THE UNIVERSITY OF CHICAGO
UChicago Medicine
Center for Healthcare Delivery Science and Innovation

Putting the Puzzle Together: Implementing Unit-Based Co-Location For Hospital Medicine in Mitchell Hospital

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PROBLEM

- As the largest admitting service at UCMC, efficient throughput on Hospitalist Medicine (HM) teams is integral to ensure there is capacity to serve patients requiring inpatient care.
- While we need to ensure timely access to care, the process of placing patients admitted to the HM services in any open bed regardless of unit generates an extensive footprint for hospitalists to cover daily to care for their patients.
- This extensive travel limits the hospitalist's time spent caring for patients and ability to build relationships with core care team members (e.g., nursing, care coordination).
- Co-localization of patients allows the care team to work together by removing distance and travel time between patients.
- Proximate co-location facilitates: improved efficiency and productivity, increased communication and collaboration to advance the patient's care and discharge plan, and enhanced ease of practice and job satisfaction.
- Co-location was a key workstream for improving Clinical Length of Stay (LOS) at UCMC in FY23. HM was a priority section for improved co-location due to their size and capacity.

GOAL

- We set out to implement co-location for all HM teams, beginning with General Medicine. Our goal was to develop and implement a col-location plan for all Hospitalist General Medicine teams by December 30, 2022.

STRATEGY

<u>Approach:</u> A Plan-Do-Study-Act quality improvement structure with continual feedback and process improvement mechanisms were utilized to support the implementation and continued maintenance of HM co-location.

Planning

- An initial co-location proposal was drafted using multiple data inputs, including an evaluation of HM daily census (threshold: 75th percentile capacity) in conjunction with maximum number of patients served by the HM team-based structure and patient admitting structure (Figure 1).
  - ➢ This ensured the HM teams would have a sufficient number of beds on primary co-located units.
- An overflow plan with secondary and tertiary units were also identified, aligning co-location to primary floor (Mitchell 5) then primary hospital (Mitchell), to keep co-location of patients as proximate as possible while also facilitating timely access to inpatient care.

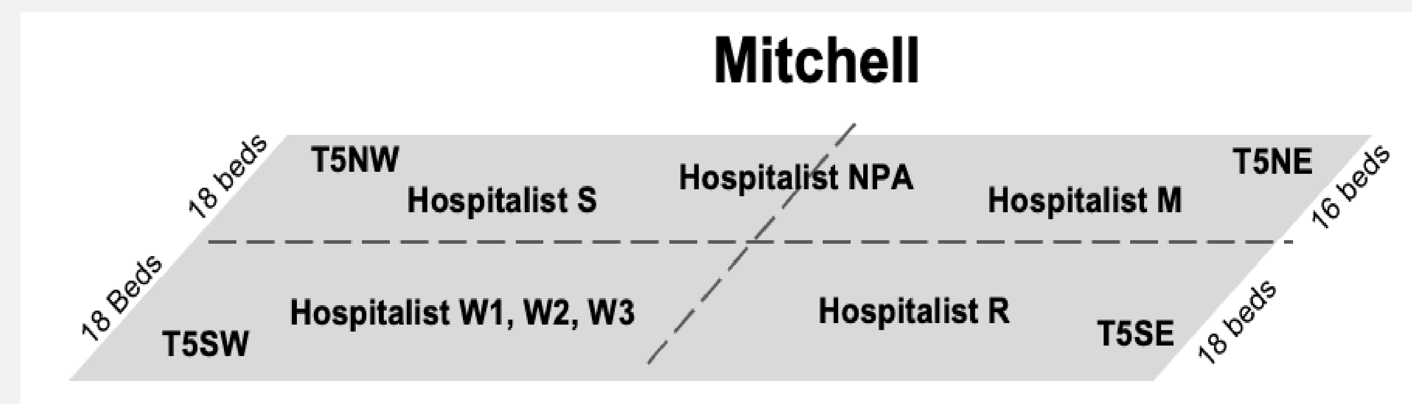

Figure 1. Visualization of co-location plan for pairing HM teams to 4 units on Mitchell 5

- Executive Hospital Leadership (including System COO, System CNO, UCMC CMO, UCMC COO, VP Clinical Excellence) provided strategic oversight and approval of the HGM co-location proposal.

Implementation

- This proposal paired HM teams to the 4 units on Mitchell 5 that would be executed in 2 phases:
  1. <u>Pilot Phase</u>: 3 teams (M, NPA, S) were assigned to 2 units (T5NE, T5SE)
  2. <u>Expansion Phase</u>: 2 teams (W, R) were assigned to 2 units (T5SE, T5SW)
- ➢ During each phase, there was a 2-week run-in period where we utilized natural attrition through discharges to facilitate co-location of newly admitted patients to the primary unit of the assigned HM team. Additionally, optimized multi-disciplinary rounds (MDRs) were implemented.

