Project Title

Managing Longstayers in NTFGH

Project Lead and Members

Project lead: Dr Poon Yoke Chen

Project members: Pang Lu Kiat, Josephine Wong, Dr Ernest Suresh, Dr Lim Lee Yen, Dr Su Mon Thi Ha, ADON Rohana Anang, SNC Fadilah Ahmed, NC Amran Amir, NC Neo Li Min, SSN Suzana Jaya, SSN Theresa Ee, Ho Bee Hong, Sim Yin Hui, Quek Swee Ting, Tristan Liaw, Alyssa Stefanie Peter, Liew Mei Pheng, Dr Norhisham Main

Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group Involved in this Project

Medical, Nursing, Allied Health (Medical Social Services, Physiotherapy, Occupational Therapy), Medical Informatics

Applicable Specialty or Discipline

General Medicine

Project Period

Start date: April 2021

Completed date: Dec 2022

Aims

30 % reduction of total bed days of longstayers from Medicine by Dec 2022.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

Starting with the end in mind

The team was mindful to create system level changes e.g. creation of new workflows and processes) and to mainstream these interventions to ensure long term sustainability, & giving the right care right, first time, every time.

Teamwork makes a dream team

The success of this project can be attributed to having a multi disciplinary team who believed in the goal of the project. Our team members were open and willing to share their thoughts, and often challenged the status quo which led to better solutions.

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign, Value Based Care, Length of Stay, Discharge Planning

Quality Improvement, Workflow Redesign

Keywords

Long Stayer Reduction

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[Restricted, Non-sensitive]

MANAGING LONGSTAYERS AT NTFGH

☐ SAFETY
☑ QUALITY
☑ PATIENT EXPERIENCE
☑ PRODUCTIVITY
☐ COST

MEMBERS: MR PANG LU KIAT[1], MS JOSEPHINE WONG[1], DR ERNEST SURESH[2], DR POON YOKE CHEN[2], DR LIM LEE YEN[2], DR SU MON THI HA[2], SADoN ROHANA ANANG[3], SAC FADILAH AHMED[3], NC AMRAN AMIR[3],NC NEO LI MIN[3], SSN SUZANA JAYA[3], SSN THERESA EE[3], MS HO BEE HONG[4], MS SIM YIN-HUI[5], MS QUEK SWEE TING[5], MR TRISTAN LIAW[6], MS ALYSSA STEFANIE PETER[6], MS LIEW MEI PHENG[7], DR NORHISHAM MAIN[2]

DEPARTMENTS: [1]MEDICAL AFFAIRS, [2]MEDICINE DEPARTMENT, [3]NURSING, [4]ALLIED HEALTH (MEDICAL SOCIAL SERVICES), [5]ALLIED HEALTH (OCCUPATIONAL THERAPY), [6]ALLIED HEALTH (PHYSIOTHERAPY), [7]MEDICAL INFORMATICS

Define Problem & Set Aim

Problem: While only 3% of all inpatients are longstayers (patients with LOS > 21 days), they occupied 1 in 4 (25%) of NTFGH's beds. Majority of the longstayers (74%) were under the care of Medicine Department. (Fig 1)

Aim: 30% reduction of total bed-days of longstayers from Medicine by Dec 2022.

Benefits: Reduce unnecessary prolonged hospital stays & improve patient outcomes; Optimise BOR and reduce ALOS for the hospital.

Team: Expertise from all job families (doctors, nurses, allied health, medical informatics and administrators) were brought together to form a longstayer quality improvement project (QIP) team in January 2021.

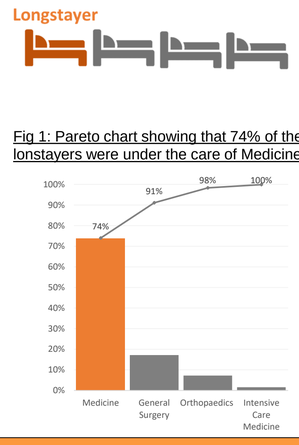


Fig 1: Pareto chart showing that 74% of the lonstayers were under the care of Medicine Dept.

