'Listing-Room' Interrupted …No More

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Introduction

Centre for Digestive and Liver Disease(CDLD) at Singapore General Hospital(SGH) sees an average of 600 patients daily. As a result of the procedural nature of the disciplines seen in CDLD, most patients who visit the centre are often listed for scope or surgical interventions. An average of 76 patients would require listing for scope/surgery or both compared to other clinics like ENT (Ear, Nose & Throat) that have less then 20 listing on a daily basis. With this high volume of listing performed at CDLD, the nurses in the listing rooms are often interrupted by patients, leading to longer waiting time for listing and unhappiness amongst staffs and patients. In order to improve the experience at the centre, a project team was formed to reduce the interruptions in the listing room at CDLD. The primary goal is to eliminate interruptions in CDLD listing rooms, while the secondary goal is to reduce 75 percentile of the waiting time for listing from 45 minutes to 30 minutes at CDLD.

Method

Data was collected for 1 working week from the 26th to 30th January 2015 by CDLD staff to explore the arrival pattern of patients, how long patient waits for listing, time taken for listing process and the number of times nurses are interrupted.

Arrival Pattern : Maximum number of patients waiting at one time at listing room is **11**

Histogram of Arrival Pattern (Time of Day)
Source: Survey Data from 26/1/2015 to 30/01/2015

Listing Process Time: A number of patients waited **45 minutes to 2 hours** just for listing to be done.

Histogram of Waiting Time (Day)
Source: Survey Data from 26/1/2015 to 30/01/2015

Average Listing Process

Histogram of Average Listing Process Time (By Listing Type)
Source: Survey Data from 26/1/2015 to 30/01/2015

Double listing takes a longer time due to:
- special instructions for certain surgeries
- Double & 2 separate documentation, explanation & booking in system

Frequency of Interruptions

Histogram of Frequency of Interruptions (By Cubicle)
Source: Survey Data from 26/1/2015 to 30/01/2015

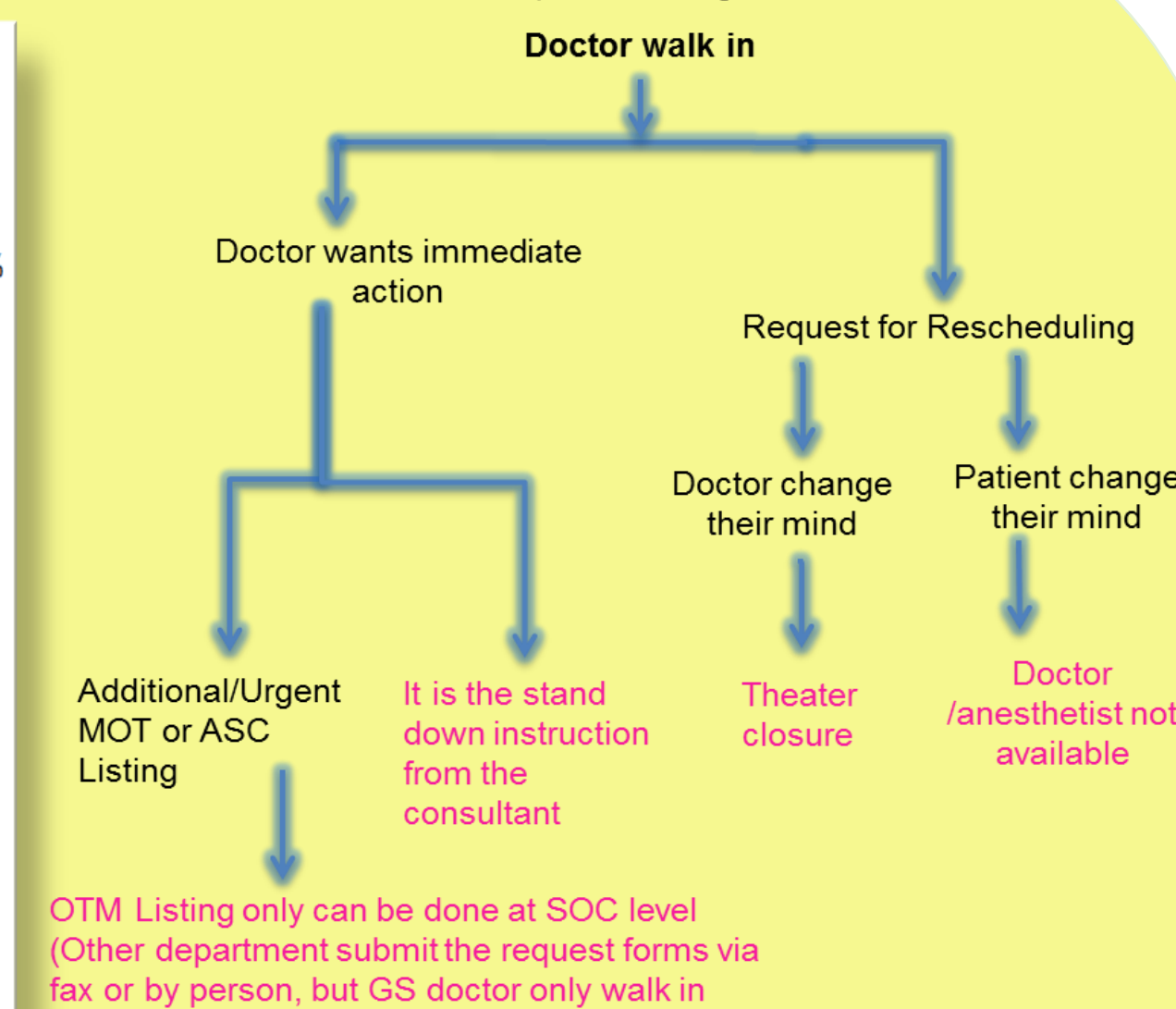**L1 (listing cubicle 1) and L7 (listing cubicle 7) were identified the most interrupted compared to other listing cubicles due to:**
- All case notes for listing were piled at L1.
- L7 is identified by General Surgery Doctors for last minute listing/cancellation

