Project Title

Home Early

Project Lead and Members

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Organisation(s) Involved

Singapore General Hospital

Healthcare Family Group Involved in this Project

Healthcare Administration, Nursing, Medical

Applicable Specialty or Discipline

Healthcare Administrators, Patient Service Associate

Project Period

Start date: May 2021

Completed date: Sep 2021

Aims

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

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Singapore Healthcare Management (SHM) Congress 2023 – 1st Prize (Patient Experience category)

Project Category

Care & Process Redesign

Quality Improvements, Workflow Redesign, Value Based Care, Discharge Planning, Patient Satisfaction, Productivity, Cost Saving

Keywords

Patient Discharge, Early Discharge, Patient Experience

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Home Early

Muhd Hafiz Bin Hadi,
Yuan Long Xia, Heng Kai Ying Serena,
Aaron Tan Wei Yuan, Lim Tanya,
Nurhazrina Bte Rahim, Arifin Trina,
Tay Wen Jun & Magdalene Ng

Singapore Healthcare Management 2023

Singapore General Hospital SingHealth

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

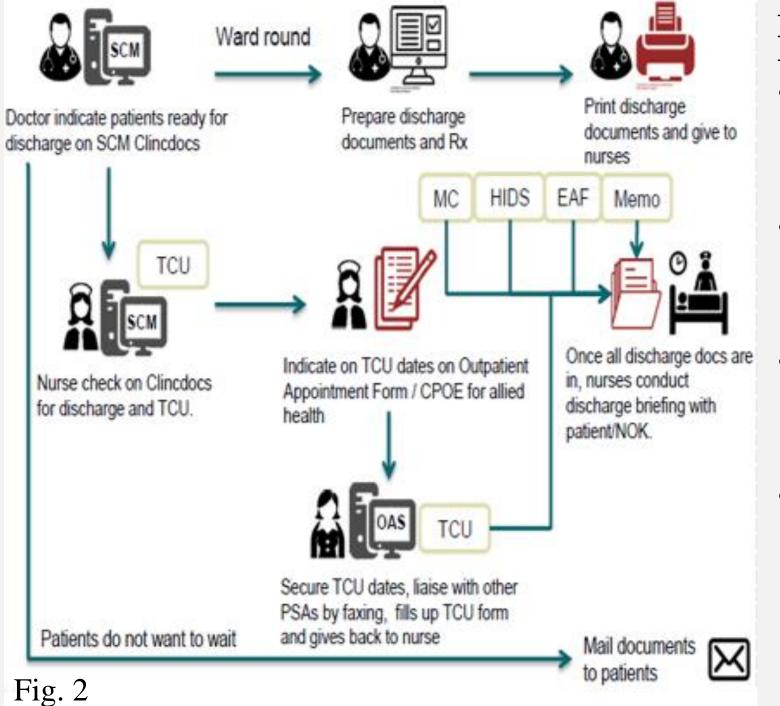| Problem Areas in 63B		Criteria			Total Score
		Patient Experience	Operational Efficiency	Stakeholders Satisfaction	
1	Patient Fall	3	3	5	11
2	Late Discharges	5	5	5	15
3	Pressure Injury	1	3	3	7

