CSU The California State University
DOCTOR OF NURSING PRACTICE

Using Bed Ahead to Improve Utilization in a Progressive Care Unit

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Background

- Emergency Department (ED) overcrowding is a serious problem that is exacerbated by ED boarding
- ED boarding occurs when hospitals do not have enough inpatient beds for admitted patients
- ED overcrowding leads to increased patient mortality rates and poor patient care
- Bed assignments are one variable that impacts ED overcrowding
- Bed assignment is a challenging and complex process

Purpose

The purpose of this project was to develop and implement an evidenced-based bed ahead process that ensured patients in the ED needing a PCU level of care were assigned a bed with minimal ED boarding time

Setting

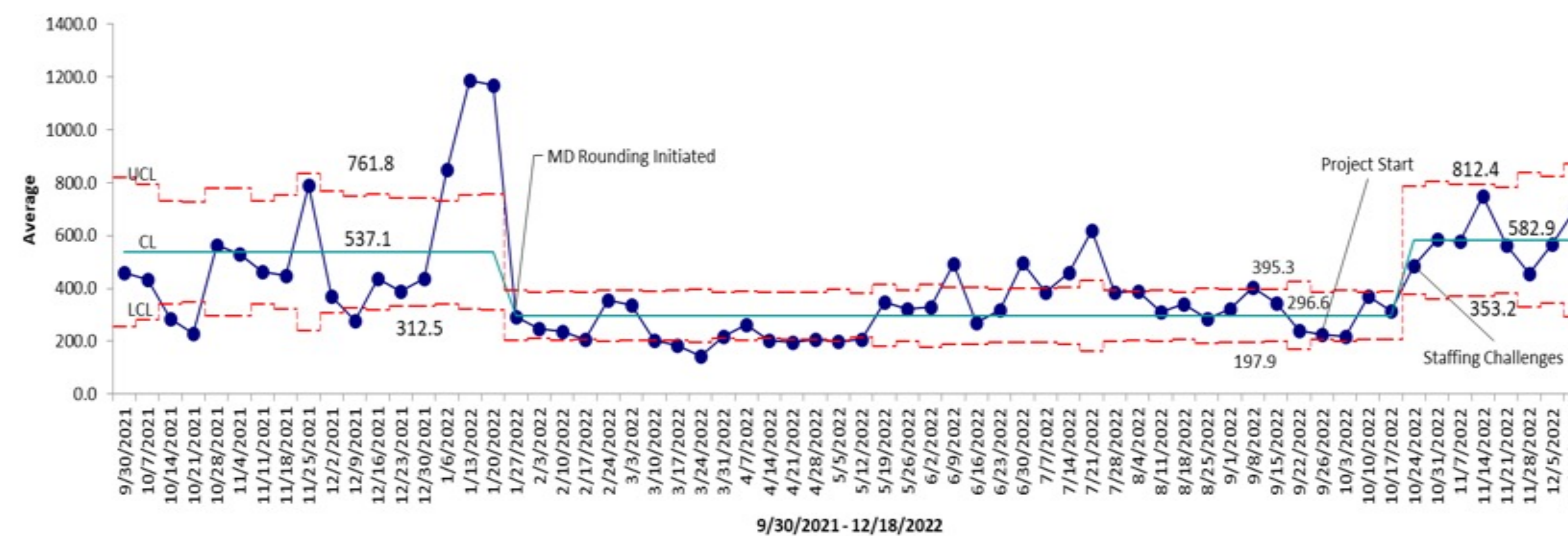
- Large urban public tertiary hospital located in Los Angeles, CA
- Level One Trauma Center - serves approximately 170,000 ED patient visits per year – 600-bed hospital
- 30 PCU beds divided into 3 PCU locations
- All adult (age 18-99+) patients with admission orders to PCU from ED

