



# Home Early

Singapore Healthcare Management 2023

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## Background of the problem

A key performance indicator tracked in regional hospitals by Ministry of Health Singapore aims for at least 30% and 80% of patients being discharged by 1130h and 1530h respectively. With multiple factors contributing to the inpatient discharge process, the proportion of 1130h and 1530h discharge rates for Ward 63C patients is just 6% and 57% respectively (May 2021 – Sep 2021), requiring improvement. The team identified gaps in the discharged current workflow and explore early initiation of discharge planning processes to facilitate early inpatient discharges and high bed turnover rate to ease bed crunch situation in DEM. **Decision Making Matrix** was used to select our project using the scoring criteria as shown in Figure 1.

### Decision Making Matrix

Problem Areas in 63B		Criteria			Total Score
		Patient Experience	Operational Efficiency	Stakeholders Satisfaction	
1	Patient Fall	3	3	5	11
2	Late Discharges	5	5	5	15
3	Pressure Injury	1	3	3	7

Scoring  
1 = meets criteria least  
3 = meet criteria moderately  
5 = meets criteria the most

Fig. 1

## Mission Statement

To improve patients discharged by 1130h from 6% to 11% and 1530h from 57% to 62% respectively in Ward 63C within 5 months

## Analysis of problem

### Current Discharge Workflow

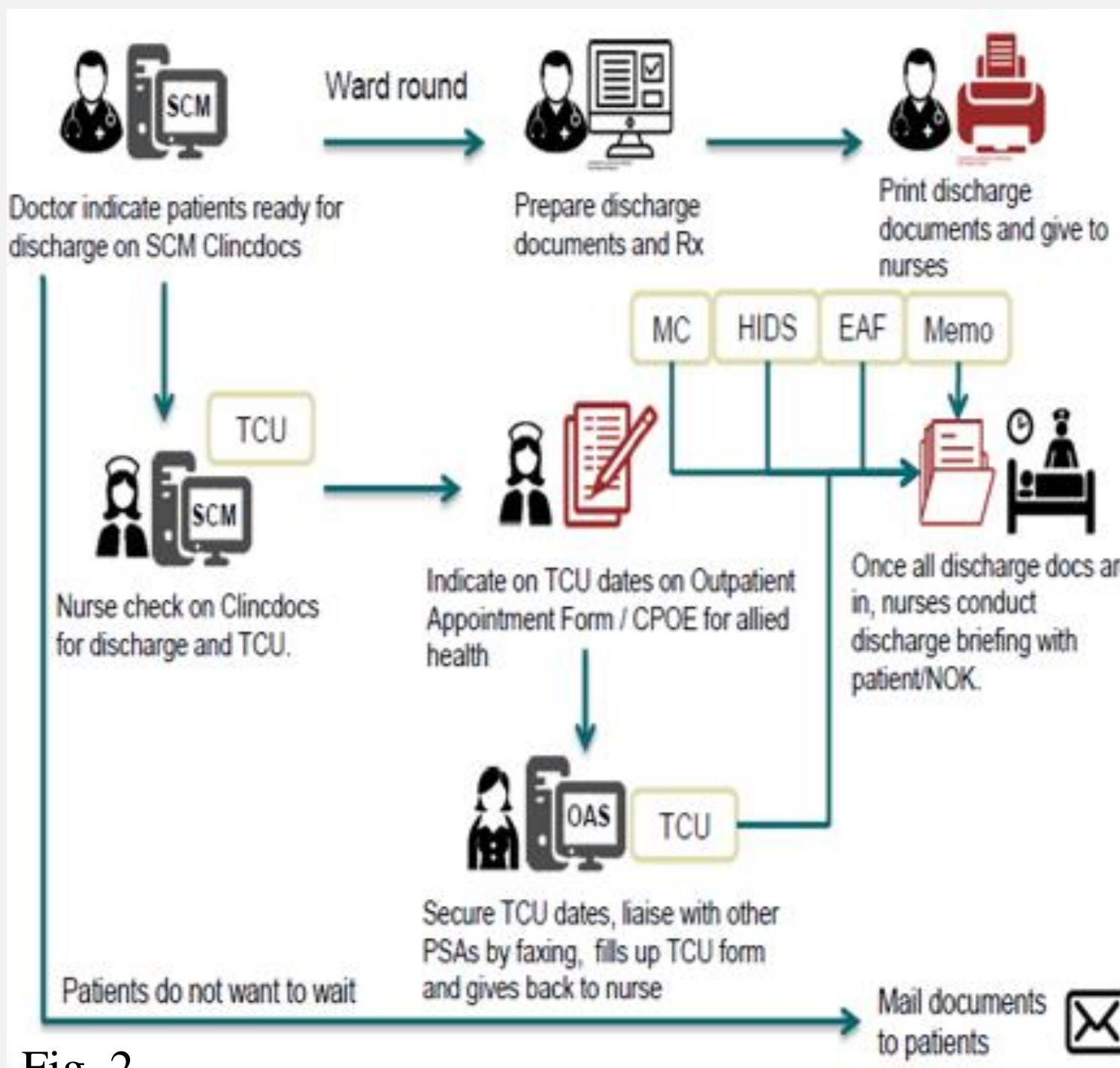


Fig. 2

### Problems encountered in the current discharge Process include:

- Discharge Order is dependent on the doctors. Delay in discharges can occur when doctors finalize discharge plans late.
- Nurse In-Charge (IC) faced with many care activity. Discharging patients are a lesser priority compared to time-sensitive tasks.
- Oftentimes, patient's family members are working and unable to fetch patient home early especially for dependent patients.
- Patients are only considered discharged if they are tagged out from SMART switch successfully. Technical issues can lead to delay in discharges.