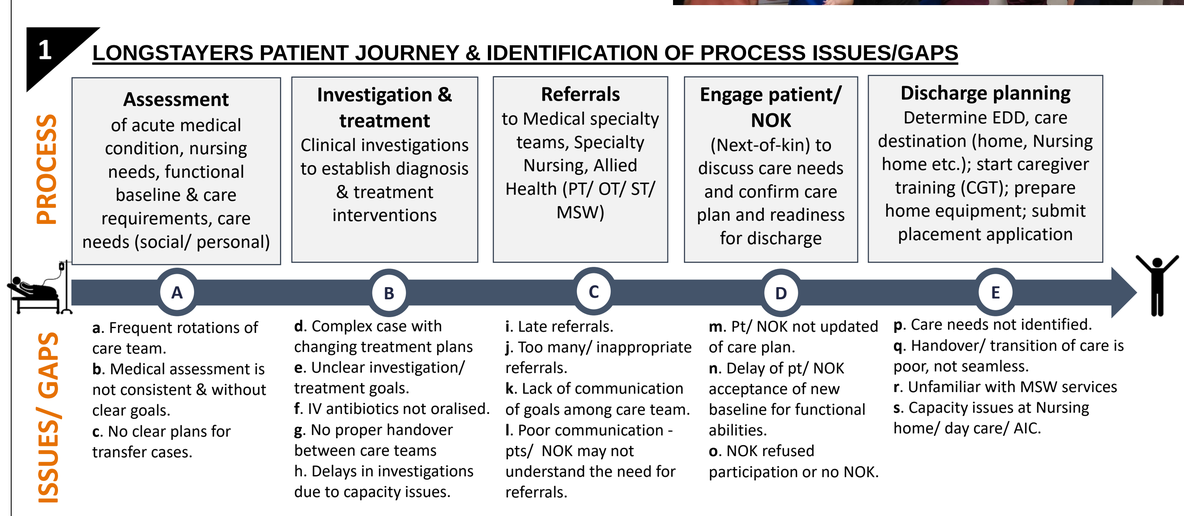
Establish Measures

Type of measure	Measure	Operational definition	Monitoring frequency	Data source	Baseline
Outcome	Total bed-days of discharged Longstayers	Total LOS of discharged Longstayers	Monthly	LOS Epic report	3,170 bed-days / month
Process	Inflight longstayers	No. of currently admitted patients with LOS > 21 days	Weekly	Weekly snapshot data from inflight longstayers list	60
Balancing	30 day readmission	No. of Longstayers who were readmitted within 30 days	Quarterly	30-day readmission Epic report	12.6%

Analyse Problem

A rapid improvement event (RIE) was held over 2 half-days. Team members mapped out the current patient journey, identified the issues/ gaps in each process step of the journey and carried out a root cause analysis in order to generate change concepts (i.e. interventions).

