IMPROVING HOSPITAL THROUGHPUT & EMERGENCY DEPARTMENT LENGTH OF STAY

Presentation to the Health & Government Operations Committee

January 17, 2024

Maryland
Hospital Association

EMERGENCY DEPARTMENTS AN IMPORTANT ACCESS POINT

Hospitals Provide Care for

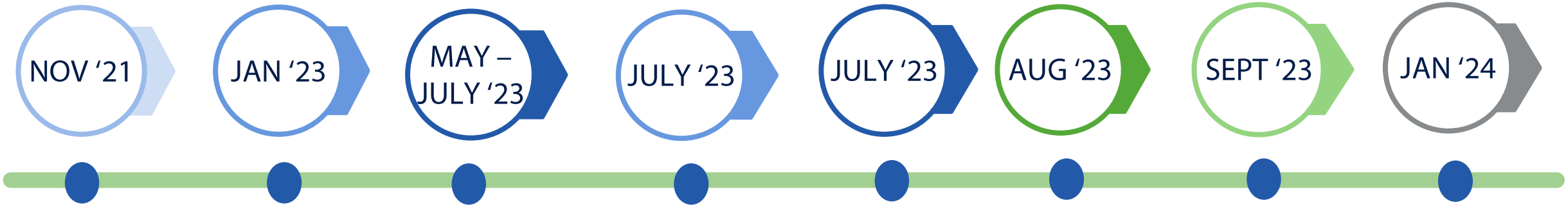
1.7 Million Patients

in Emergency Departments Each Year

=

Almost the population of West Virginia

TIMELINE OF HOSPITAL FIELD EMERGENCY DEPARTMENT WORK



MHA WORKFORCE TASK FORCE LAUNCHES

- Released workforce report in 2022

JOINMDHEALTH CAMPAIGN BEGINS

- Digital workforce campaign to grow and diversify hospital workforce

MHA ED CROWDING COLLABORATIVE

- 10-week sprint

HSCRC EDDIE INITIATED

- Monthly reporting

ED WAIT TIME TASK FORCE INITIATED

- Monthly
- Multi-stakeholder
- Output: report to General Assembly

MHA THROUGHPUT COLLABORATIVE INITIATED

- Monthly meetings through July 2024

HOSPITALS SUBMIT AIM STATEMENTS

- Aim statements submitted to HSCRC

ED WAIT TIME TASK FORCE REPORT

- Report submitted to General Assembly

STAKEHOLDER GROUP PROCESS

Membership: Representation from hospitals, physicians, emergency department nurses, post-acute care, behavioral health, post-acute care and consumers

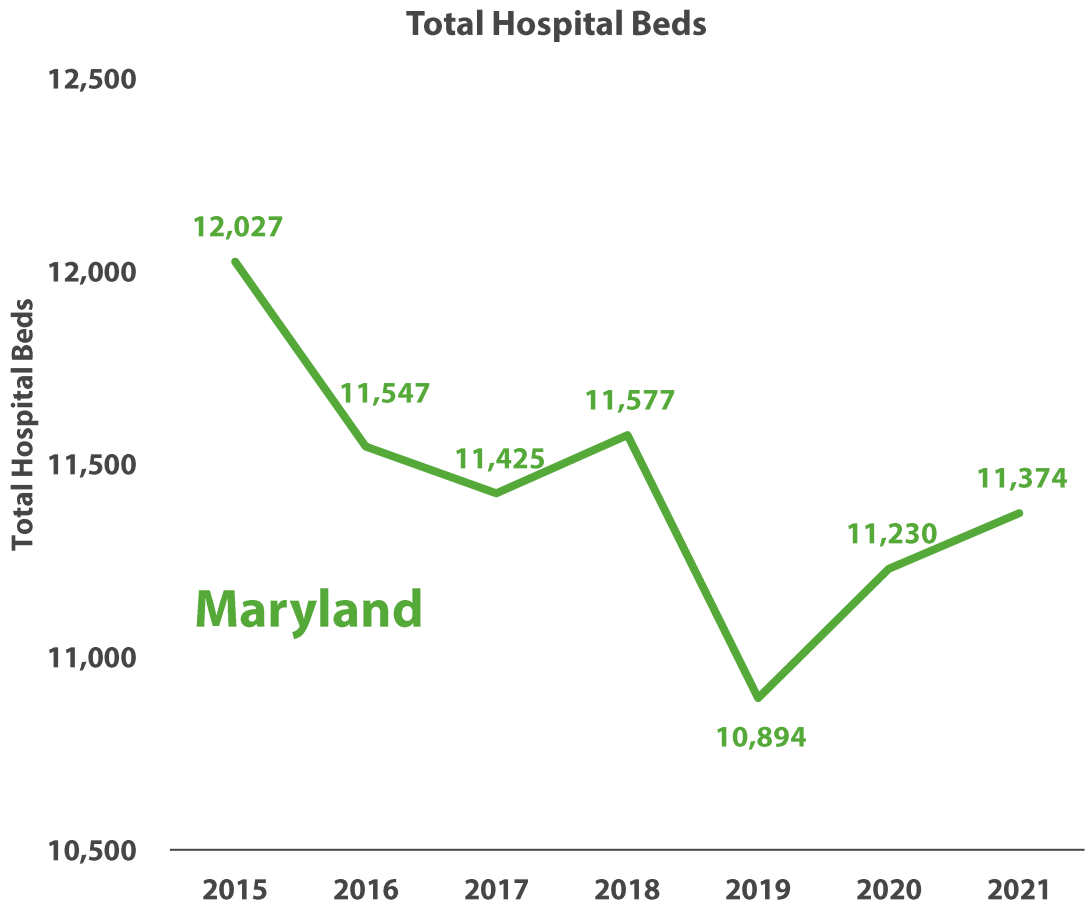
Charge: Address hospital throughput challenges that result in long wait times in Maryland emergency departments

