

NEW MODEL OF CARE FOR SLEEP STUDIES

PROJECT TEAM

Institution: Parkway Hospitals Singapore Pte Ltd – Mount Elizabeth Hospital, Orchard

Team Leader: Ms Gui Sin Ying Indy, Assistant Director of Nursing

Team Members:

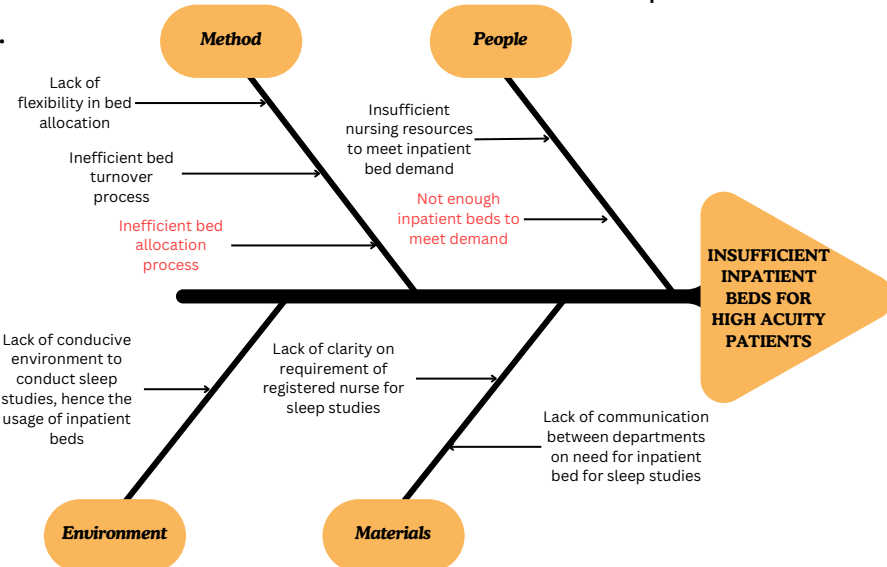
- Ms Daphne Ng, Assistant Director of Nursing (MEH)
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- Ms Margaret Say Poh Kin, Assistant Director of Nursing (MEH)
- Sister Siti Samira Binte Kassim, Senior Nurse Manager (MEH)
- Ms Geraldine Seow Shuzhen, Assistant Manager (MEH)
- Mr Ng Chun Peng, Senior Manager (GEH)
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BACKGROUND & PROBLEM

Gleneagles Hospital (GEH) and Mount Elizabeth Orchard (MEH) faced inpatient bed shortages as sleep study patients, who didn't require RN care, occupied valuable beds meant for higher-acuity patients. This inefficient use of resources, coupled with bottlenecks in patient discharge, delayed care for more urgent cases. The project aimed to free up inpatient beds by moving sleep study patients to Day Wards.

ROOT CAUSES

- High Utilization of Inpatient Beds for sleep study patients who do not require RN care.
- Underutilization of Day Wards during nighttime hours (unoccupied beds).
- Inadequate Communication between clinics and hospital wards regarding patient eligibility.



SOLUTION

Decanting Sleep Study Patients to Day Wards:

- **Optimized Bed Utilization:** Sleep study patients were moved to Day Wards, which operate as 23-hour facilities, freeing up to 300+ inpatient beds annually across both GEH and MEH.
- **Improved Patient Flow:** The solution ensured higher-acuity patients requiring RN care could be allocated inpatient beds more efficiently.
- **Streamlined Discharge Process:** Changes in discharge protocols, including more flexible timing for doctor assessments, helped expedite patient turnover.

