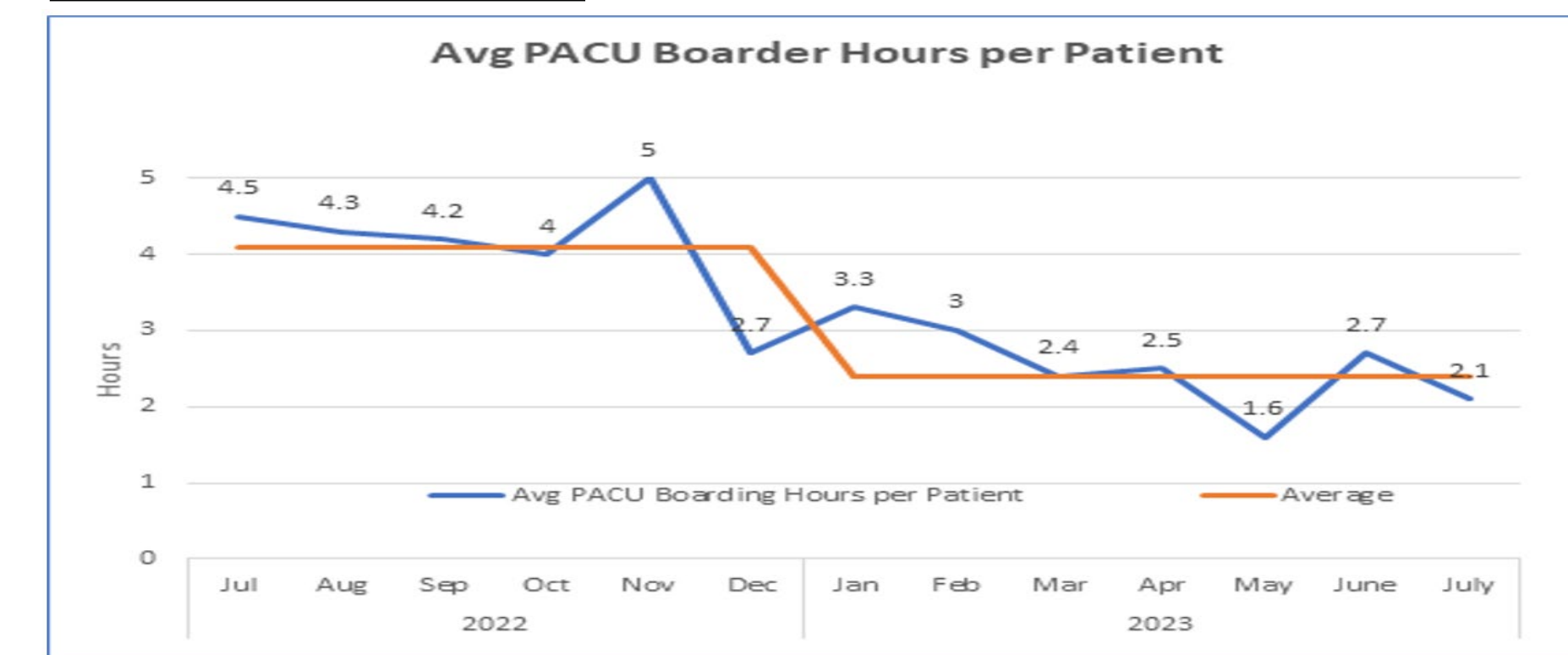
ED Boarder Hours



Outcomes:

Avg. Daily ED Boarder Hours have been decreasing gradually from highs in July & August of 2022.