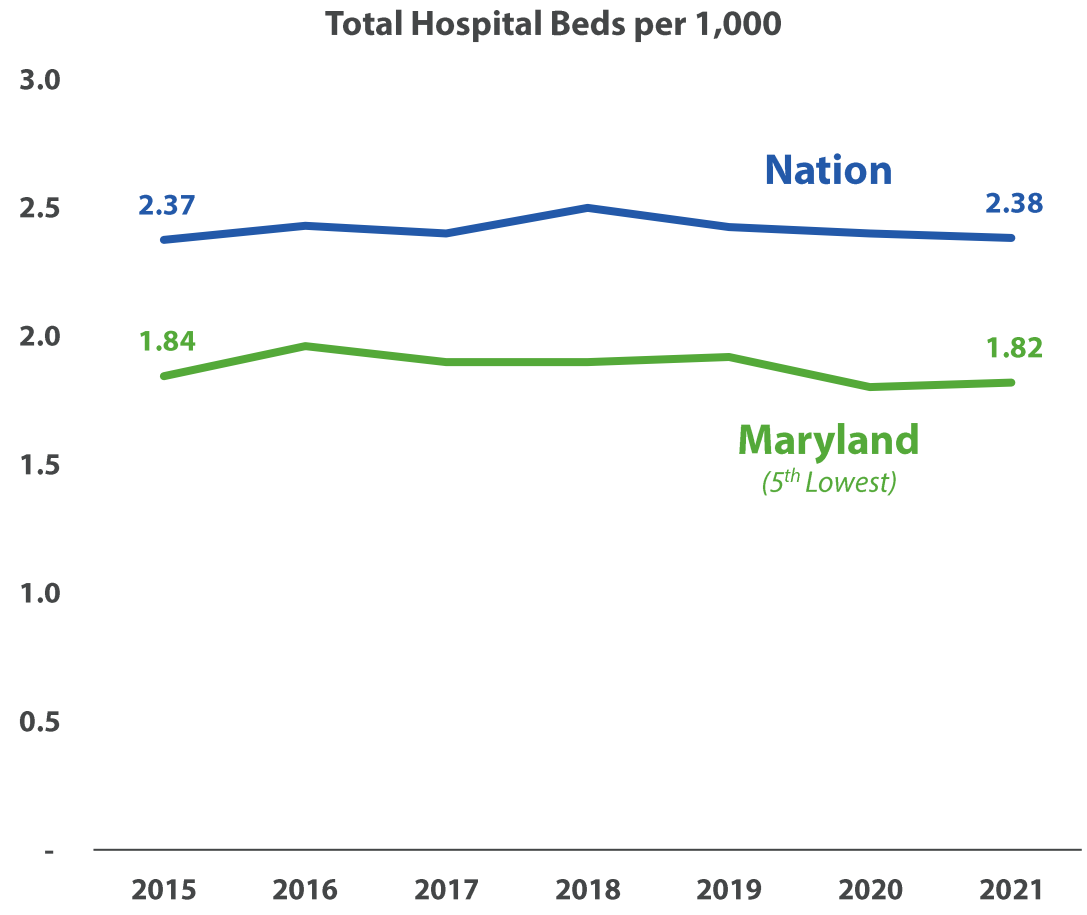
Process: Monthly, in person, meetings July-January

Stakeholder engagement: Consultant site visits to hospitals and individual stakeholder interviews

