A Systemic Approach to Improve Specialist Outpatient Waiting Time to Appointment (WTA) – Gastroenterology & Hepatology (GAS) Story

Singapore Healthcare Management 2019

Ang Yi Lin, Yang Hui, Lim Chee Hooi, Jason Chang Pik Eu

Singapore General Hospital
SingHealth

Introduction

- Waiting Time to Appointment (WTA) at the Specialist Outpatient Clinic (SOC) has been a perennial challenge over the last decade for Gastroenterology & Hepatology (GAS) department in Singapore General Hospital.
- Historically, at least 60% of subsidized new case referrals from primary care e.g. polyclinics have waited more than 60 days for their first appointment.
- GAS aligns with SGH's Vision "To be a renowned organization at the leading edge of Medicine, providing quality healthcare to meet our nation's aspiration" hence acknowledged the importance of timeliness (one of the six key dimensions that defines quality healthcare)[1].

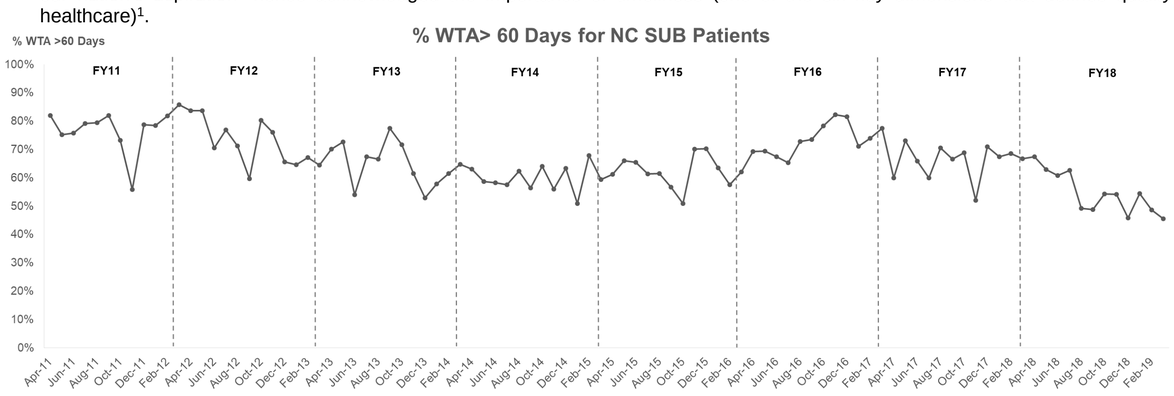


Figure 1. Monthly GAS WTA > 60 days Graph from Financial Year(FY) 11 to FY18. Prior to the start of project i.e. before FY17, the average WTA was 68.3±9.0%. Most of the earlier initiatives introduced were often not sustainable, leading to its cyclical trend. Each FY starts from Apr and ends in Mar of the following year.

Existing Challenges

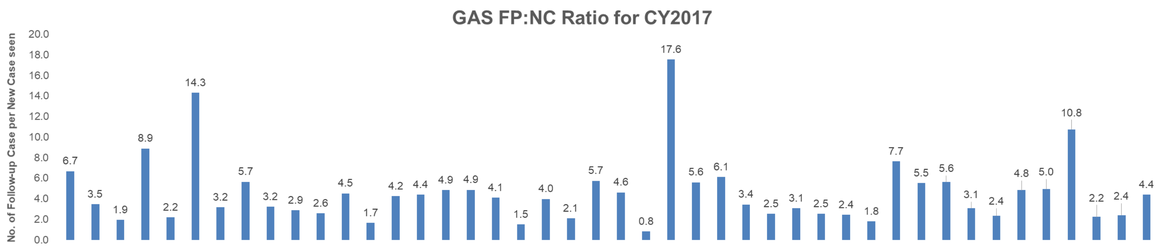


Figure 2. Calendar Year(CY) 2017 Follow-up to New Case (FP:NC) ratio in general clinic for individual doctors. Wide variation in the ratio across department. Sub-specialty, private clinics and Medical Officer clinics were excluded from the above analysis.