Evaluation

- To evaluate the impact of the HGM co-location, Clinical LOS, Observed-Expected LOS, Average Daily Discharges, and Patient Experience scores were identified as key outcome measures.
- A target of 80% of patients placed on the HGM team's primary unit was set as an indicator of effective co-location.
- During the first 4 months of HGM co-location implementation, daily census (Monday-Friday) was utilized to evaluate what percent of patients were placed on the HGM team's primary unit, floor, and pavilion to monitor effectiveness and identify opportunities to advance processes; ongoing evaluation of effectiveness continues (*see Impact section*).

IMPACT

- Through the implementation of HM co-location to Mitchell 5, we were able to decrease the overall geographic footprint of the HM teams to primarily 4 units in Mitchell hospital. This process happened over the course of 5 months (Figure 2).

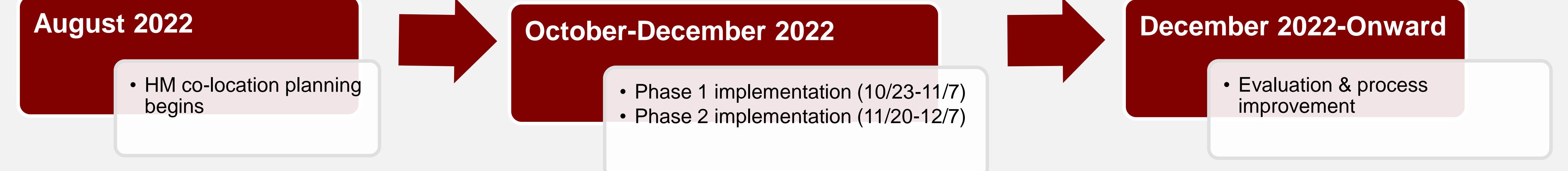

Figure 2. Overall HM co-location timeline

- **Multiple tools were developed to support maintaining co-location of HM teams:**
  - ➢ Daily huddles and Epic Secure Chat between the Triage and Bed Access teams.
  - ➢ Triage dashboard in Epic that provides real-time data on census, bed availability, admission requests.
  - ➢ Tableau dashboard to review and monitor HM teams' co-location performance (Figure 3).

