Reducing Wait Time for Hernia Operations

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Mission Statement

To reduce the first visit SOC median wait time by 50% (median = 46 days) for the hernia patients over a 6-month period (i.e. aim to have wait time of 23 days or less).

Team Members

	Name	Designation	Department
Team Leader	Dr Lo Hong Yee	Consultant	General Surgery
Team Members	Dr Vittal Sunil Pawar	Resident Physician, Senior Staff	National Healthcare Group Polyclinics (NHGP)
	Dr Ken Chua Kai Yang	Resident	Emergency Medicine
	Ms Nur Fifi Dyanna Bte Mohamed Sulaiman	Patient Service Associate Executive	Clinic 2A
	Ms Chai Jye Yi	Senior Coordinator	General Surgery

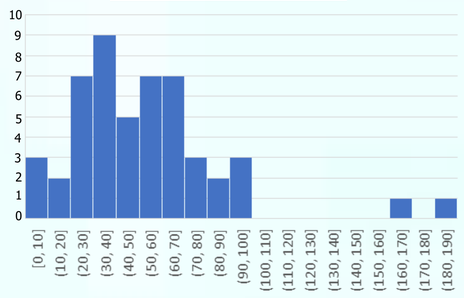
Sponsor:
Adj A/Prof Glenn Tan Wei Leong (Head & Senior Consultant, General Surgery)

Mentors:
- A/Prof Ng Wei Keong Alan (Emeritus/Senior Consultant, Respiratory & Critical Care Medicine)
- Asst Prof Abdul Kareem Saleem Ahmed (Consultant, General Surgery)

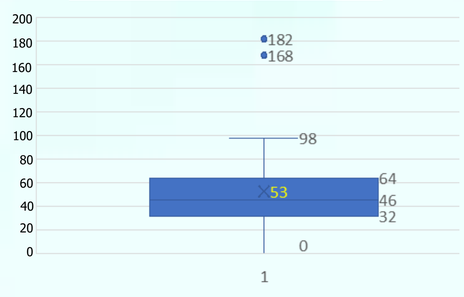
Evidence for a Problem Worth Solving

- Wait time for hernia SOC and operation is acceptable but can be improved.
- Delays may lead to medical complications and leakage to out of cluster institutions - either private setting, overseas, or to other public institutions that are able to offer a short wait time.
- No central oversight for hernia patients' treatment journey.
- No prospective data collection for quality improvement and research purposes.

Wait Time for SOC Review



Wait Time from Referral to SOC FV



Baseline Wait Time from Date of Referral to First SOC Appointment **Median = 46 days**

Flow Chart of Process

MACRO FLOW
Patient Journey (Hernia)

Polyclinic / GP / SOC / ED
↓
Referral to GS SOC
↓
Screening/Triage by Surgeon
↓
Scheduling of Appointments
↓
Appointments at SOC

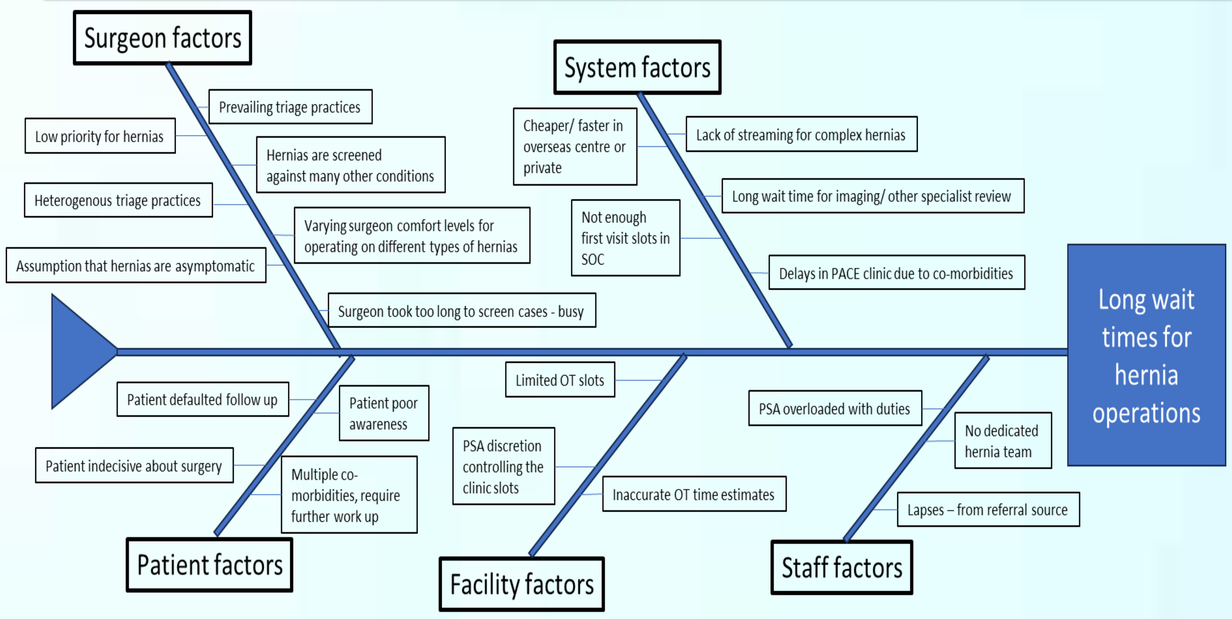
1. Needs review by another specialist
2. Needs further investigation / scans