TOP ISSUES IDENTIFIED

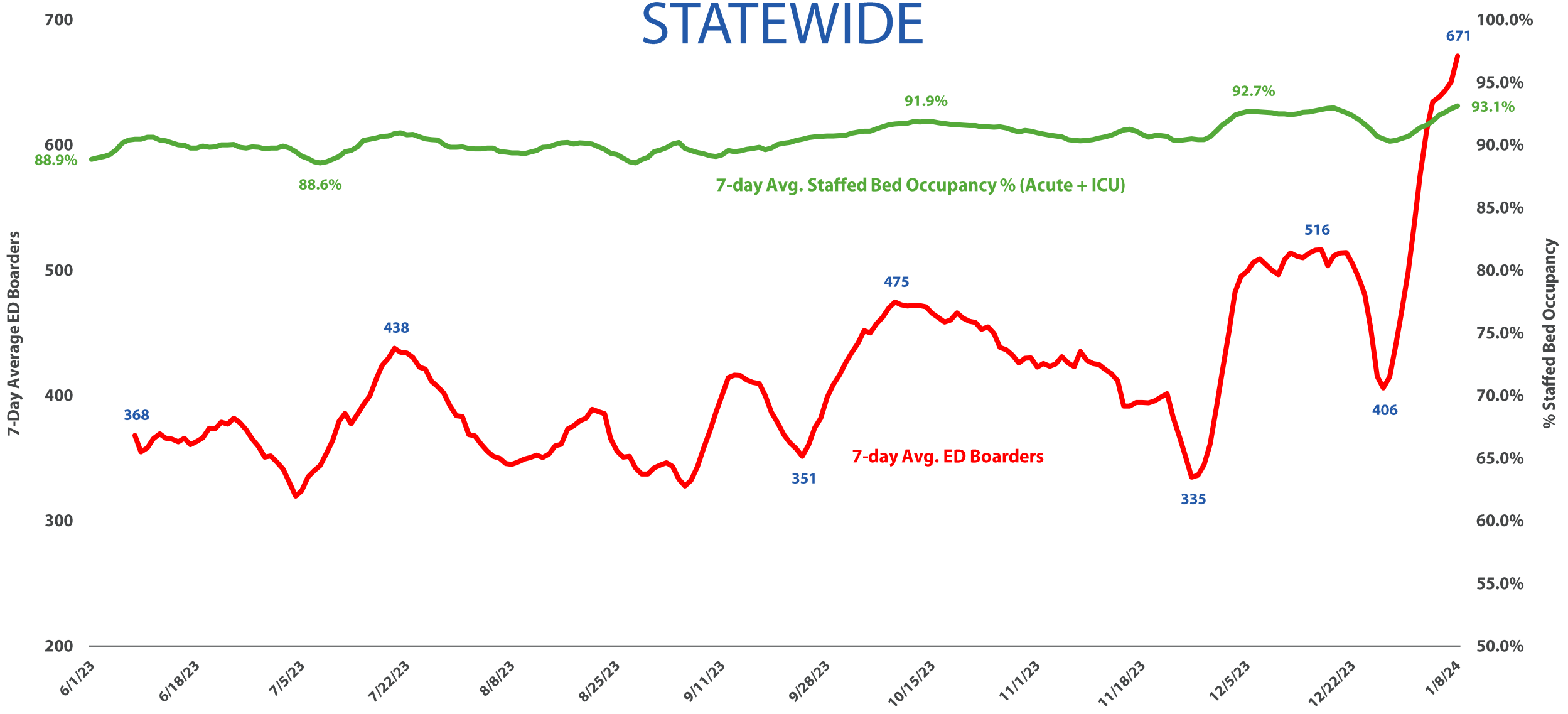
HOSPITAL CAPACITY





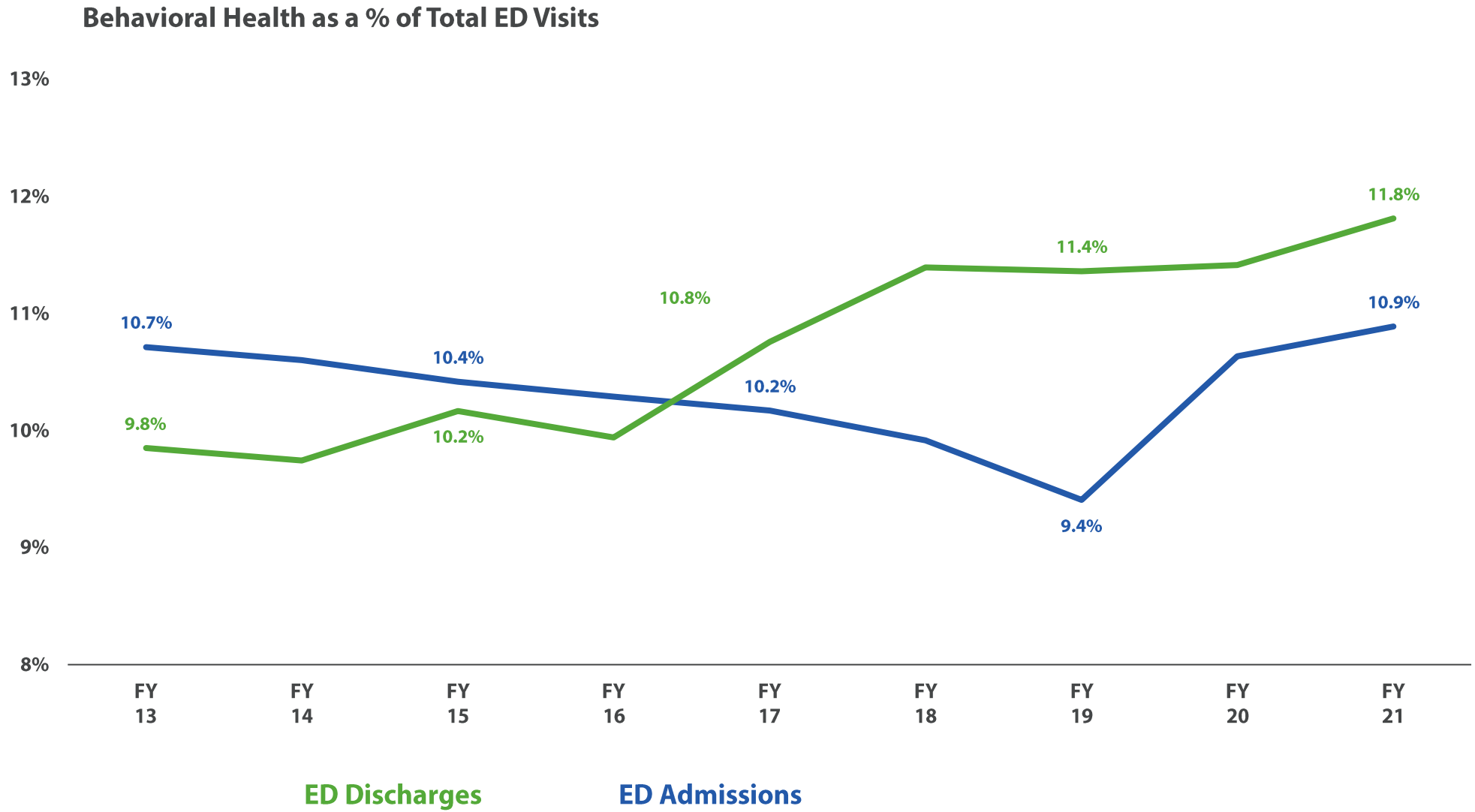
Source: Kaiser Family Foundation - Hospital Admissions per 1,000 Population by Ownership Type via 1999 - 2021 AHA Annual Survey, American Hospital Association.
Available at https://www.ahadata.com/aha-annual-survey-database and https://www.kff.org/other/state-indicator/beds-by-ownership/
Population data from Annual Population Estimates by State, U.S. Census Bureau; available at http://www.census.gov/popest/