Root Cause Analysis of Interruption

Interruption reasons and average duration

5 Whys Diagram

5 Whys Diagram

Method

Tree Diagram

Prioritization Matrix-Solution Selection

Solutions	Cost Effective	Effectiveness	Ease of Implementation	Total Score	PDSA Cycle
L1 - Service Ambassador to make announcement & allow patient to come back after lunch / come back another day by indicating on case notes during peak hours. (Only inform 8-10am for walk in listing)	3	3	3	9	-
L1- Attend to walk in enquires / walk in listing & allocating case notes to each cubicle.	3	3	3	9	PDSA 2
Review the allocation of the operations & scope listings by staff experience	3	3	3	9	PDSA 2
Standing Signage reflecting est. waiting time & important pointers •Estimated waiting time : •NO form submissions needed •Q number not in sequence	3	3	3	9	PDSA 1
Review Bowel Preparation material, delivery mode and language used	2	3	1	6	-
General Surgery email enquiry attends to walk in doctors	3	3	3	9	PDSA 3
Review email template					Another improvement team is looking into it
Service Ambassador to enquire properly & direct patient correctly • Collection @ Counter 5 • Requesting @ Treatment Room 25	3	3	3	9	Staff working on the ground were emphasised to direct patients to the appropriate area during roll call

Outcomes

Run Chart for Number of interruptions by days
Source: Survey Data from 26/1/2015 to 30/01/2015, 25/5/2015 to 5/6/2015, 6/7/2015 to 16/7/2015

Histogram of 75th Percentile waiting time (hh:mm)
Source: Survey Data from 26/1/2015 to 30/01/2015, 25/5/2015 to 5/6/2015, 6/7/2015 to 16/7/2015

	PDSA 1 (25/5/15 to 5/6/15)	PDSA 2 (06/7/15 to 16/7/15)	PDSA 3 (07/09/15 to 10/09/15)
% of doctor interruption at L7 cubicle	43%	50%	0%

Source: Survey Data from 26/1/2015 to 30/01/2015, 25/5/2015 to 5/6/2015, 6/7/2015 to 16/7/2015

PDSA 1: Installation of laminated signage for estimated waiting time & listing process instruction outside Listing Room

Signages increased patients awareness of listing process & waiting time

PDSA 2: Separation of Scope and Operation listings in the Listing Rooms

Specific cubicles to handle longer cases helped to reduce waiting time for patients

PDSA 3: Standardized work instruction for doctors to comply

Standardized workflow reduced interruption caused by doctors

Conclusion

As the interruption activity is primarily human factors and it is very difficult to achieve 100% success. To greatly eliminate interruptions, a major change in the existing infrastructure layout is required. This requires major renovation and hence is not doable. However, the initiatives achieved the sub-goal of 30 minutes waiting time at the 75th percentile. With better focus on the listing, nurses are able to maximize each patient contact to provide most efficient service delivery, which is in line with SGH service commitment "Best Outcome, Best Experience". Patients spent less time waiting and they are happier. In addition, staffs felt less stressful with less interruption from patients and time spent with each patient is more meaningful as personalized care can be rendered. To ensure sustainability of project, monthly service level tracking through feedback forms will be analyzed and random audits will be conducted by the nurse clinician. The project has also created a spin–off for the nurses to explore other opportunities like improving our bowel prep instructions in the future.