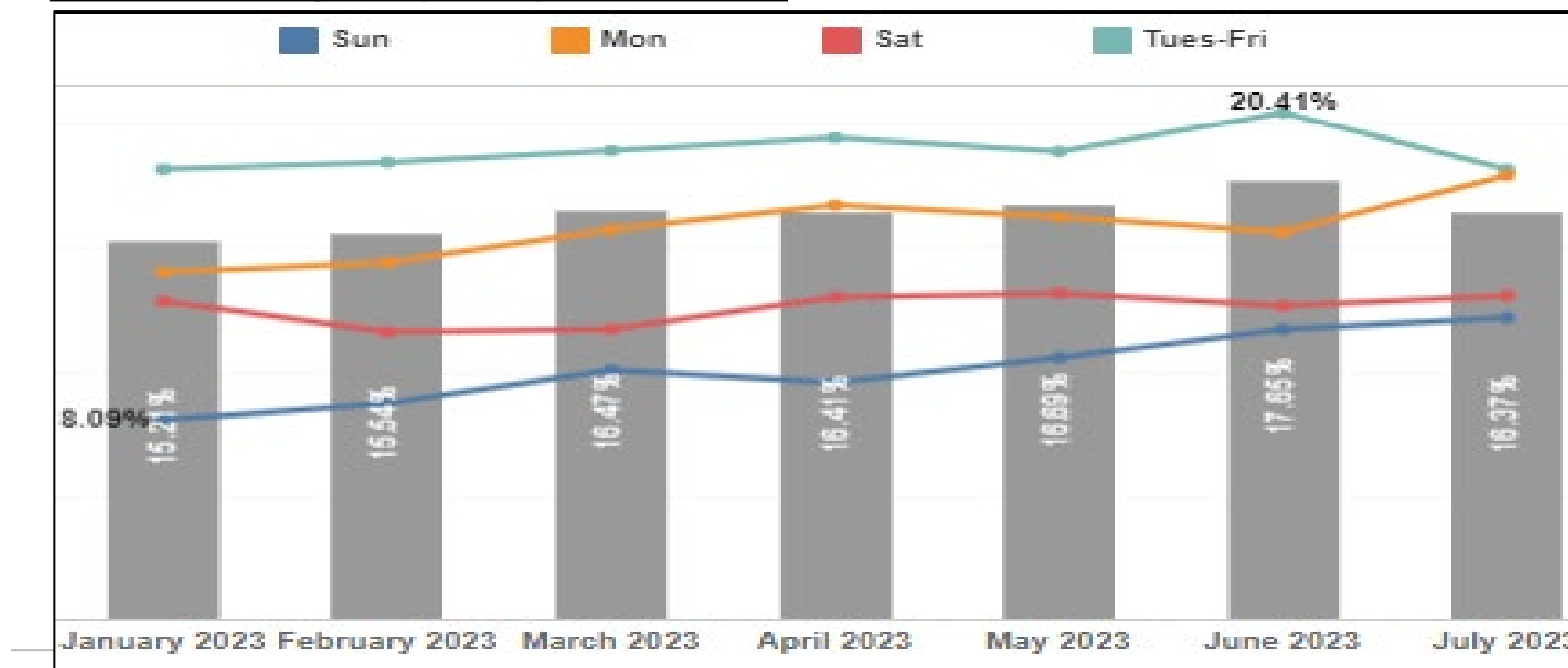
PACU Boarder Hours



PACU Boarder Hours

This metric goal is to sustain an average per patient of **3 hours** or less. This has been achieved since February 2023