HOSPITAL OCCUPANCY RATES AND BOARDING-STATEWIDE



Source: Maryland Institute for Emergency Medical Services Systems (MIEMSS) Facility Resources Emergency Database (FRED) Daily Survey Submission
https://reports.crisphealth.org/#report/53/1175
* Reserve beds = Available physical beds that can operate with staff added

BEHAVIORAL HEALTH VISITS AS % OF ED VISITS

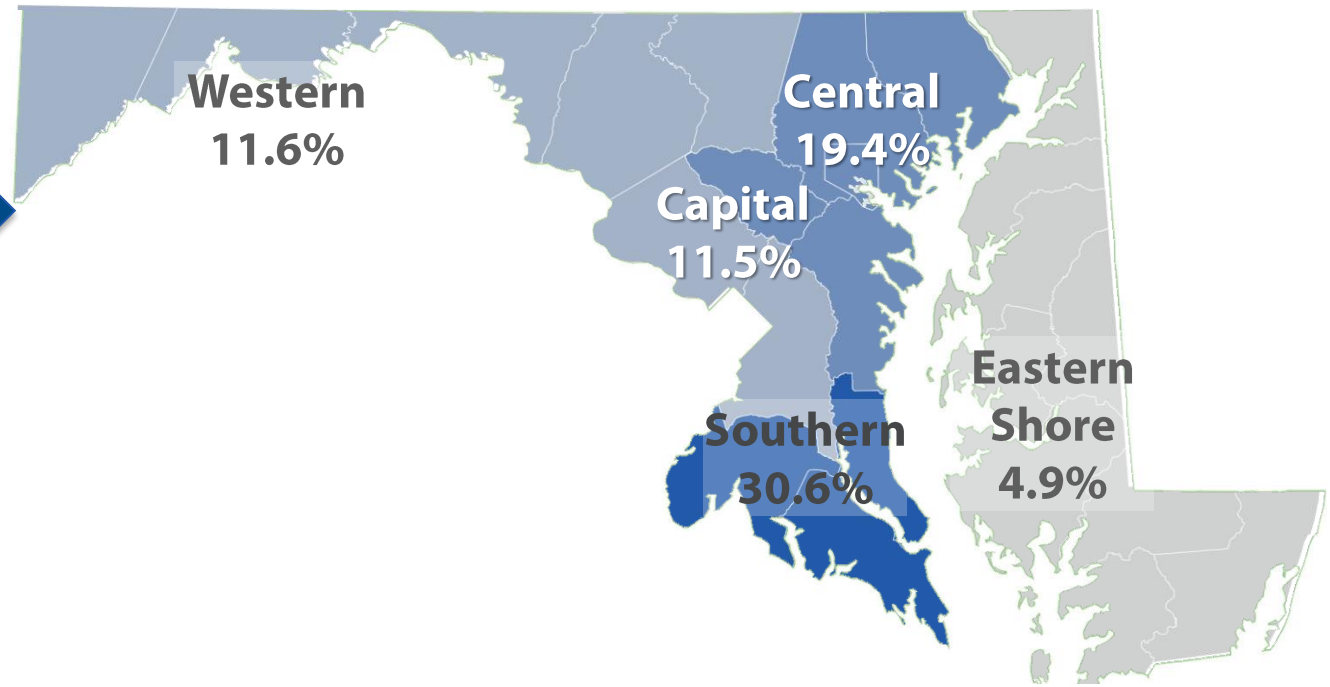


Source: HSCRC Case-Mix Abstract Data. ED Visits include both Outpatient "Treat & Release" patients as well as ED Admission patients

HOSPITAL EMPLOYEE VACANCIES – Q3 2023

Top 10 Hospital Occupations by Vacancy Rate as of 9/30/2023	
Surgical Technicians	17.8%
Licensed Practical Nurses	16.8%
Nurse Practitioner	12.3%
Registered Nurses	12.1%
Radiology Technician	10.4%
Nursing Assistive Personnel	9.9%
Laboratory Technicians	9.6%
Food Preparation Workers	9.2%
Dietitians & Nutritionists	8.9%
Overall Vacancy Rate	8.7%
Respiratory Therapists	7.8%

Registered Nurse Vacancies by Region



Source: MHA Workforce Survey – Nov 2023
NOTE: Q3 2023 data represents a 96% Survey Response Rate; 50 of 52 hospitals.