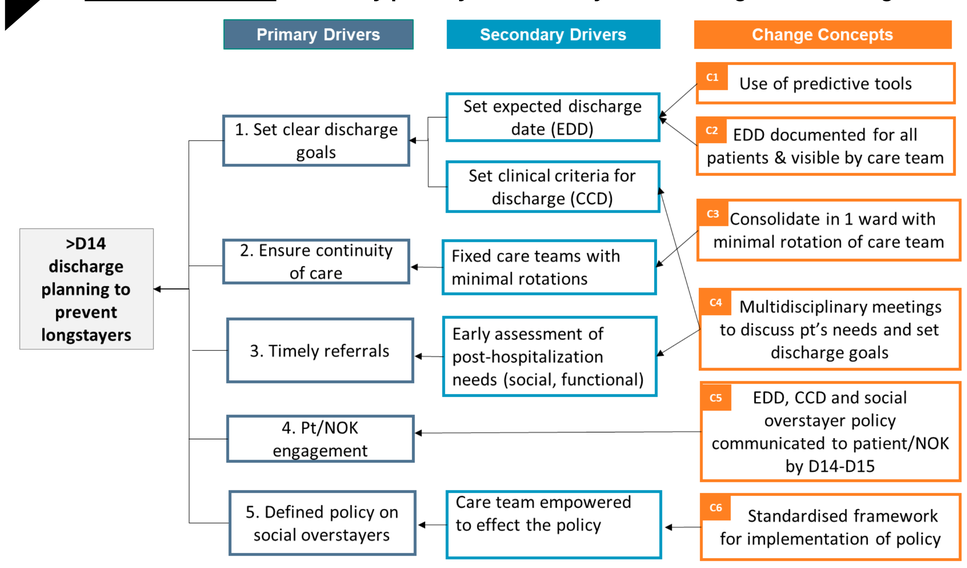
1 LONGSTAYERS PATIENT JOURNEY & IDENTIFICATION OF PROCESS ISSUES/GAPS



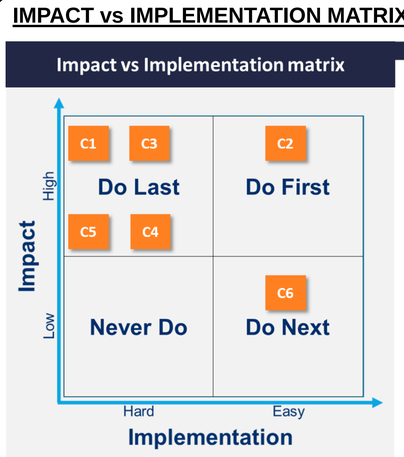
2 ROOT CAUSE ANALYSIS

Process	Issues/ gaps	Root causes
A	**b**. Medical assessment is not consistent & without clear goals	1. Discharge goals not set nor communicated clearly among the care team
A	**c**. No clear plans for transfer cases	
B	**d**. Complex case with changing treatment plans	
B	**e**. Unclear investigation & treatment goals	
C	**k**. Lack of communication of goals among care team	
E	**p**. Care needs not identified	
A	**a**. Frequent rotations of care team	2. No continuity of care
B	**g**. No proper handover between care teams	
B	**f**. IV antibiotics not oralised	
E	**q**. Handover/ transition of care is poor, not seamless	
C	**i**. Late referrals	3. Delayed/ inappropriate investigations & referrals
C	**j**. Too many/ inappropriate referrals	
E	**r**. Unfamiliar with MSW services	
D	**m.** Pt/ NOK not updated of care plan	4. Poor patient/ NOK engagement
D	**l.** Poor communication- Patients/NOK may not understand the need for referrals or investigations	
D	**n**. Delay of pt/ NOK acceptance of new baseline for functional abilities	5. Social overstayer policy not enforced
D	**o**. NOK refused participation or no NOK	
B	**h**. Delays in investigations due to capacity issues	6. Lack of resources
E	**s**. Capacity issues at nursing home/ day care/ AIC	

3 DRIVER DIAGRAM to identify primary & secondary drivers and generate change concepts (i.e. interventions)



4 IMPACT vs IMPLEMENTATION MATRIX was used to prioritise interventions



Priority		
Do First	C2	EDD documented for all patients & visible by care team
Do Next	C6	Standardised framework for implementation of social overstayer policy *This was deprioritized during the intervention phase because a cost-benefit analysis determined that it's impact on total bed days was very low (0.6%).
Do Last	C3	Consolidation of longstayers in 1 ward with minimal rotation of care team
	C4	Multidisciplinary meetings to discuss patient's needs and set discharge goals
	C5	EDD, CCD and social overstayer policy communicated to patient/NOK by D14-D15
	C1	Use of predictive tools

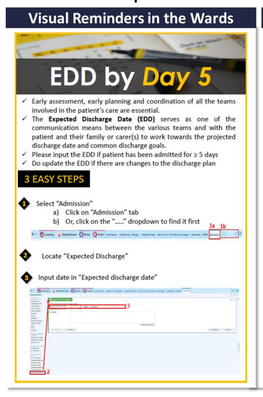
Implement & Spread Changes

PDSA cycles were carried out with progressive scale up of the interventions from a small pilot population to eventually spreading and sustaining the interventions within the target population.