### Cause & Effect Diagram

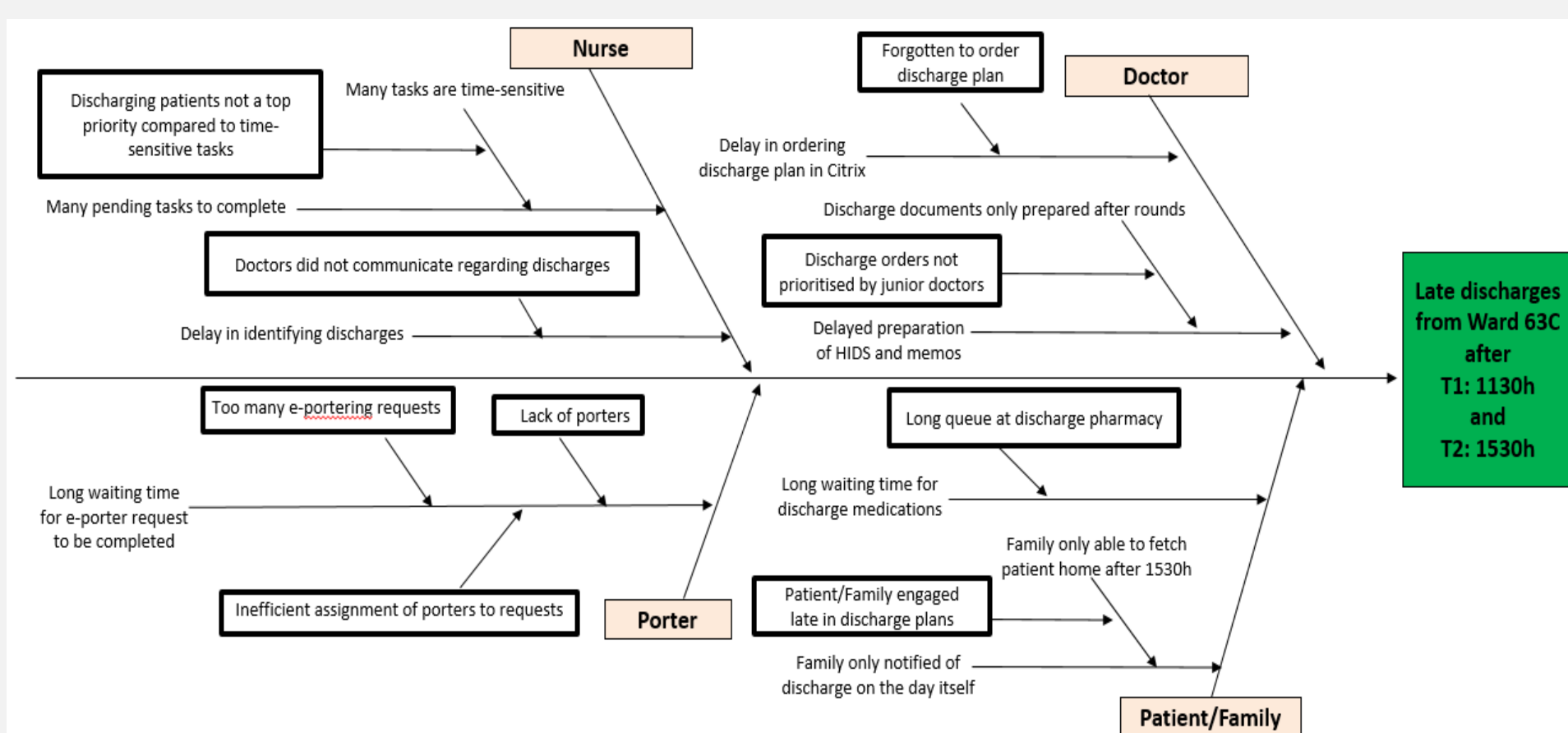


Fig. 3

### Pareto Chart (Select Final Root Causes to Focus On)

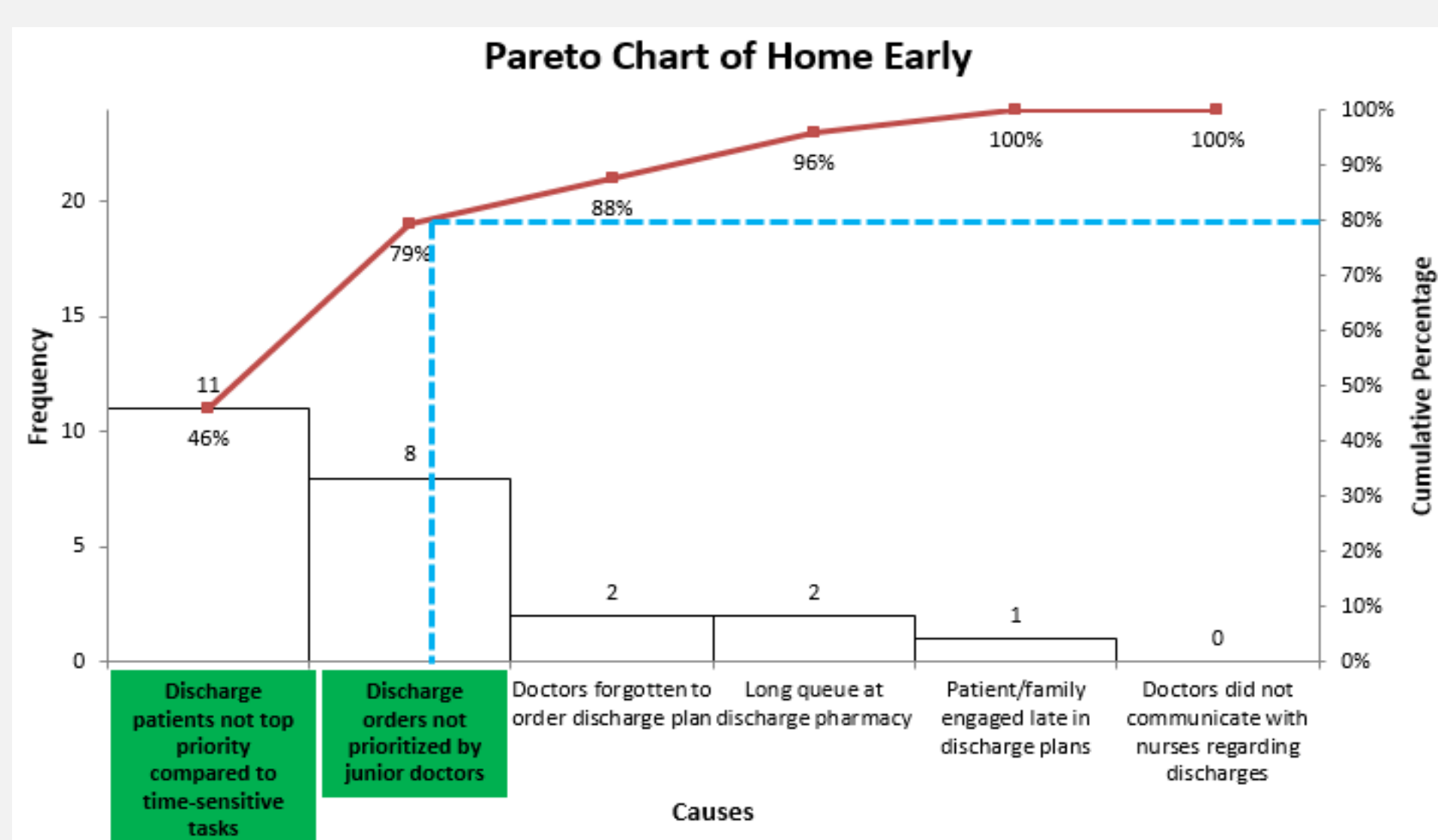


Fig. 4

## Interventions / Initiatives

### Driver Diagram & Prioritization Matrix (Generate Solutions)

Aims of project	Drivers	Possible Solutions	Effectiveness	Feasibility	Sustainability	Total Score
To improve patients discharged by 1130h from 6% to 11% and 1530h from 57% to 62% respectively	Prioritize discharge	Increase number of HUs in the ward	5	1	3	9
		Red scheduling time sensitive tasks around peak discharge time	3	1	1	5
		Reduction discharge move rate to facilitate early discharges	5	5	5	15
Align Dr's mindset on discharge priority	Focus on 800 nurses to release doctors on 5001 protocol for discharge	To remind the Doctor to order the plan discharge (HDS and CPOE) promptly	3	5	3	11
		To remind the Doctor to order the plan discharge (HDS and CPOE) promptly	3	5	5	13

Fig. 5

Our team unanimously agreed on our final intervention by including both ideas of having a **Discharge Nurse (DN)** incorporate decision of **AM/PM Discharge status** (Figure 6.3) by team doctor.

The DN coordinates the total daily discharges and helps the Nurse IC to obtain and follow up on necessary appointments. Creation of the role aims to push for earlier discharges. The DN makes use of the intervention tools such as Patient Discharge List (Figure 6.1) and Discharge Book (Figure 6.2) to assist with the daily patient discharge duties. To get buy-in from doctor to adhere to the new discharge work plans.