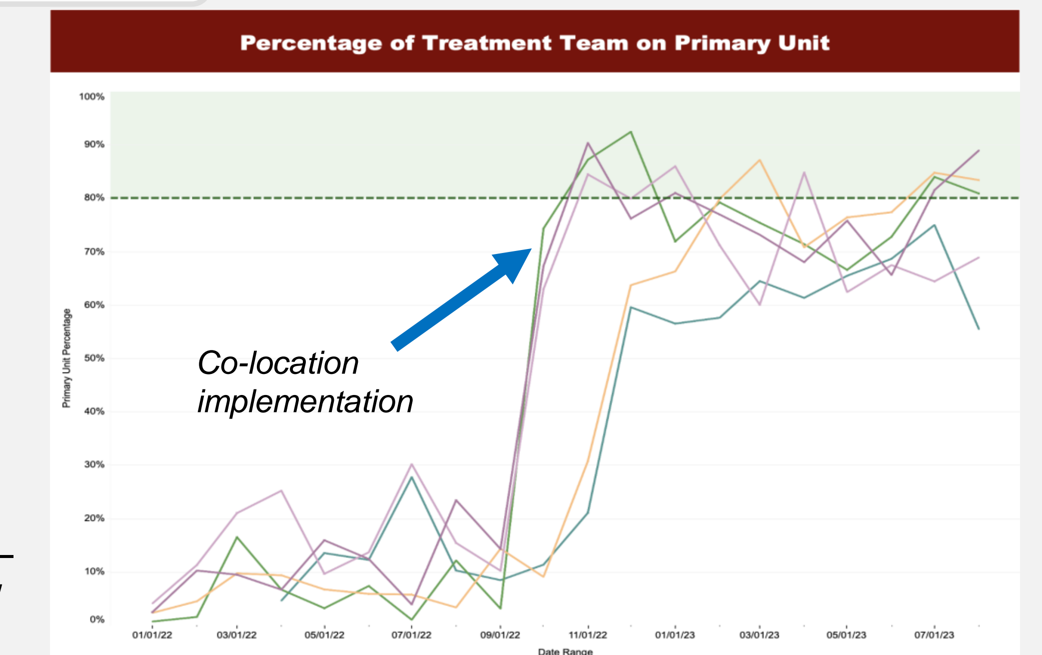

Figure 3. Co-location effectiveness dashboard—Teams M, NPA, S, R, & W

- **Results of HM co-location:**
  - We completed an analysis comparing pre- and post-implementation performance (December 2021-August 2023).
  - Co-location has driven improved performance consistently across all 3 key measures for HM teams co-located to Mitchell 5.
    - ➢ Clinical LOS (Fig. 4) and Observed-Expected LOS decreased (avg. decrease of 8.99% and 15.37%).
    - ➢ Discharge Volumes Per Day, an indicator for throughput, increased (avg. 76.43%).
  - For Patient Experience, improvements on questions tied to communication were seen post-implementation (Figure 5).

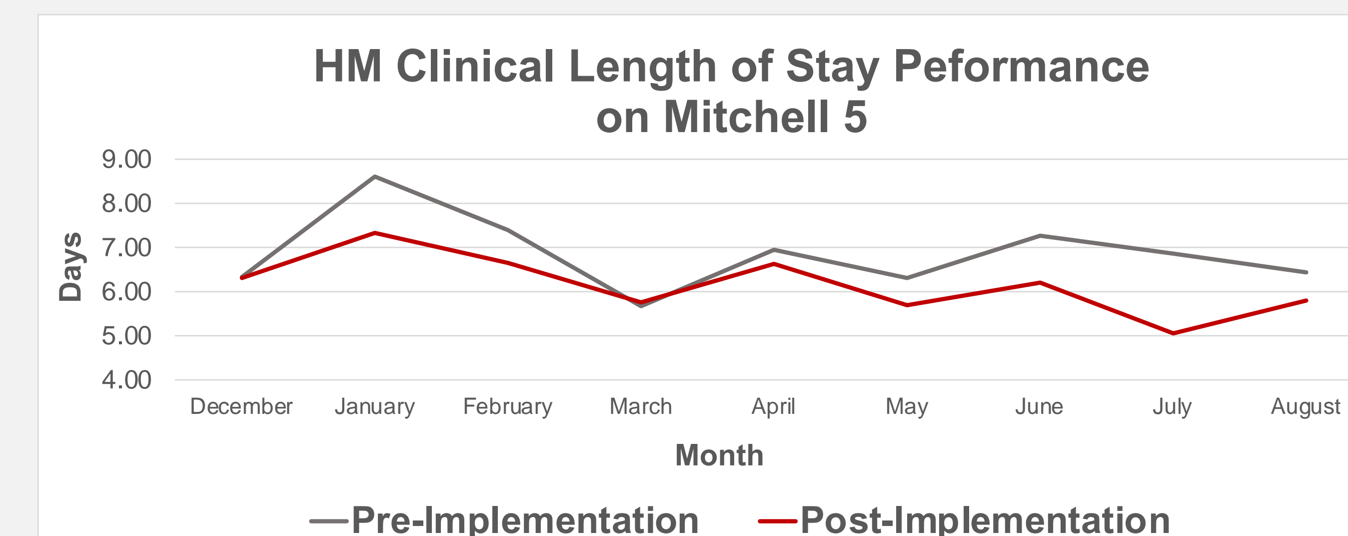

Figure 4. Post-implementation impact on Clinical LOS Performance

Adult Inpatient Patient Experience

Category	Question	Calculation	Desired Direction	Baseline	Performance
HCAHPS: RN Communication	During this hospital stay, how often did nurses listen carefully to you?	Percent Top Box	UP		
	During this hospital stay, how often did nurses explain things in a way you could understand?	Percent Top Box	UP		
HCAHPS: MD Communication	During this hospital stay, how often did doctors listen carefully to you?	Percent Top Box	UP		
	During this hospital stay, how often did doctors explain things in a way you could understand?	Percent Top Box	UP		

Figure 5. Patient Experience: RN & MD communication questions

CONCLUSIONS & NEXT STEPS

- *Co-localization of the HM teams has been sustained almost a year following the planning and implementation activities.*
- The improvement on the key LOS measures indicates that creating closer proximity for HM teams to their patients can led to greater efficiency in care, in turn allowing for increased inpatient capacity and access.
- Next steps include exploring opportunities to: 1) develop a revised co-location strategy that adjusts for varying census on teams outside of HM to accommodate seasonal trends in patient populations and 2) manage co-location daily, including how and where to overflow patients and potential transfer of patients to their care team's primary unit if a bed is unavailable at time of admission.

Acknowledgements

- We would like to acknowledge the Triage Attendings and Bed Access team, who help drive co-location every day.