Methods

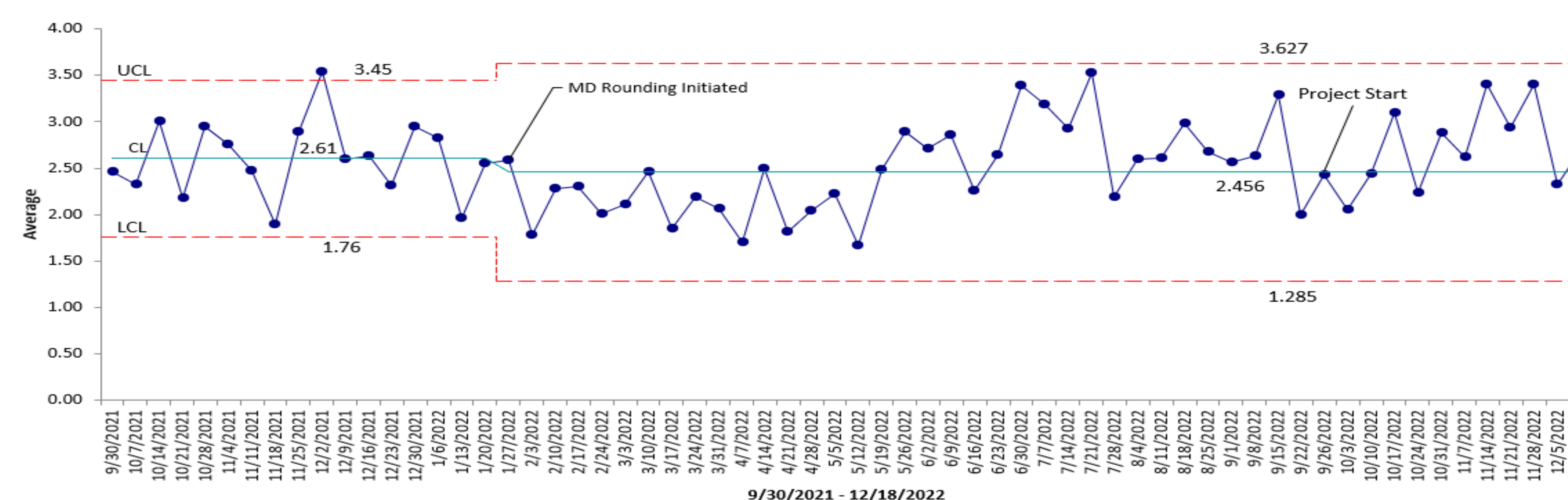
- Quantitative Pre-Post Design
- Utilized the Iowa Model Framework
- Data Collection: bed request to bed occupy time; PCU LOS; and daily check of PCU bed availability;
- Pre-Implementation data – Sept 30, 2021 Sept 25, 2022
- Educational/ Training session Sept 12, 2022
- Bed Ahead Process project introduced Sept 26, 2022

Results

Bed Request to Bed Occupy Time Aggregate



PCU LOS Aggregate



Bed Ahead Process for Patient Flow Managers

Process	Staff
Team:	Patient Flow Managers Team Lead
True North:	To ensure patients are placed appropriately in the right place and right care as soon as possible.
Purpose:	Implement a bed-ahead process that ensures patients needing PCU-level care are expeditiously assigned a bed with minimal emergency department boarding time.
Bed Ahead:	The intention of bed-ahead is for inpatient units to be able to anticipate the admission of incoming patients and have a bed available before needed.
Why:	By establishing an always-available PCU bed, we can: 1. Reduce patient LOS in DEM 2. Decrease mortality 3. Increase patient safety 4. Increase patient satisfaction 5. Decrease patients LWBS
Focus:	By being proactive and engaged in the patient flow process, the PFMs could play an active role in utilizing available resources and improving the overall patient flow for the organization.

NUMBER	WHAT	WHO
1.	Round in all PCUs (4M, 5F, and 8B) every 12 hours (2X a day) at 10:15 and 22:15	Patient Flow Managers
2.	Identify downgrades, upgrades, and discharges (DUD) in the PCU unit	PCU Charge RN
3.	Round and inform identified DUDs	Patient Flow Managers + PCU Charge RN
4.	Follow up with primary teams regarding identified downgrades (Call number posted on patient's door)	Patient Flow Managers
5.	If there is no response from the primary team (greater than 20 minutes), the PFM will contact the critical care medical director (CCMD) during the DAY, and the Teams Attending on service during the NOC	Patient Flow Managers
6.	CCMD will contact primary team regarding identified downgrade(s) - **DAY**	CCMD - **DAY**
7.	*Attending on service will contact primary teams regarding identified downgrade(s) – **NOC**. For Internal Medicine Teams, please go to AMION for NIGHT Nocturnist (may vary daily for NOC)	*Attending on service - **NOC**
8.	If there is no response from the primary team, the CCMD/Attending on service will place an order for downgrade. The primary attending/service chief and CMO will also be notified.	CCMD/*Attending on Service
9.	Record and track PCU bed availability every day at noon on an excel spreadsheet	Team Lead

*This may be subject to change

Data Findings

- The mean bed request to bed occupy time was 582 minutes post implementation. The mean was greater by 285 minutes compared to pre-implementation data
- The mean PCU LOS was 2.5 days post implementation. No change noted.
- 55 out of 84 days, 65%, with a bed or beds available in the PCU by noon

Discussion

- Staffing shortages resulted in bed closures
- Demand for beds were consistently high in the ED
- MD rounding resulted in positive effect on reducing ED boarding time and LOS
- Heightened awareness in optimizing hospital patient flow
- Increased in communication between PFMs and PCU RNs may have helped identify patient who no longer need PCU bed

Limitations

- National shortage of nurses led to bed closures
- Decrease generalizability: One organization
- Data only collected once a day; need to collect more data
- Some PFMs continued to rely on intuitive sense of patient flow; reluctance to accept process change

Recommendations

- A review of bed availability should be done to determine if times should be adjusted or continued
- Patient Flow Leadership Team should review findings
- Further analysis of MD rounding should be examined

Conclusion

- Patient flow is not solely the responsibility of one department but a system problem
- Communication and interprofessional relationships increased between PFMs and PCU RNs
- A confounder to this project was staffing shortages
- Positive feedback from leadership

References