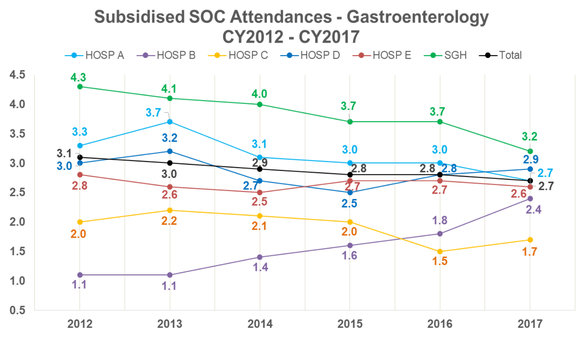


Figure 3. GAS Cross Institution Follow-up to New Case (FP:NC) ratio for CY2012 to CY2017. SGH's ratio is the highest in comparison to other institutions.

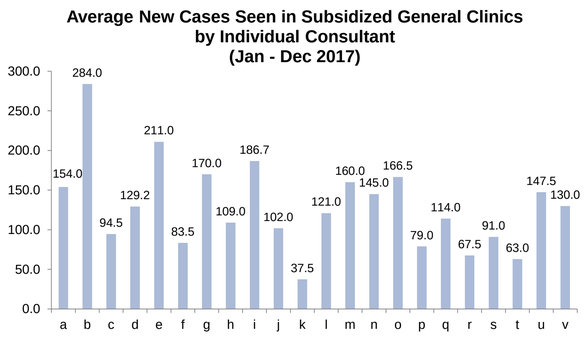


Figure 4. Average number of subsidized new case seen per General Clinic for each doctor. The cases seen per doctor per clinic session varies widely within the department.

Aim

To improve timely patients access to GAS specialist care by reducing the monthly WTA for subsidized new cases to < 50% waiting time more than 60 days.

Methodology

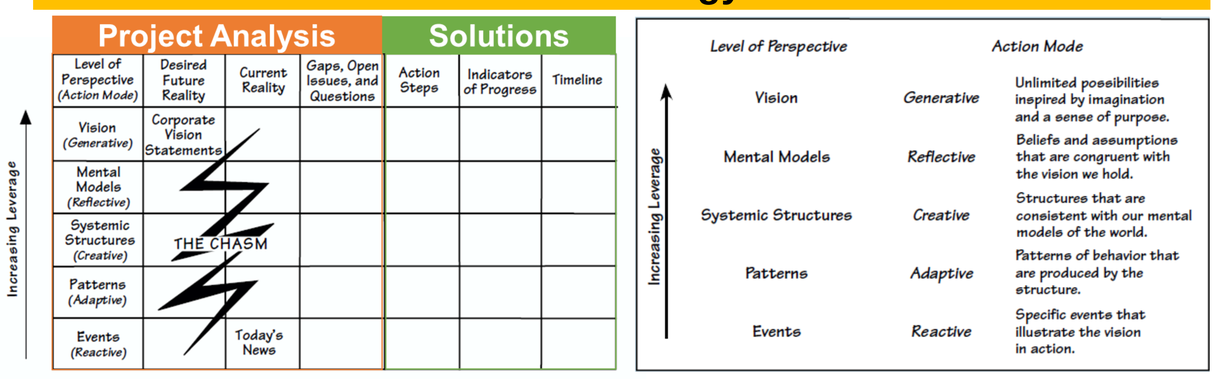


Figure 5. Vision Deployment Matrix by Daniel Kim – a methodology to identify the gaps and issues (enormous "chasm") that lies between a desired future reality (vision) and current reality. Desired future reality, current reality, gaps and issues are mapped at multiple levels of perspective, allowing fundamental issues with existing vision, mental models and systemic structures to be identified so that it can be addressed to create sustainable change.