% Discharge by Day of Week



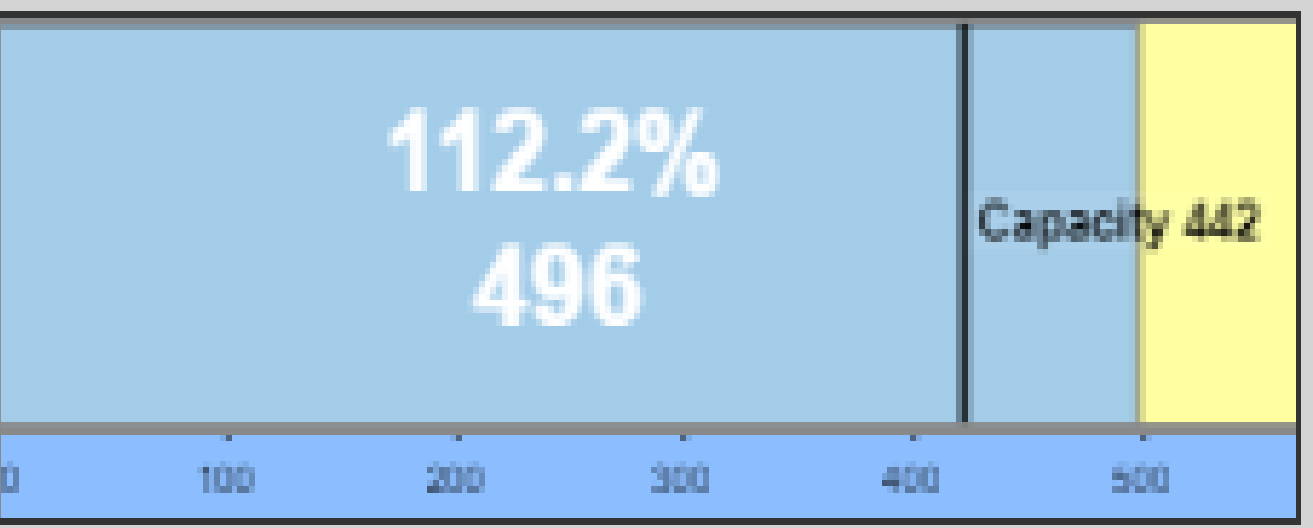
% Discharge by Day of Week:

Saturday, Sunday and Monday discharges have been increasing since January 2023 when a CTO Weekend Huddle was first introduced

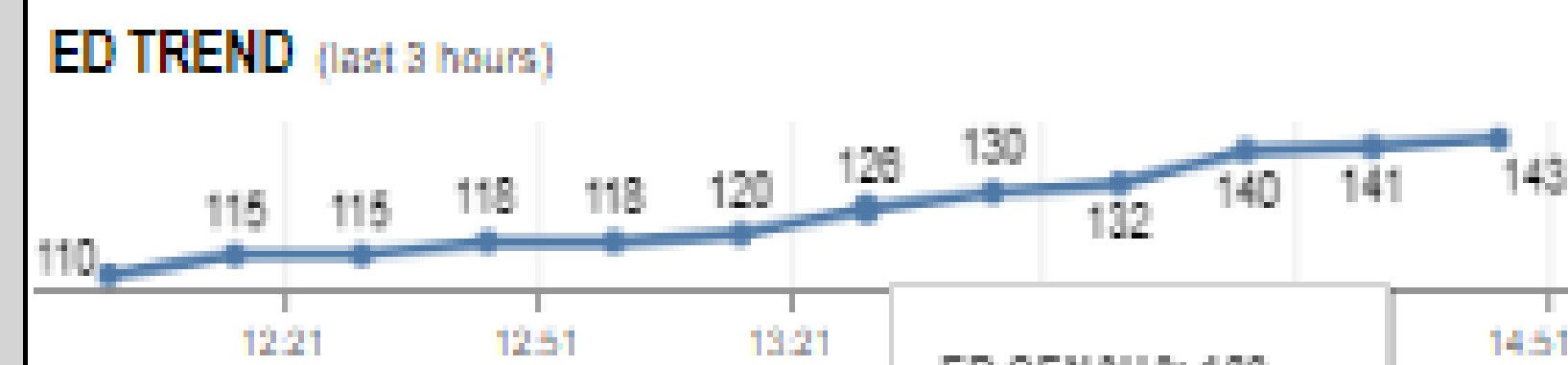
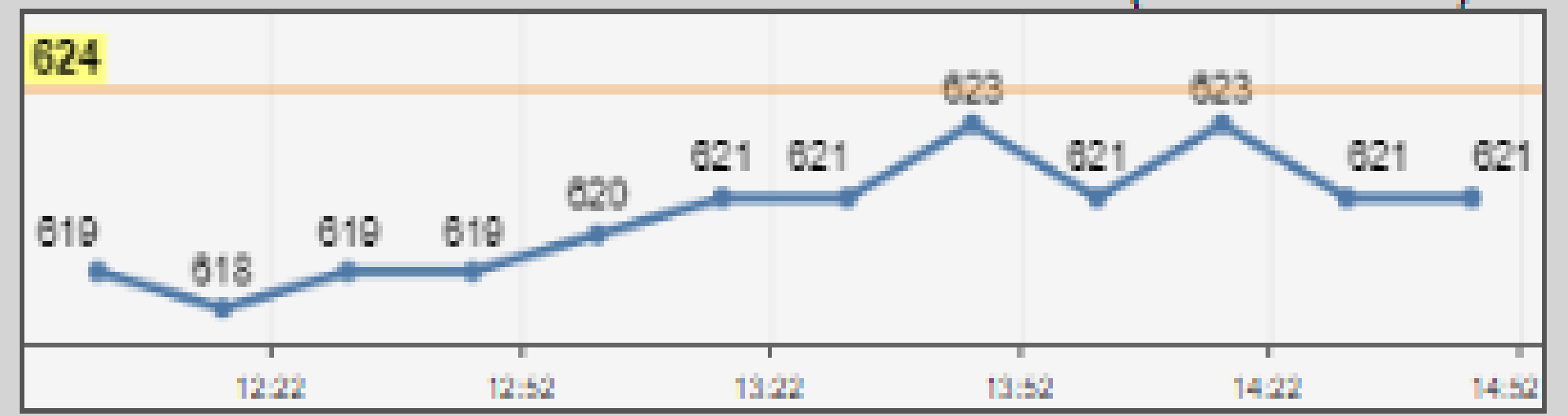
Lessons Learned: Standardized workflows across disciplines help to reduce boarder hours and improve communication. A dedicated and 24/7 throughput staff prioritizes patients needing urgent resources and barriers to safe discharge.
Key Takeaways: Readily accessible dashboards allow for transparency and accountability in real-time