### Intervention Tools

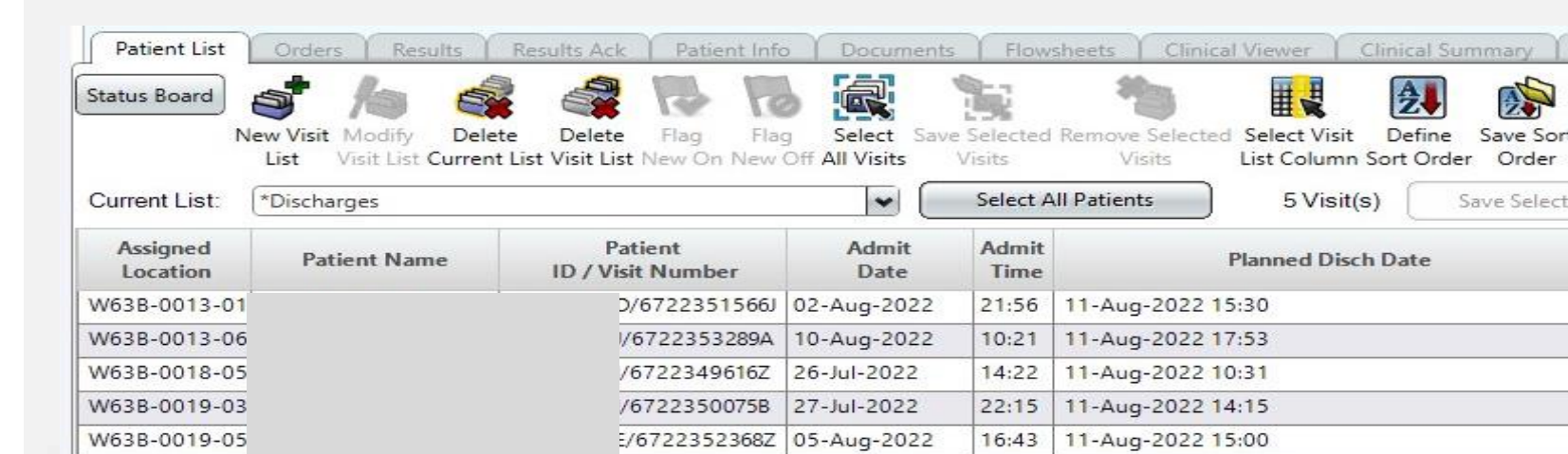


Fig. 6.1

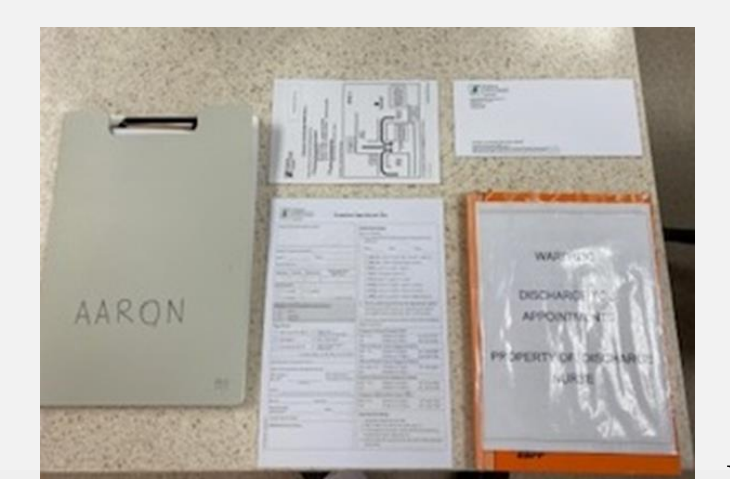


Fig. 6.2

### Discharge Planning

Discharge Today:  AM Discharge  PM Discharge  Cancel Discharge (Please inform the Nurse-in-charge)