Process Function	Potential Failure Mode	Potential Effects of Failure	S E V	Potential Cause(s)/ Mechanism(s) of Failure	O C C	Current Process Controls	D E T	R P N
1. Planning and Communication	Inadequate communication between departments	Delayed patient admission, increased patient wait times, potential dissatisfaction	4	Inadequate communication strategy, unclear roles and responsibilities	5	Detailed communication plan, training sessions and materials	3	5/5
2. Patient Admission Process	Delayed Admission Process	Increased patient wait times, potential dissatisfaction	5	Insufficient integration of sleep study admission to the new system	5	Clear admission protocols	3	7/5
3. Bed Allocation for Sleep Studies	Inadequate Staffing for Sleep Studies	Insufficient staff for increased workload	5	Underestimation of staffing needs	5	Conduct staffing analysis and adjust accordingly	3	5/5

Task	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23
Project initiation and planning	X								
Data collection and analysis		X	X						
Development of potential solutions				X	X				
Pilot testing of the new model						X	X		
Implementation and modifications							X	X	

#	Action Items	Team	Hospital	Status	Remarks
1	Pilot Sleep Study Program	MEH & GEH Clinics	MEH	Completed (Pilot for Apr-23)	
2	Shared Data with all Hospitals and acquired support from COOs	OX Team	MEH, GEH & MEH	Completed (Mar-23)	MEH & GEH has showed interest and are working together.
3	Formed cross-hospital Taskforce to create new model of care for Sleep Studies and utilization of Day Wards.	OX Team and respective Nursing and Ops Team	MEH & GEH	May 2023	
4	a. Develop Clinical Assessment Criteria, New Policy and Ops Engagement Strategy. b. Review Sleep Study Contracts.	Sleep Study Taskforce	MEH & GEH	Jun - Aug 2023	
5	c. Overall proposal for clinical personnel (Agency RNs & PCNs) d. Drs Clinic Engagement	Sleep Study Taskforce	GEH	Aug 2023	1 resource successfully taken place on 13 Aug
6	Improve Process & Documentation Sign-off Protocol	Sleep Study Taskforce	MEH & GEH	Sept 2023	
7	Full Launch (GEH)	Sleep Study Taskforce	GEH	Oct 2023	To utilize Day Ward
8	Full Launch (MEH)	Sleep Study Taskforce	MEH	Q2, 2024	To kick-start in Short Stay Ward in Oct'23

IMPLEMENTATION & TESTING

A pilot study was conducted for 3.5 months, with MEH showing promising results:

- **Stakeholder Engagement:** Regular feedback loops with clinical staff, vendors, and support teams ensured continuous improvement.
- **Resource Management:** Addressed challenges like vendor contract issues and resource wastage through proactive communication and process monitoring.

Institution	Quantity	Median Difference of bed freed and the higher acuity bed allocation (\$)	Revenue (\$)
GEH	5	3,418	17,090
MEH	42	4,438	186,396

OUTCOME

- **Beds Freed:** 161 inpatient beds freed annually at each hospital, totaling 322 beds across four hospitals.
- **Revenue Impact:**



- **Patient Satisfaction:** Higher satisfaction due to reduced waiting times and better resource allocation.
- **Staff Satisfaction:** Improved workflows and reduced pressure on RNs contributed to better job satisfaction among staff.

CHALLENGES & SOLUTION

1. Challenge: Low patient volume and eligibility at GEH

Problem: Most patients at GEH were pediatric, so they couldn't use the Day Ward.

Solution: A campaign improved patient eligibility and explored data from other hospitals to increase patient volume.

2. Challenge: Inefficient bed allocation and resource relocation

Problem: Moving beds to the Day Ward caused delays and waste.

Solution: Prepared sleep study beds were permanently stationed outside the Day Ward for quicker setup.

3. Challenge: Delays in discharge process and doctor coordination

Problem: In-person doctor sign-offs delayed patient discharges.

Solution: Nurses were given the authority to complete discharges via remote consultations with doctors.

SUSTAINABILITY

SOPs developed to help ensure that the process is standardized and clinical requirements are met.



- **Scalability:** The model is adaptable and can be expanded to other departments or hospitals facing similar bed shortages.
- **Long-Term Success:** Continuous engagement with stakeholders, training programs for staff, and adherence to SOPs will ensure sustained improvements in bed utilization, revenue generation, and patient care.

CONCLUSION

The project successfully improved inpatient bed utilization, optimized patient flow, and increased revenue by decanting sleep study patients to Day Wards. This intervention not only provided measurable improvements in efficiency but also contributed significantly to enhancing patient and staff satisfaction. By leveraging data-driven insights and fostering multi-disciplinary collaboration, the project has laid the groundwork for ongoing operational improvements and can serve as a model for future resource optimization efforts across the healthcare system.