COMMAND THROUGHPUT OFFICE CENSUS BOARD

Last Refresh at: Aug-21-2023 14:45
Updated every 15 min



Department	Count	Total
Children's Hospital	22	48
Psychiatry	32	40
Obstetrics/Neonatal	52	94
Off Units	19	
Hospital all Units	621	624



ED GEN SUB: 128
8/21/2023 1:30:02 PM

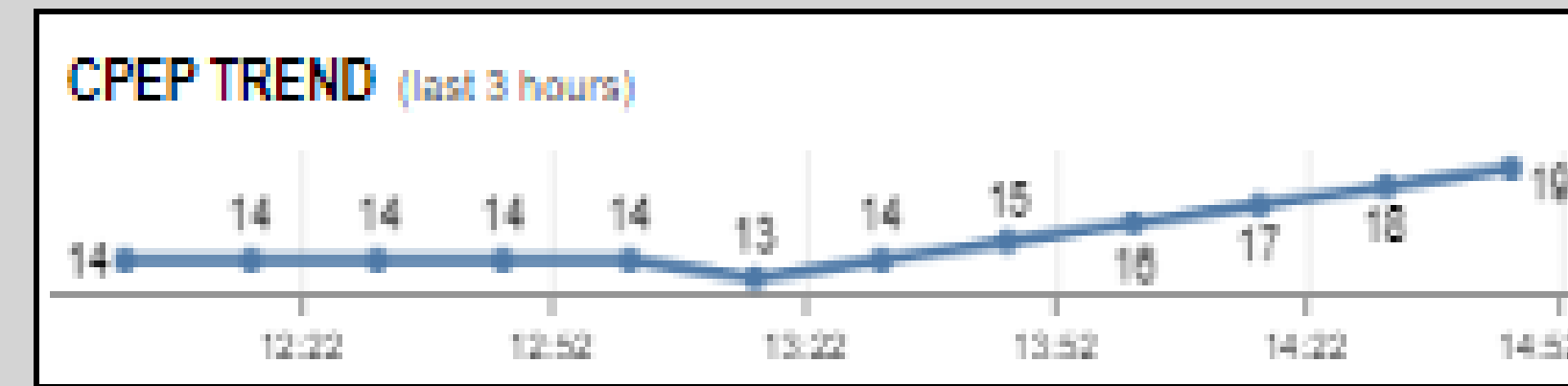
ED CENSUS: 143
ED ADMIT: 19
WAITING BED: 30