WORK GROUP RECOMMENDATIONS

Statewide Process Improvement

- Behavioral health funding
- Implement prior authorization reform
- Data tracking

Access Improvements

- Improve access for certain complex patients and insurance access
- Expand insurance access to the uninsured, including the undocumented

Workforce Recommendations

- Data collection
- Support to recruit workers to the ED

Additional Recommendations

- Model related
- Guardianship
- State supported ED commission

ED LENGTH OF STAY/ HOSPITAL THROUGHPUT RESOURCES

Learn more on MHA website

Emergency Department Wait Times and Hospital Throughput

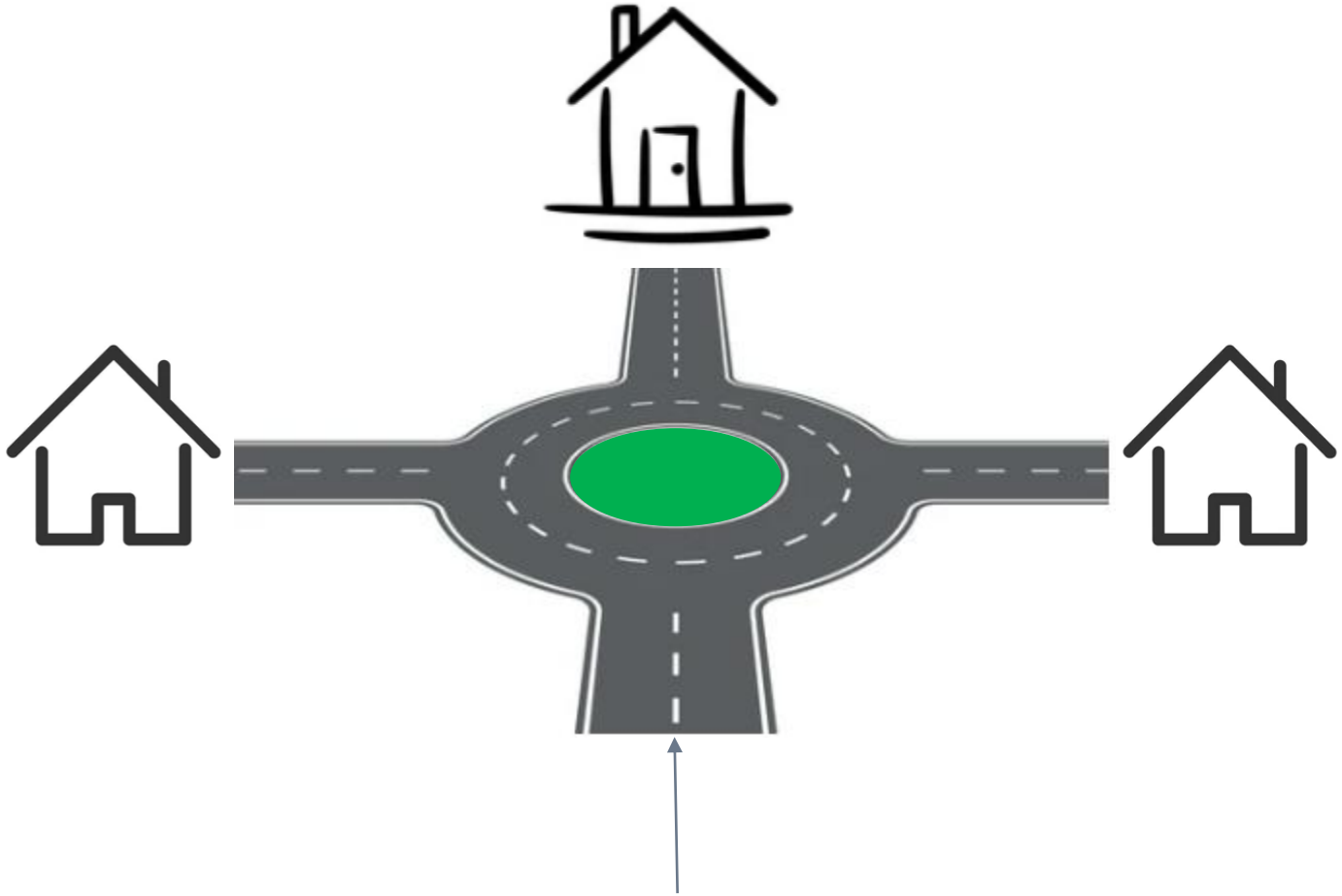
Briefing to Health and Government Operations Committee
January 17, 2024