Table 1. Application of Vision Deployment Matrix by GAS Department in relation to the WTA project. The team proceed to map out the Desired Future Reality and Current Reality to identify the Gaps and Open issues, and held a discussion of our Desired Vision, Mental Models and Systemic Structures related to WTA within the department.

	Desired Future Reality	Current Reality
Vision	To be a renowned department at the leading edge of Medicine, providing quality healthcare.	Status Quo
Mental Model	New case referral should not wait more than 2 months to see a Specialist because that is "quality healthcare"	Linear thinking of a person or thing is responsible for long WTA, the "problem" is "out-there", not within the department, fixation on results of WTA alone.
Systemic Structures	**Supply** 1. Standardised Key Performance Index (KPI) are established for the number of New Cases seen per clinic 2. Clinical guidelines for common medical conditions are established to encourage standardised management and discharge **Demand** 1. Open Access Gastroscopy referrals fully utilised 2. Standardised Specialist Outpatient Clinic referral criteria	**Supply** 1. No motivation to achieve KPI for number of new case seen 2. Variation in management and discharge among doctors **Demand** 1. Low Open Access Gastroscopy referrals i.e. an average of 8 referrals since its start in Oct'17 2. Not adhere to Specialist Outpatient Clinic referral criteria
Pattern	To have <50% of for subsidised patients waiting more than 2 months for a specialist outpatient clinic appointment	68% of subsidised patients waiting more than 2 months for a specialist outpatient clinic appointment
Events	When a patient contacts the call centre, he will be able to obtain a GAS appointment within 2 months	When a patient contacts the call centre, he only able to obtain a GAS appointment that is more than 2 months

Table 2. The gaps (chasm) in *Systemic Structures* are identified.

	Desired Future Reality	Current Reality	Gaps (Root Causes)
Systemic Structures	**Supply** 1. Standardised Key Performance Index (KPI) are established for the number of New Cases seen per clinic 2. Clinical guidelines for common medical conditions are established to encourage standardised management and discharge **Demand** 1. Open Access Gastroscopy referrals fully utilised (reduce SOC referral) 2. Standardised Specialist Outpatient Clinic (SOC) referral criteria	**Supply** 1. No motivation to achieve KPI for number of new case seen 2. Variation in management and discharge among doctors **Demand** 1. Low Open Access Gastroscopy referrals 2. received upon primary care doctors 3. Variation in appropriate medical conditions for SOC referrals	**Supply** 1. No perceived benefit or risk to achieve KPI, KPI calculation is not objective (NC seen) Individual doctor is providing good care but not as a team (FP:NC ratio) 2. Doctors manage common conditions differently with different rate of discharge (FP:NC ratio) **Demand** 1. Mental model, perceived workload, no motivation 2. Mental model, defensive practice, no feedback, no motivation

Methodology

Table 3. Root Causes Ranking using Prioritization Matrix. Based on VDM analysis, the team decided to focus on the root causes (gaps) identified at the systemic structures in order to (1) implement systemic and sustainable solutions for the perennial WTA problem, and (2) gradually shift mental models by addressing behaviours. Root causes were then ranked based on the degree and level of impact to WTA, and the level of control the team had over the root causes

No.	Gaps (Root Causes)	Degree of Impact Indirect impact (Follow-up): 1 point Direct impact (New case): 2 points	Level of Impact Specific patient source: 1 point All patients source: 2 points	Within control SGH staff/SGH partners:1 point SGH staff only: 2 points	Total
1	KPI on New Case seen (No perceived benefit or risk), KPI calculation is not objective	2	2	2	**6**
2	SGH Doctors manage common conditions differently with different rate of discharge	1	2	2	**5**
3	Reason why Polyclinic doctors do not refer to open access gastroscopy	2	1	1	4
4	Reason why variation in appropriate medical conditions for SOC referrals	2	1	1	4