Available Dirty Occupied

ED BEDS ASSIGNED

Dest Unit	Ed Unit	Status
05SD - Cardiac Acute Care Unit-E901, W (Dirty)	ED Acute Care	★
08W1 - Neuro ICU-8W101, S (Occupied)	ED Critical Care	★
09S - Medicine-I138, S (Available)	ED Critical Care	★
11N1 - Inpatient-K008, W (Available)	ED Clinical Decision/Ob...	★

CPEP CENSUS: 19
CPEP OBS: 4



Discharge Order Count | H - Hallway bed(s) in use | Level Care (All) | HOB (All) | 30 Day Readmits: 81

MEDICINE

09S - Medicine	14	16
11N1 - Inpatient	28	
11S1 - Inpatient	7	20
12S1 - Medicine	4	29
15N - Medicine	3	30
15S1 - Med Tele	2	30
16N - Medicine	1	28
17S1 - MICU	20	20
19N - Medical Oncology	1	26
19S2 - BMT (Bone Marrow Tr..)	13	16

SURGERY

08BN - Burn Unit	4	6
08W3 - SICR	19	20
09N - Surgery	2	15
09W1 - SICU	19	21
09W2 - TICR	15	15
14S - Ortho	3	23
17N - Surgical Oncology	13	21

NEURO

08W1 - Neuro ICU	13	14
08W2 - Neuro ICR	6	6
MRN - Neuro/Fam Med	5	28

CARDIAC

05CC - CICU	7	10
05CH - Card Cath IP/OP	3	
05CP - Cardiac Procedure		
05SD - Cardiac Acute Care Unit	1	24
07W1 - CTICU	9	10
07W2 - CTICR	4	14
16S - Cardiac Tele	2	13

SERVICES ON SELECTED UNIT

Selected Unit: 16S - Cardiac Tele

Cardiology Team NP	7
Medicine 9 Green	2
Medicine 9 White	2
Medicine 16 Blue	4
Medicine 16 Green	2
Medicine 16 Red	5
Medicine 16 White	4