Fig. 6.3

## Results

### Run Chart

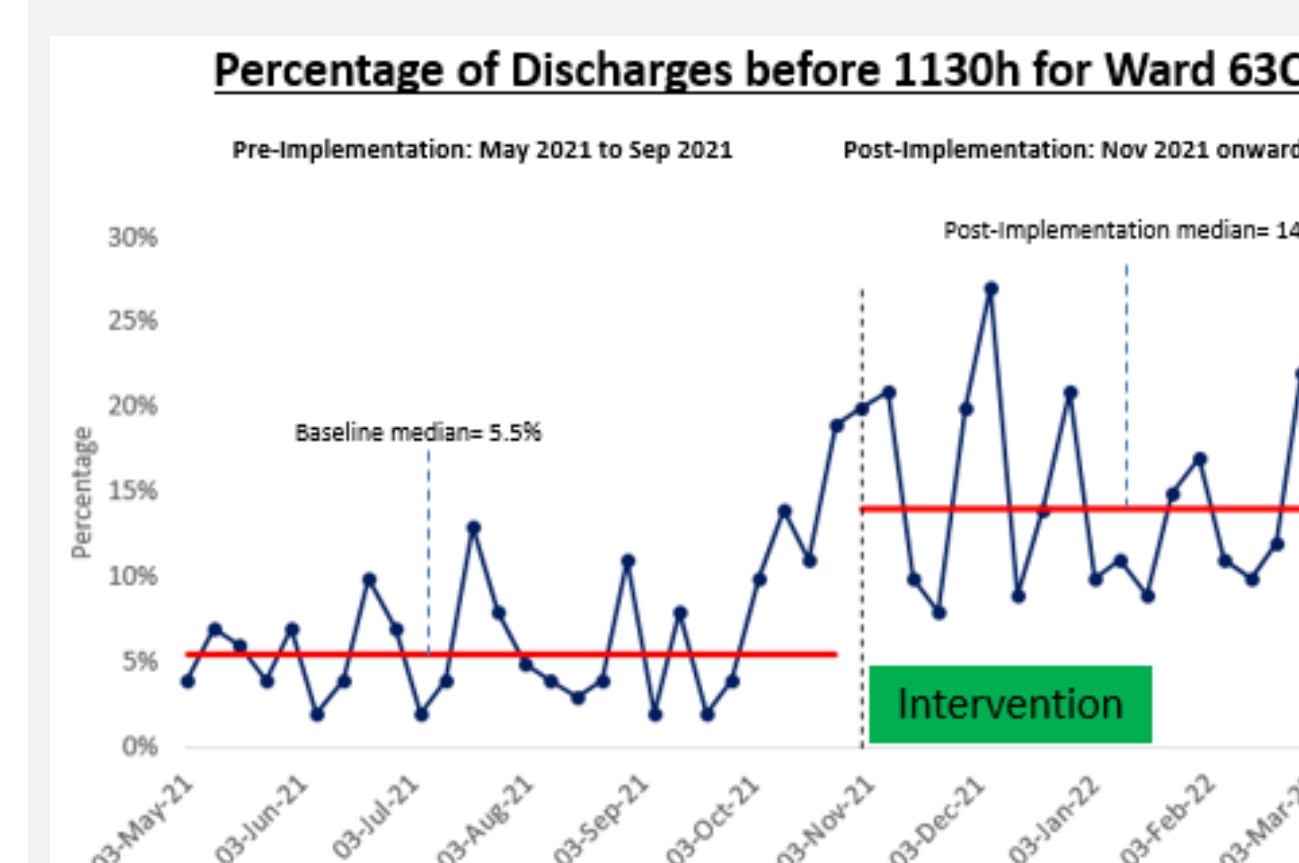


Fig. 7.1

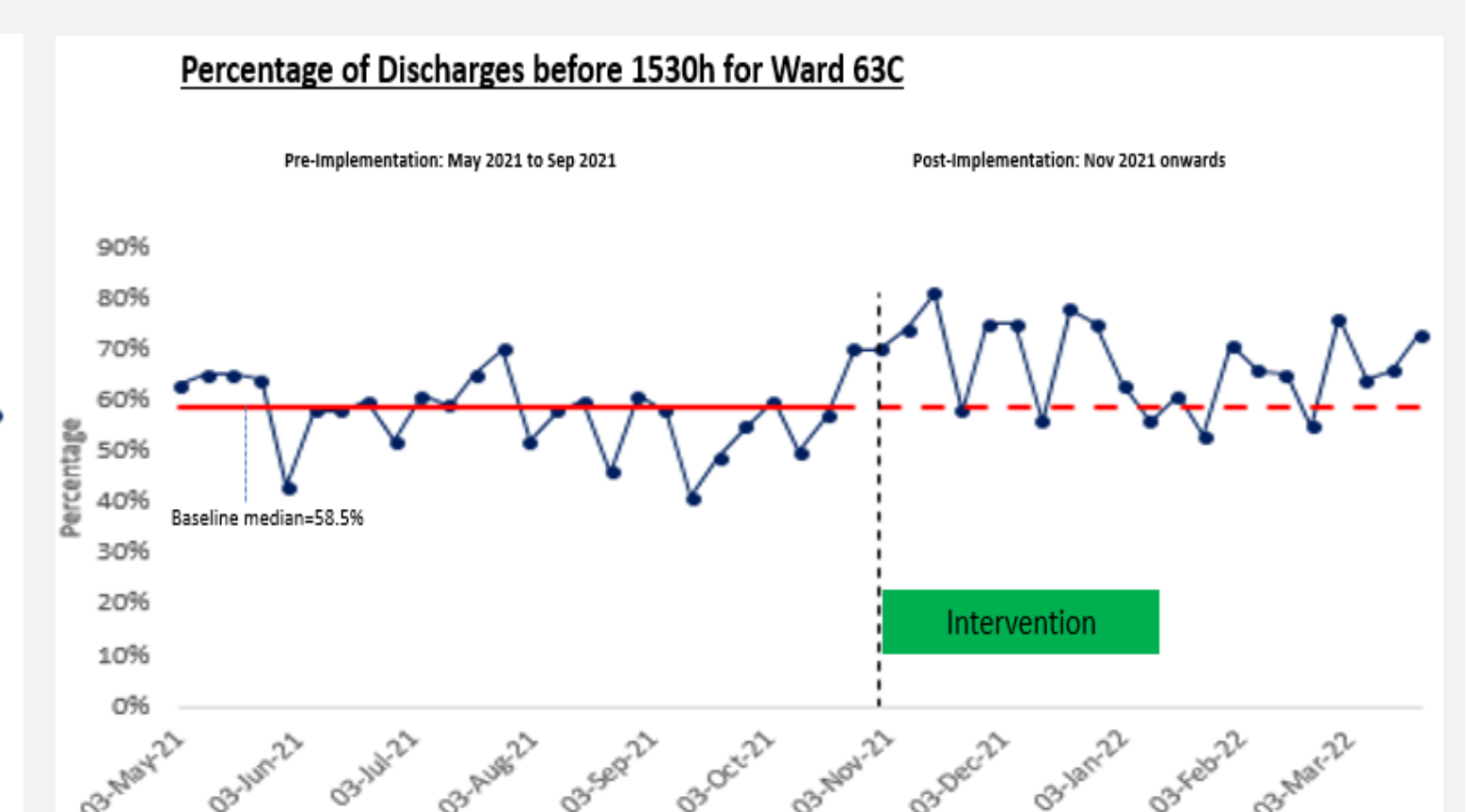


Fig. 7.2

For tangible results, there is significant signal of improvement (SSOI) for discharges before 1130hrs (Figure 7.1). This is shown by a shift post implementation (more than 6 points above the pre-implementation median).

Intangible results include improved patient safety and patient experience, reduced workload burden for doctors, nurses and PSAs, and improved hospital image of being efficient and effective through observation in the clinical operations.