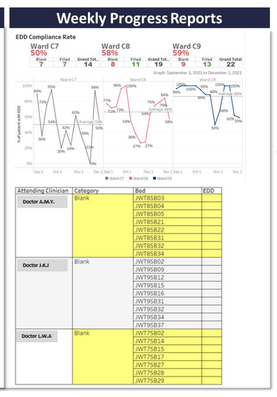
Intervention	Plan	Do	Study	Act
C2 Expected Discharge Date (EDD)	**PDSA 1** Start with 3 doctors from project team	• Issues with care team not being able to see EDD in their patient lists • Resolved by working with MI to create a tipsheet that was circulated to the different functional groups	• Doctors' feedback was that it was easy to document EDD • Feedback from the rest of the care team was that EDD is helpful in planning for patient's discharge	• Scale up pilot from 3 doctors to all doctors on rotation in Ward C7, C8 & C9
	PDSA 2 Implement in pilot wards (C7, C8,C9) for EDD to be documented by Day 5 for all General Medicine (GM) patients	• Compliance rate was observed to be dependent on reminders by case managers. • Difficulty sustaining compliance among the doctors. • Visual reminders were placed in the wards • Weekly progress reports & reminders sent to CICs • Quarterly reminders during Medicine seniors' meeting	• Average compliance of 70% achieved • As a result, total bed days in the pilot wards were reduced compared to other General Medicine wards	• Seek approval from management to fully roll out EDD intervention • Include this as Dept of Medicine doctor's team bonus KPI for FY23
	PDSA 3 Spread to all patients in Medicine Department	• EDD was included as a team bonus indicator for Medicine Department in FY23	• 100% compliance rate was sustained over 3 months.	-
C3 Consolidation of >D14 patients	**PDSA 1** Consolidate >D14 patients in Ward C8 & C9 using a pull system	• Each week, a list of >D14 GM patients was reviewed by the C8 & C9 case managers • Cases which met the workflow's inclusion criteria were reviewed by the doctors in the Longstayers project team • Suitable patients were transferred to C8 or C9	• An average of 1-2 patients were being transferred on a weekly basis	• Expand workflow to include a push system for primary care team in Tower B to refer patients for the workflow
	PDSA 2 Expand workflow to include a push system	>D14 Push & Pull system • Addition of a push system that allowed primary care team to refer patients to be transferred to C8 & C9	• There were more patients that were referred via push system compared to the pull system	• Push system was less resource intensive as case managers did not have to actively screen >D14 case on a weekly basis • Push system was higher yielding as more patients were being referred via this workflow • In order to ensure sustainability, the consolidation of patients will be via the push system in the long run
C4 Multi-disciplinary Meetings (MDM)	**PDSA 1** Weekly MDM for >D14 GM patients in Ward C7, C8 & C9 without a care plan	• MDM for >D14 patients in C7,C8 & C9 without a discharge plan or who have issues with their discharge plan	• 7 MDMs held for 28 patients	• To include all patients >D21 in the weekly MDM discussions so that progress for all patients can be tracked and bottlenecks can be identified early
	PDSA 2 Weekly MDM for all GM patients >D21 in Ward C7, C8 & C9	• With the inclusion of all >D21 patients, the number of patients being discussed increased 25 on average each week	• It was observed that Ward B13 had the highest number of longstayers outside of the pilot wards of C7, C8 and C9 • This might have been due to C8 being reverted to a normal ward due to the high BOR situation and all MRSA patients were consolidated in B13 instead	• Expand MDM to include >D21 patients in B13
	PDSA 3 Expand MDM to include >D21 patients in Ward B13	• Despite covering more patients and more wards, workload for MDM was still manageable. Able to conclude weekly MDM within 1 hour.	• With the inclusion of B13 patients, Gen Med MRSA patients warded in B13 benefitted from this expansion.	• MDM was made BAU for >D21 GM patients in C7, C8, C9 and B13

Some examples of actions carried out:

Visual Reminders in the Wards



Weekly Progress Reports



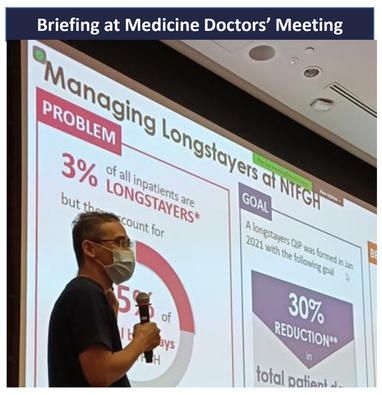
Weekly Text Reminders

Dear Dr Lim,
As part of the efforts by the Longstayers QIP team to reduce total patient days of longstayers, one of the interventions is for all Gen Med patients with LOSe5 days to have an Expected Discharge Date (EDD) documented. This provides a common discharge goal for the care team to work towards.
We note that the following patients in C9 do not have an EDD documented or have an expired EDD and would like to seek your kind help in documenting/updating the EDD in Epic for these patients. Please feel free to let us know if you have any feedback or questions. Thank you!

