



Dashboard to optimize bed utilization resource allocation and capacity planning within HD/ICA wards

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INTRODUCTION

Current methods for managing bed allocation in HD/ICA wards often rely on outdated or decentralized data sources. This lack of real-time information can lead to delays in patient placement, frustration for staff, and ultimately, a less efficient healthcare system. This project seeks to develop an innovative solution to address these issues.

Stakeholders in this initiative include nurses, administrators and doctors from multiple clinical divisions, Bed Management Unit (BMU), Synapxe and Clinical Governance & Quality of SGH.

METHODOLOGY

1 Needs assessment was conducted to understand the current challenges and workflow related to bed allocation within HD/ICA wards.

2 Based on the findings, we designed a real-time BOR dashboard tailored to the specific requirements of HD/ICA wards and developed an overflow sequence. The focus was on user-friendliness, ensuring staff can quickly access and utilize the data for efficient bed allocation.

4 The implemented BOR dashboard is continuously monitored to assess its effectiveness in improving bed allocation efficiency. Data collected is analyzed, and user feedback will be incorporated to ensure the system remains optimized and meets the ongoing needs of the hospital.

3 Before full-scale implementation, we conducted a functionality test to gather user feedback, for refinements.

SGH Campus HD/ ICA Availability for Medical Wards

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HD/ ICA	Ward	Bed in Service	BOR	Available	Occupied	Cleaning	Pending Transfer In	Pending Transfer Out	Closed
NES	52B	9	89%	1	8			3	
RENAL	65	10	70%		7		3	4	
MED RCCM	45C	10	90%	1	9			2	
NEM	74	10	30%	6	3	1		1	
ISO	68	5	80%	1	4			3	1
Total		44	70%	9	31	1	3	13	1

Note:
1. BOR - Red box indicates occupancy over 75% and above.
2. Pending Transfer In - Yellow box indicates the existence of blocked bed (locked) for more than 12 hours.
3. For any issue found in this dashboard, please escalate to helpdesk (it.helpdesk@singhealth.com.sg or call 1800-666-7777) to seek assistance from Bed Management System (BMS) Support Team.

SGH Campus HD/ ICA Availability for Surgical Wards

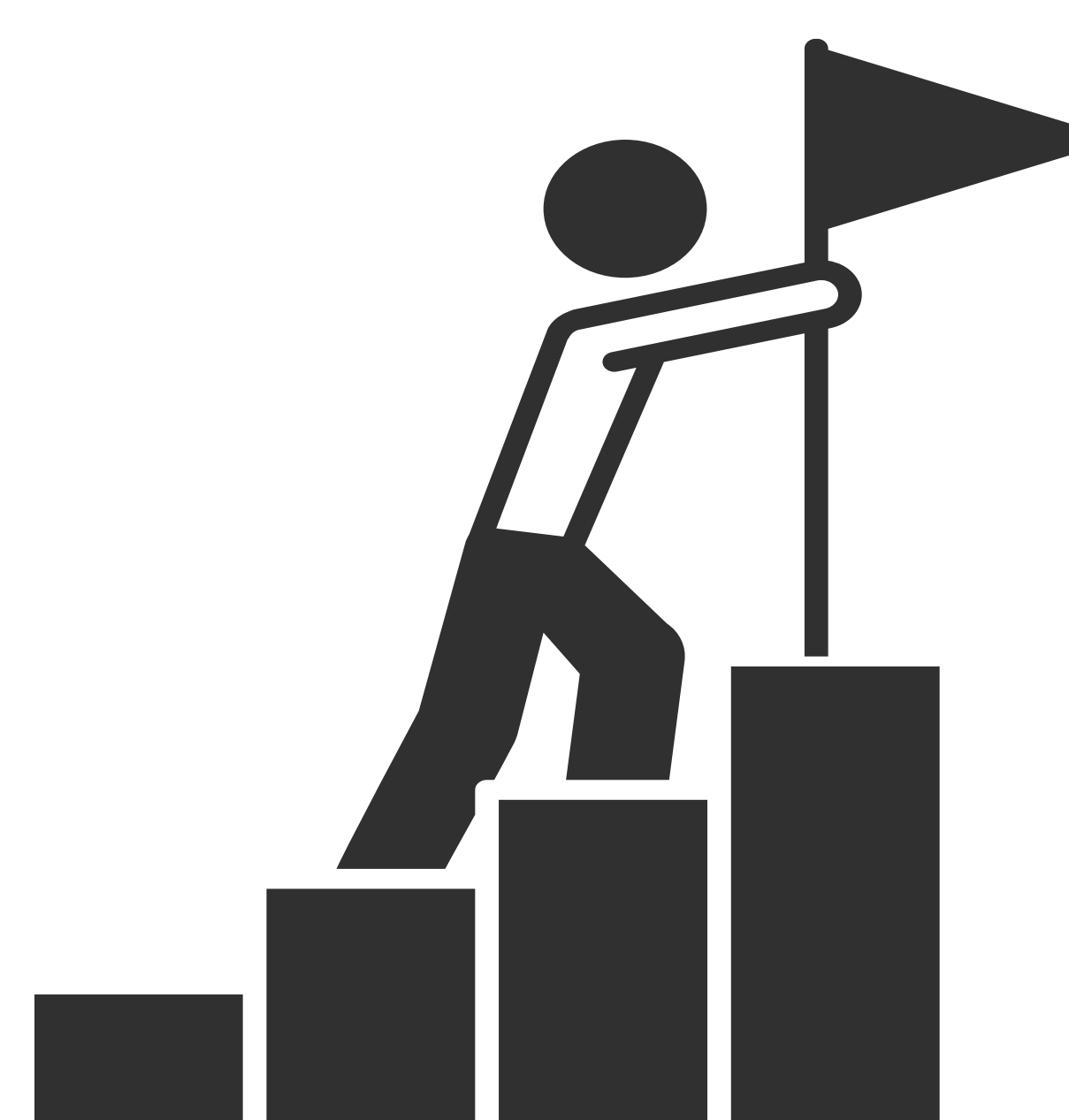
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HD/ ICA	Ward	Bed in Service	BOR	Available	Occupied	Cleaning	Pending Transfer In	Pending Transfer Out	Closed
GENERAL SURGERY	58A	10	90%	1	9				
GENERAL SURGERY	57	10	80%	2	8			6	
COLORECTAL	47A	6	50%	3	3				
URO, ENT, OBS/GYN	55	13	77%	3	10			3	
OTO, SPINE, TRAUMA	76	5	100%		5			1	
OTO, HND, OTO INF	75	5	40%	3	2			1	
PRAS, EYE	63A	4	50%	1	2		1	1	
ISO CONTACT	58A	5	80%	1	4				
	47A	2	100%		2				
	76	2	100%		2				
	75	2	100%		2				
Total		64	77%	14	49	0	1	12	0

RESULTS

- Allowing for informed decisions, preventing underutilization of beds in some wards and overcrowding in others. Resources can be allocated more effectively based on real-time needs.
- Foster improved communication between departments, to identify available beds and streamline patient placement.
- Provide valuable data for informed decision-making regarding resource allocation and capacity planning within HD/ICA wards.

NEXT STEPS



Data analysis of patient transfer time provided by the bed management unit will be conducted to further optimize the system's effectiveness.

To ensure continuous improvement, efforts will be made to further enhance bed flow management. This includes establishing standardized admissions and discharge criteria across wards, expanding booking rights for appropriate personnel, and refining the BOR dashboard based on user feedback..