UNITS WITH SELECTED SERVICES

Selected Srv: None

CHILDREN'S HOSPITAL

06W1 - PICU	4	10
06W2 - Pediatrics	6	17
06W3 - Peds Hem-Onc	9	9
07W3 - ADOL	3	12

PSYCH

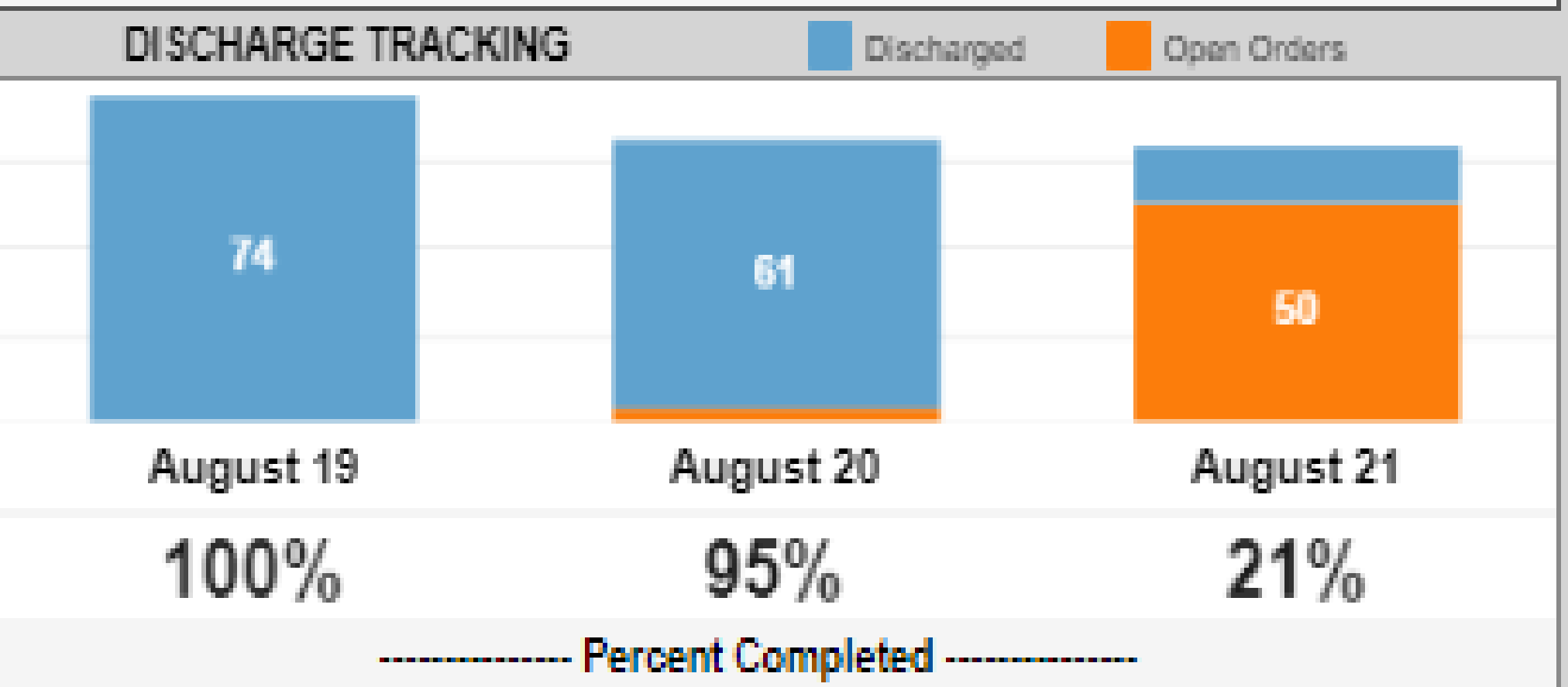
10N - Adult Psych	1	27
12N1 - Child Psych	5	10

OBSTETRICS/ NEONATAL

05EA - Antepartum	6	12
05EP - OB Postpartum	3	12
05NN - NICU	27	46
05OB - Labor & Delivery	6	
06EP - OB Postpartum	10	24

OFF-UNIT

04L3 - OR	6	
04L5 - AICU	7	
04LS - Ambulatory Surg..	1	
04PT - ED Admitted		19
ELVSH IP Transfers	5	



PUI INPATIENT MONITOR

COVID+ PUI Tot: 15
FLU/ILI: See Pt. Detail Tab

Inpatients (see Census Patient List for details)

04L5 - AICU	1
04PT - ED Admitted	1
05CH - Card Cath IP/OP	1
07W1 - CTICU	1
09W1 - SICU	1
09W2 - TICR	1
10N - Adult Psych	2
11N1 - Inpatient	2
11S1 - Inpatient	2
14S - Ortho	1
15N - Medicine	1
15S1 - Med Tele	3
16N - Medicine	1
16S - Cardiac Tele	1

Unit	+Infl	+Resp
Grand Total	1	10
MRN - Neuro/Fam ..		1
17S1 - MICU		1
16S - Cardiac Tele		1
16N - Medicine		1
12S1 - Medicine		2
11N1 - Inpatient		1
09S - Medicine		1
05SD - Cardiac Ac..	1	
04PT - ED Admitted		2

ED PUI (see Census Patient List for details) | ED PUI Tot: 0

CENSUS BY SERVICE

< Select Service to see all Units > (see Link to Pt detail)

Coron ICU	7
Gen Med Team F	2
General Surgery Red	2
General Surgery Whi..	1
General Surgery X	10
Gyn-Oncology	2
Gynecology	1
Leukemia Lymphoma..	13
Medical Intensive Ca..	20
Medical Oncology	8
Medicine 9 Blue	15
Medicine 9 Green	10
Medicine 9 White	10

Avg Daily ED Boarder Hours



Avg PACU Boarder Hours per Patient