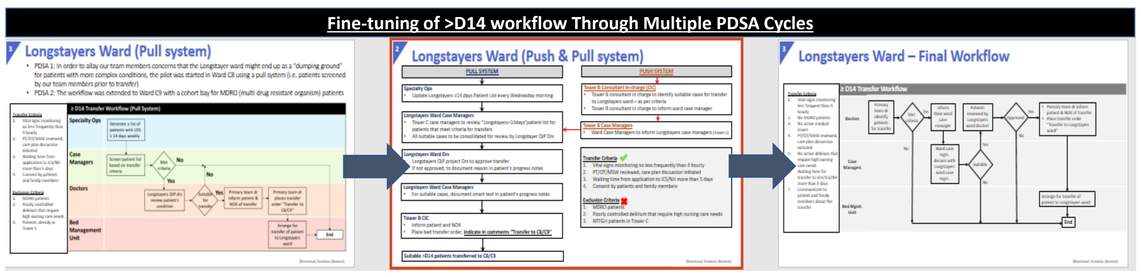
Celebrating small wins

Dear Dr Chan,
As part of the efforts by the Longstayers QIP team to reduce total patient days of longstayers, one of the interventions is for all Gen Med patients with LOSe5 days to have an Expected Discharge Date (EDD) documented. This provides a common discharge goal for the care team to work towards.
We would like to share with you the excellent results from this week and thank you and your team for the efforts in ensuring the patients in C9 have an EDD documented. Please feel free to let me know if you have any feedback or questions. Thank you!

Briefing at Medicine Doctors' Meeting



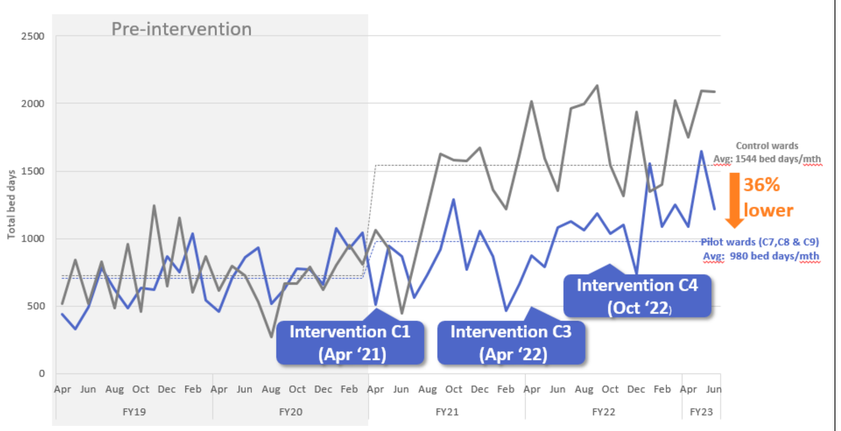
Fine-tuning of >D14 workflow Through Multiple PDSA Cycles



Results

Upon successful implementation of the interventions,

- Total bed-days of patients in C7,C8 & C9 (pilot) wards was **36% lower** compared to all other General Medicine (control) wards.
- **564 bed-days** were saved each month as a result.
- Results continued to be **sustained** in the control phase in FY23.



Learning Points

Starting with the end in mind
The team was mindful to create system level changes (e.g. creation of new workflows and processes) and to mainstream these interventions to ensure long term sustainability, & giving the right care right, first time, every time.

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The success of this project can be attributed to having a multi-disciplinary team who believed in the goal of the project. Our team members were open and willing to share their thoughts, and often challenged the status quo which led to better solutions.

Ng Teng Fong General Hospital

Jurong Community Hospital