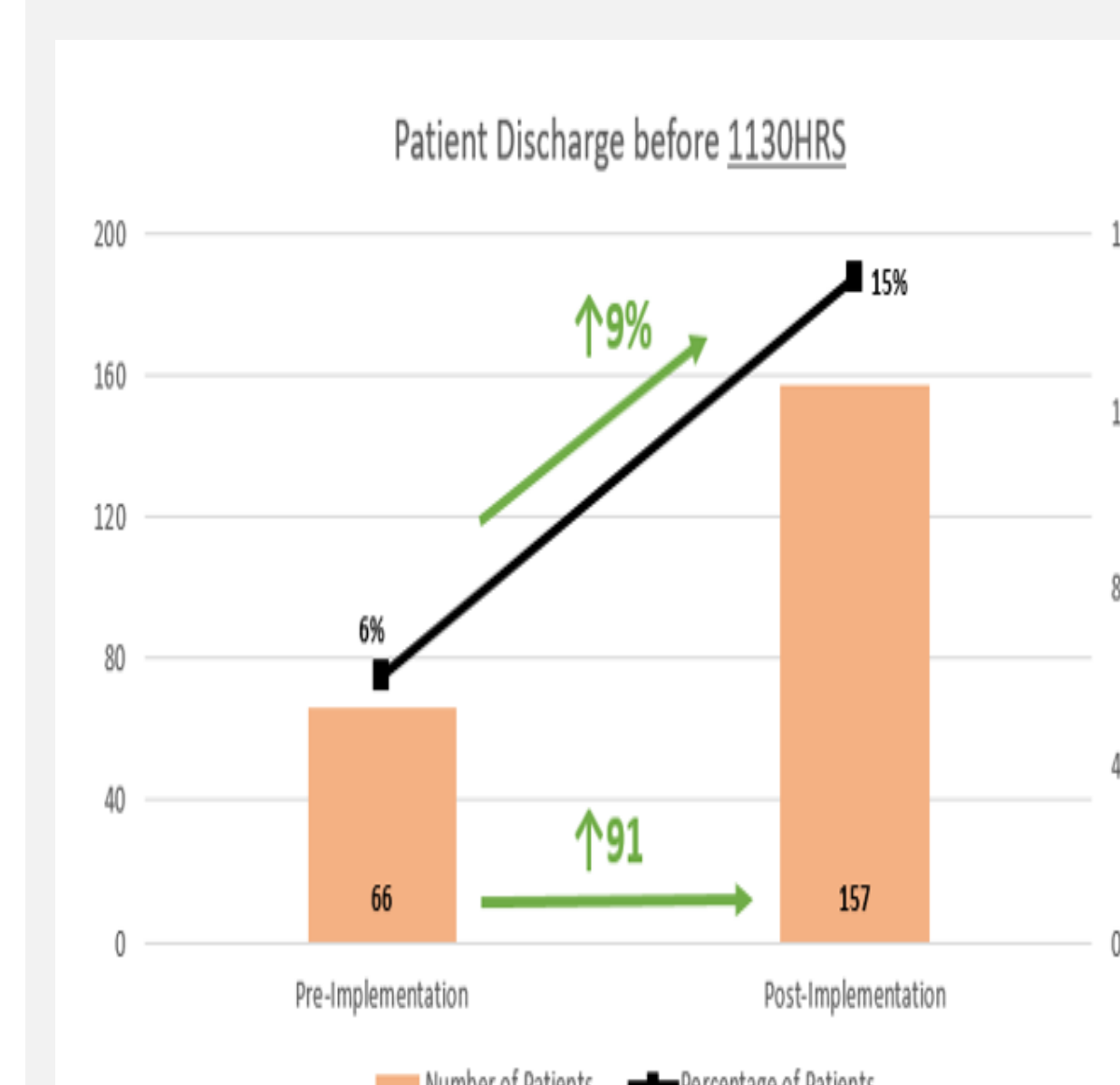


Fig. 7.3

- Percentage of discharges before 1130h is improved by 9%, total of 91 patients post intervention for a period of 5 months
- 91 patients were discharged 6 hours\* earlier (546hrs) / 24hrs = 23 days
- Annual savings 23 days/5mths X 12mths = 55.2 days/per annum
- 55.2 X \$37/ C Class per day charged = \$2,042.40 (Total cost save per annum)
- Achievable without affecting our current manpower allocation

\* 6 hours was based on difference between average discharge time of patients pre and post implementation.

## Sustainability Plans

- Make DN a rotational role to allow staff with a better understanding of discharge process.
- Address concerns that may arise to ensure smooth operation of the job workflow redesign.
- Shared the benefit of having DN with other Medical wards.