Neel Vibhakar, MD, MBA, FACEP

Associate Chief Clinical Officer
University of Maryland Medical System

Senior VP & Chief Medical Officer
UM Baltimore Washington Medical Center

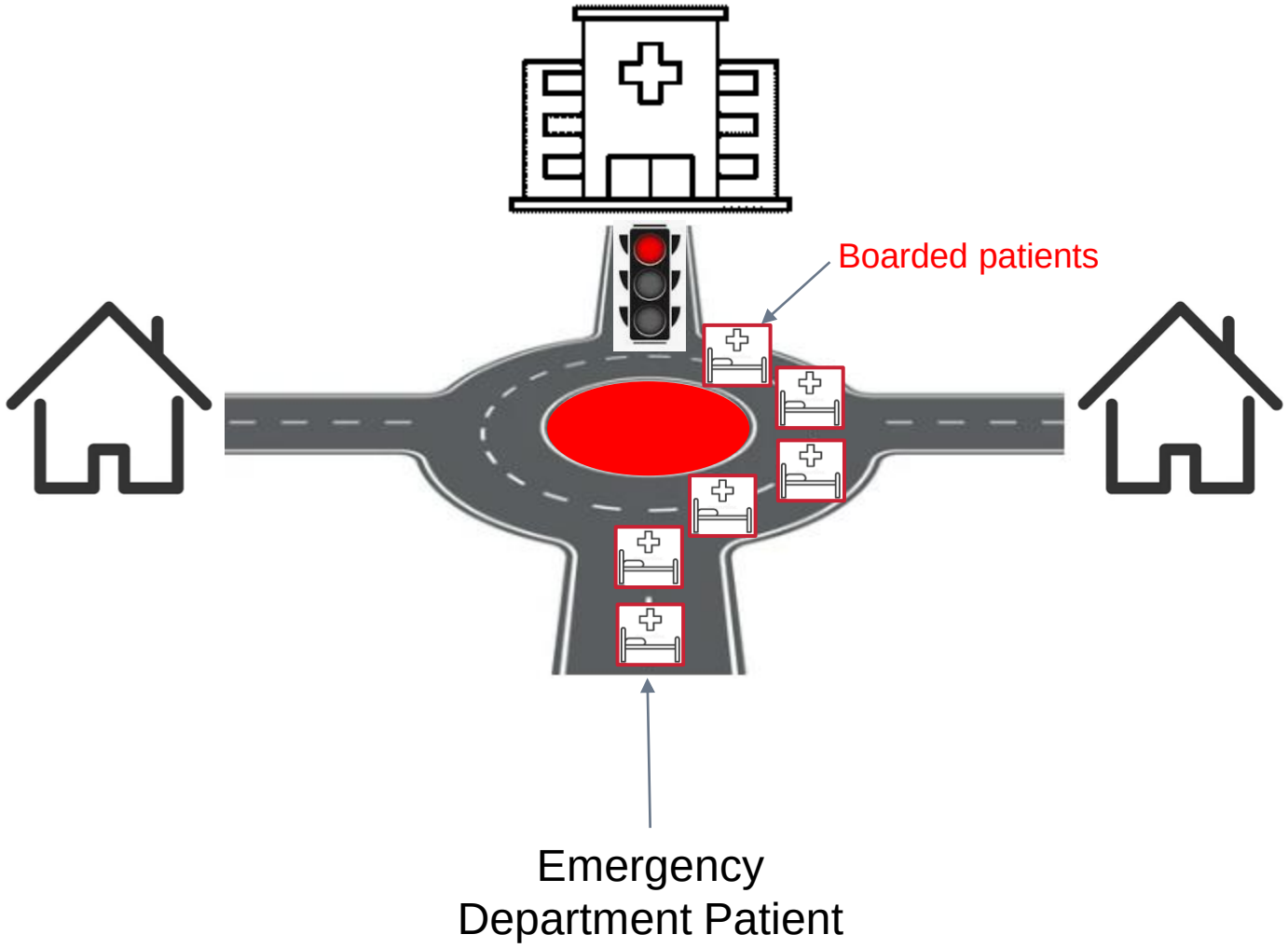
What causes Emergency Department wait times?



Emergency Department Patient

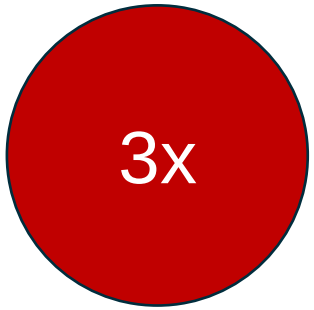
- There are minimal barriers if a patient can go home once treated in the Emergency Department
- Presuming an appropriately staffed Emergency Department, if all your patients go home, there will very rarely ever be an extensive wait time
- As a result, decreasing the volume of discharged patients has minimal impact to overall ED wait times

What causes Emergency Department wait times?

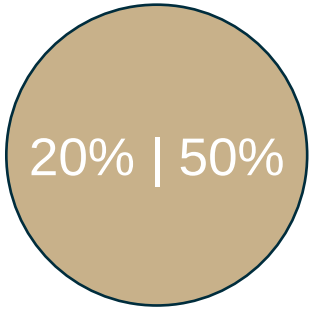


- Lack of inpatient beds causes ED beds to be occupied by admitted patients
- This then causes a back up for patients awaiting care
- Inpatient capacity is impacted by:
  - Staffing
  - Higher acuity and thereby longer lengths of stay
  - Complex social and chronic medical conditions
  - Transitions of care from the hospital

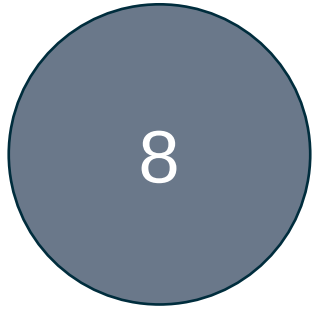
The impact of boarding patients in the Emergency Department



How much longer a hospitalized patient can stay in the Emergency Department compared to a discharged patient



Percent of Emergency Department patients hospitalized versus percent of Emergency Department beds that could be occupied by hospitalized patients



The number of discharged patients that could be seen for every 24 hours a hospitalized patient boards in the Emergency Department

Strategies to Tackle Patient Flow

Inpatient/Outpatient Interventions

Intended to create longer term solutions that address root causes of ED wait times

- Surge Response Plan
- Care Transition Rounds
- Standardizing care
- Expediting Team
- Departure Lounge
- Outpatient follow up

Emergency Department Interventions

Solutions intended to directly improve ED wait times and to increase inpatient capacity

- Vertical Care
- EMS Offload
- Enhanced ED Discharge Program
- Rapid Medical Evaluation
- Observation Medicine