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
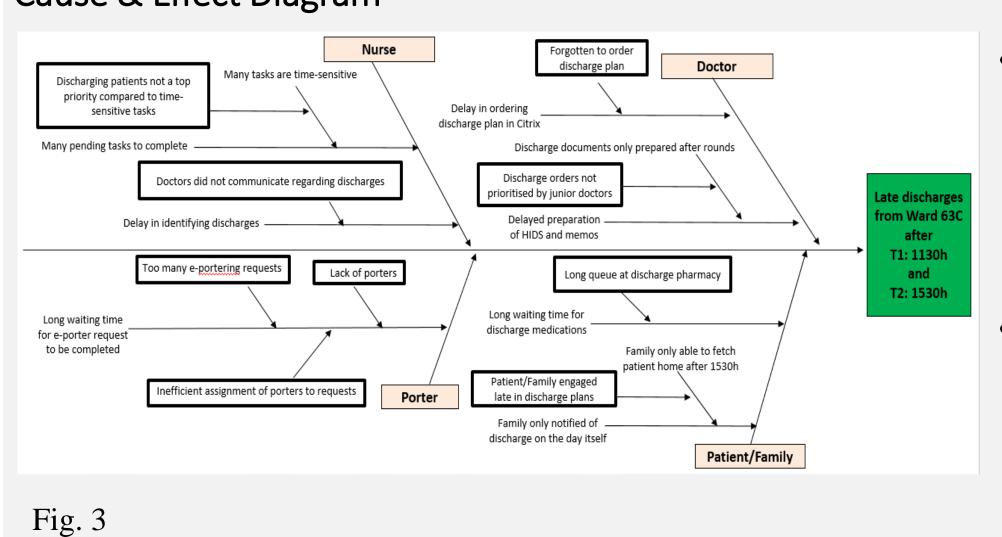
Current Discharge Workflow

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.
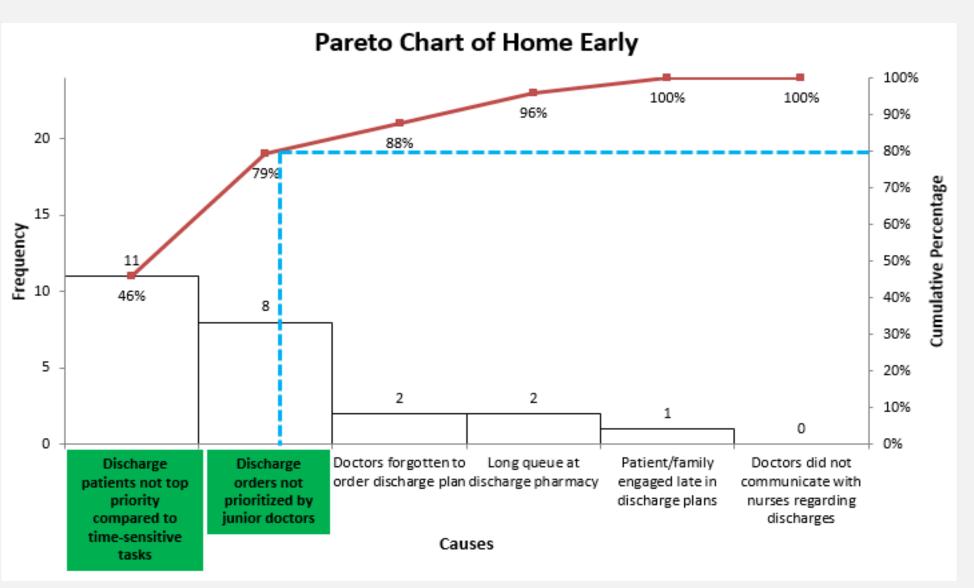
Cause & Effect Diagram

Fig. 3

- Root causes for late discharges were identified by considering factors related to Nurse, Doctor, Patient/Family and Porter, as shown in the Cause and Effect Diagram (Figure 3).
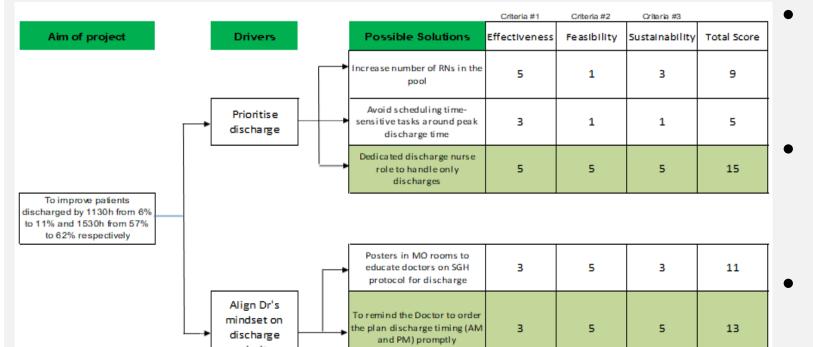- 6 final root causes were identified.