↓
PACE
↓
Proceed with Surgery / Cancel Surgery

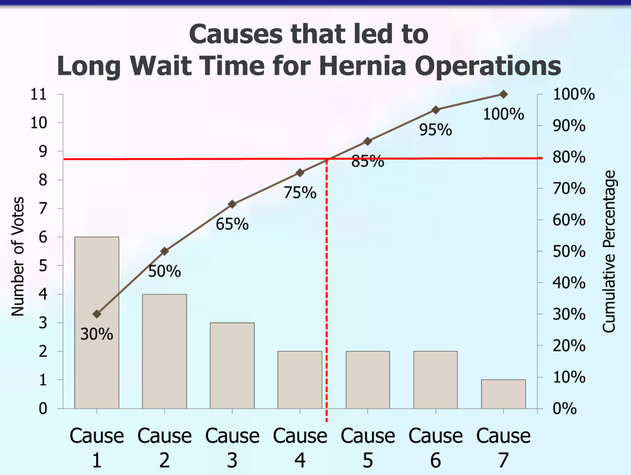
MICRO FLOW
Screening / Triage by Surgeon

Daily referral input from referral room (room 7)
↓
Print out
↓
Random division to the number of Consultants on that day
↓
Surgeon Screening
↓
Booking Appointment (Room 7)
↓
1. Surgeon Screening Recommendation
2. Availability of Slot
↓
Is there a slot?
- Yes → Booked Appointment
- No → Force book into the date as recommended by surgeon

Cause and Effect Diagram



Pareto Chart



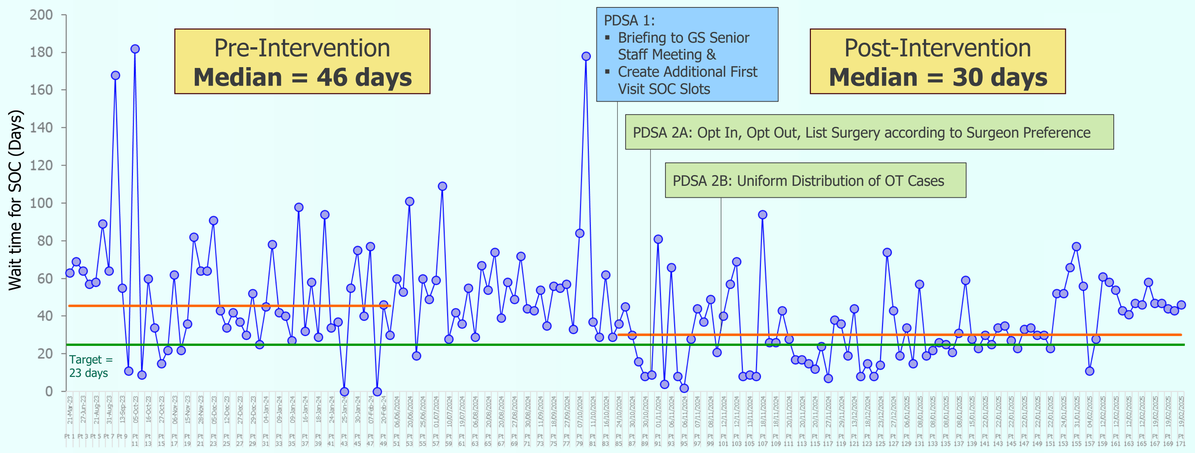
Root Cause	
Cause 1	Not enough first visit slots in SOC
Cause 2	Limited OT Slots
Cause 3	Heterogenous triage practices for hernias amongst surgeons
Cause 4	Low priority for hernias
Cause 5	Hernias are screened against many other conditions
Cause 6	Lack of streaming for complex hernias
Cause 7	Surgeon took too long to screen cases

Implementation

Root Cause	Intervention	Implementation Date
Cause 1: Not enough first visit slots in SOC Cause 4: Low priority for hernias	PDSA 1: Briefing to GS senior staff meeting + Create Additional First Visit SOC Slots	Oct 2024 (Week 1)
Cause 2: Limited OT Slots Cause 3: Heterogenous triage practices for hernias amongst surgeons	PDSA 2A: List surgery according to surgeon preference	Nov 2024 (Week 1)
	PDSA 2B: Distribute cases uniformly across department for OT slot	Nov 2024 (Week 2)

Results

Wait Time from Date of Referral to First SOC Appointment
Period: Mar 2023 to Feb 2024



Cost Savings

At Hernia Clinic	October to December 2024	January to February 2025
Average No. of Hernia Patients Seen	3 patients per week	9 patients per week
Assume all patients who are seen at hernia clinic will go through hernia operation. *Subsidized rate of hernia operation = $2,164		
Productivity Gains (Per Month)	(6 x 2164) x 4 = $51,936	
Productivity Gains (in 1 Year)	51,936 x 12 = **$623,232**	

*Reference: https://www.moh.gov.sg/managing-expenses/bills-and-fee-benchmarks/cost-financing/tosp-sf820a-abdomen-bill-information

Lessons Learnt

- CPIP is not just for solving "problems". It can be used to achieve excellence.
- Efficiency alone is not enough. Stakeholder analysis requires other concerns to be addressed. In this case, it involves patient ownership and surgical load of individual surgeons.
- CPIP provides a structured way of communication to all stakeholders and management.
- Technical point – PORT data request may not be suitable for CPIP, because of the long approval and data analysis process.
- CPIP – In-dwelling catheter, patient violence incidents, voice-clinic, AVF mapping. Multiple ground up efforts.

Strategies to Sustain

1. Festive seasons.
2. Clinic consultant – rotational basis.
3. Distribution to opt-out surgeons.
4. Outcome analysis beyond wait time – clinical outcome, PROMs, cost savings/ avoidance.
5. REDCAP / publications.
6. Outreach.