The UMMS Focus on Patient Flow

State

- General Assembly Hospital Throughput Workgroup
- MHA Hospital Throughput Collaborative

System

- Surge Capacity Management Team
- ED-Hospital Throughput Summit
- ED-Hospital Throughput Steering Committee
- OP-18/EMS Transfer of Care Committee
- ED-1 Committee

Member Organizations

- Patient Flow Councils
- Emergency Department Interventions
- Inpatient Interventions
- Outpatient Interventions

System Efforts

- Working across Organizations within the System
  - ED-1 and OP-18/EMS Transfer of Care Committees share best practices across the System
  - Bi-daily report of each Hospital's capacity, staffing, and volume levels
  - Standardized Surge Response triggers and interventions

ED Surge Condition	Boarder Trigger	Response Actions Examples
ALPHA	< 20%	• Normal operations
BRAVO	20-29%	• Increased monitoring and communication between ED and Administrative Nursing Supervisors • Expedite movement of patients to Departure Lounge
CHARLIE	30-39%	• Notify Organization of Surge Condition • Shift focus of clinical support services to room turnover • Move admissions to inpatient unit regardless of time
DELTA	40-49%	• Electronic reports to units, inpatient staff pulls patients up to units • Reallocate staffing resources to help with movement of patients upstairs
ECHO	> 50%	• Utilize administrative staff to support clinical units, cancel meetings • Consider reducing ambulatory visits and redeploy ambulatory staff • Alternate use of PACU, halt or redistribute surgical load • Contact Access Center for transfer to other facilities

One Hospital's approach…

The Moonshot

Create 30 beds of capacity by June 30, 2024

By December 31, 2023, 80% of all inpatient nursing units will have insulin teaching kits (without expiration dates) to deliver expanded insulin administration education when diabetes educator not available.

By December 31, 2023, 4 West will facilitate patient throughput by discharging 1 patient per day to the Departure Lounge

By January 1, 2024, will achieve 80% compliance rate of foot exam documentation in Care Gaps for patients presenting for office visits with a diagnosis of DM over the next 12 weeks.

By December 31, 2023, the 5W team will facilitate patient throughput by discharging 12 patients per week to the departure lounge.

By December 31, 2023, the Peri-anesthesia Depts will reduce the number of surgical patients requiring an IP bed by identifying 2 patients each day that meet criteria to stay in the PACU overnight for next day discharge. Our ability to do so would be impacted by more than 1 boarder remaining in PACU as that would give the 2 RN's 3 patients and still allow them to take OR cases

By December 31, 2023, the Rehab team will participate in rounds on 5S and 7W to reduce the number of same day escalations/inappropriate orders by 10%.

By November 1,2023, the Hospitalist and GI team will implement a co-management framework that will decrease the LOS for GI related diagnoses by 15%.

By December 31, 2023, 6 West will increase the number of patients discharged to the departure lounge to 20/month

By January 1, 2024 the PCU/8west team and our Dyad physician group will redesign the process for the need for home O2 requests by decreasing the ordering process for walking pulse by 10%, and decrease the time of home O2 order to discharge by 10%

By December 31, 2023, Cardiology will begin oral medication conversion for atrial fibrillation as soon as the patient is stabilized (not the following day) with the goal to reduce the patient's length of stay by 1 day.

By December 31st, the OR will create a process to prioritize ED patients who present with gallbladder symptoms requiring surgical intervention . By doing so, we aim to facilitate same-day discharge, which can help decrease gallbladder admissions by 25%.

By December 31, 2023, the Department of Psychiatry will establish time frames for admissions to provide patients with the necessary treatment in a safe environment and to reduce admission wait times by 20%

By November 1, 2023 BW Heart Associates will add a CHF Physician Assistant to join and collaborate with the current CHF Nurse Navigator, the TCC and Population Health to expand the CHF Program. This will allow discharged CHF patients to be followed up post discharge to prevent readmission.

By December 31st, 2023, the population health and infections disease teams will reduce IV antibiotic utilization and facilitate transfers to the post-sepsis clinic to achieve a 7.5% reduction in sepsis length of stay.

By December 31, 2023 Vascular Surgery Department will have 50% increase in the number of vascular patients discharged by noon.

By December 31, 2023, tje Radiology Team will work collaboratively to reduce Radiology Turn-around Times (Time study ordered to Time Report Finalized) by 10%.

By December 31, 2023, the nutritional services department will improve compliance of cart arrived on unit times by 20%.

By December 31, 2023, the Cardiac Cath Lab team will reduce the inpatient length of stay for Pulmonary Mechanical Thrombectomy patients with a target of discharge of less than 48 hours post-procedure

By January 5, 2023, orthopedics, anesthesia and medicine will implement a guideline for obtaining preoperative cardiology consults for hip fracture patients to align providers and decrease delay to surgery

By December 31, 2023, 7 West will increase weekly utilization of the departure lounge to 10 patients per week.

By December 31, 2023, will implement a process to utilize the departure lounge during OB Capacity of Charlie or above to create a 10% increase in MBU bed capacity.

By December 31, 2023, 4 South will facilitate patient throughput by discharging 2 patients per day to the departure lounge 5 days per week.

By December 1, 2023, the population health, Transitional Care Clinic, and cardiology teams will implement a high-risk CHF team to reduce CHF readmissions by 10% and reduce cardiac PQI admissions by 10%.