Pareto Chart (Select Final Root Causes to Focus On)

Fig. 4

- With a total of 6 final root causes, the team leader led the members to participate in the multi-voting to identify the non weighted and weighted votes for the final root causes.
- Based on the 1/3 rule, each member was given 3 votes to cast and decide the vital few root causes using the 80/20 principle to prioritize.

Interventions / Initiatives

Driver Diagram & Prioritization Matrix (Generate Solutions)
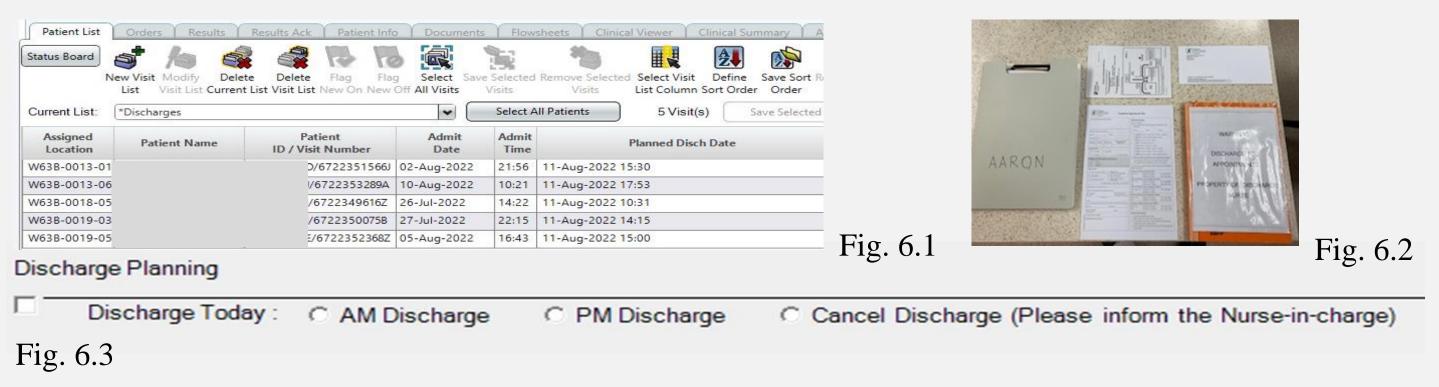
Fig. 5

- Possible solutions were generated through brainstorming among team members.
- Possible solutions were scored and selected according to three criteria, using the prioritization matrix (Figure 5).
- The three criteria are effectiveness, feasibility and sustainability.

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.
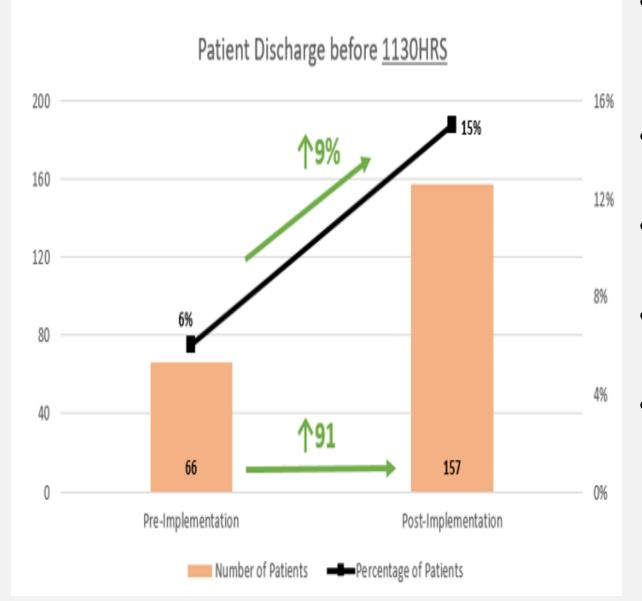
Intervention Tools

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.