By December 1, 2023, ICU and IMC will be prepared to open 2 additional beds in 2 South and 4 additional beds in 2 West with current budget and staffing when ICU and IMC patient census increases.

By April 1, 2024 the ED will reduce EMS Turnaround Time by 10% through the creation of a Rapid Ambulance Evaluation (RAE) Model

By December 1, 2023, the vascular service line will commit to a 50% increased utilization of the Departure Lounge for all appropriate patients and develop process to allow direct admits from the Vascular Center

By November 1st, 2023, the population health and pulmonary care teams will implement a post-sepsis clinic to reduce sepsis readmissions by 10% and infection readmissions by 10%.

By November 1, 2023, the laboratory team will transport all blood products to the floors reducing wait time by 50% and removing approximately 300 transport runs per month.

By December 31, 2023, Pediatrics will implement a Pediatric Stabilization process to reduce Inpatient to ED transfer by 90%.

By November 1st, 2023 the primary care team will implement a Saturday virtual clinic to reduce PAU admissions by 1 per session.

By January 5th, 2023, the ED, orthopedics and radiology will implement a standard reflexive x-ray series for patients identified with hip fracture to decrease time to admission by 10%.

By December 31st, 2023, Care Management will implement an improved SNF referral process to promote patient flow by reducing SNF acceptance delays. Care Managers will place 6 initial SNF referrals followed by blanket referrals (if no accepting facility) to reduce admission time, length of stay, and Avoidable Days.

By December 31, 2023, 95% of all qualified early mobility vascular patients will have post op orders placed for early ambulation with PCT and or mobility tech at Post OP day 0.

By December 31 2023, the Decentralized Pharmacy team will review and recommend formulation and/or timing changes to antibiotic orders if appropriate to facilitate quicker discharge in 50% of patients discharged from med/surge floors with regularly rounding pharmacists.

By November 1, 2023, Infection Prevention will have a process in place, with Nursing Department partnership, to decrease temporary central line and internal urinary catheter device days and utilization by 10%.

By December 31, 2023, the Facilities Engineering Team will implement an automatic electronic notification system to notify the EVS/Bed Flow of room closures and re-openings 100% of the time.

By December 31, 2023, will increase the percentage of times we meet the goal of cleaning discharge turnover of less than 60 minutes from 87% of the time in FY24 QI to 96% in FY24 Q2.

By December 31, 2023, develop/design a process to ensure timely evaluation and disposition (60 minutes) on 75% of OB patients presenting to the ED that are eligible for transfer to L&D

By July 1, 2024, the ED will decrease arrival to departure time for discharged patients by expanding the RME process to 7 days a week and decreasing departure disposition to depart time, to result in a total 15% reduction in time.

By January 5, 2024, orthopedics and anesthesia will implement an institutional guideline for timing for hip fracture surgery for patients on anticoagulation to decrease time to surgery by 12 hours for this subset of hip fracture patients

Moving the Needle Locally…

UM Baltimore Washington Medical Center

- Implemented an **Expediting Team and Departure Lounge program** to address delays in discharge
- Initiated a **Rapid Medical Evaluation** process in the Emergency Department

Since implementing interventions:

- 24% Improvement in earlier discharges
- 51% Reduction in ED Left Without Being Seen

UM Charles Regional Medical Center

- Developed a **split-flow care model** in Emergency Department to facilitate care of the discharged patients
- Partnered with EMS to improve **offload times**

Since implementing interventions:

- 12% Improvement in EMS turnaround times
- 33% Reduction in ED Left Without Being Seen

Moving the Needle Locally…

UM Capital Region Health

- Implemented local **Surge plan** interventions
- Created an **Expediting Team** to help address barriers for discharge

Since implementing interventions:

63% Improvement in discharges prior to noon

UM Shore Regional Health

- Implemented nurse-driven protocol to facilitate **telemetry usage** reduction
- Revamped **patient and transition rounding** on the inpatient units

Since implementing interventions:

33% Reduction in time waiting for an inpatient bed in October and November 2023 compared with baseline

32% Reduction in telemetry utilization in November 2023 compared to August 2023

Moving the Needle Locally…

UM St. Joseph Medical Center

- **Dyad physician/nursing partnerships** across Organization to lead length of stay initiatives within their division/department
- Utilized **predictive modeling** to better predict discharge readiness

Since implementing interventions:

- 0.4 — Reduction in Length of Stay
- 40% — Reduction in ED Left Without Being Seen

UM Upper Chesapeake Medical Center

- Implemented an **Enhanced ED Discharges** program
- Recently opened a **Departure Lounge** for patients awaiting discharge home

Since implementing interventions:

- 33% — Reduction in the number of observation patients requiring hospitalization

Moving the Needle Locally…

University of Maryland Medical Center – Downtown and Midtown Campuses

- Created a real-time process that expeditiously resolves barriers for patients requiring **Skilled Nursing Facility transfer**
- Implemented a **Vertical Care process** within the Emergency Department to optimize evaluating and managing patients who can potentially be discharged
- New **EMS offload process** initiated to reduce EMS transfer of care delays

Since implementing interventions:

35% Reduction in EMS Offload times at UMMC Downtown Campus

45% Reduction in ED Left Without Being Seen at UMMC Midtown Campus

Next Steps

- Continued focus on creating inpatient capacity through reductions in length of stay
- Ensure safe and timely follow-up when transitioning care to home
- Continue with Emergency Department interventions to treat and discharge patients efficiently from the ED
- Partner with Post-acute care facilities to improve transitions of care and to reduce potential readmissions to the Hospital