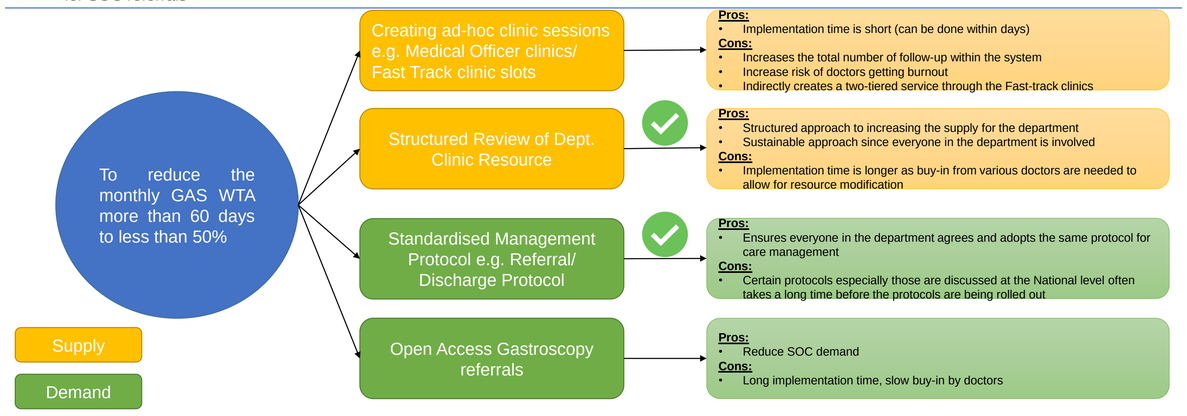


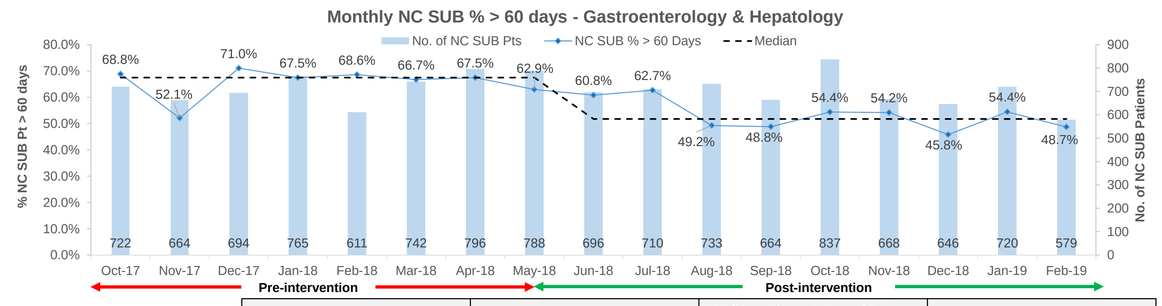
Figure 6. Pros & Cons of the Proposed Solutions. Solutions were proposed to address the root causes identified, with added segregation into the type of impact of the solution will have on either supply of new case slots or demand of new case referrals. Sustainable and systemic structures were selected for implementation.

Table 4. Plan for Implementation of Identified Solutions.

Stakeholder	Solution Implementation	Remarks
Gastroenterology & Hepatology Doctors	1. Implementation of objective Key Performance Index (KPI) for actualised new attendances per clinic. 2. Management guidelines for common Gastroenterology & Hepatology conditions. 3. Quarterly update on individual KPI progress.	1. KPI was derived using: • Past year actualised new attendances. • For all general subsidised clinics, excluding Medical Officer clinics. 2. Anonymized report on the individual doctor's performance are sent to the various doctors on a quarterly basis
Specialist Outpatient Clinic (SOC)	1. Routine monthly update to Head of Department and the team members on the progress of the project. 2. Department performance is shared to the department on quarterly basis.	Updates include the various indicators reported e.g. latest WTA performance, individual doctor's resource-setup and FP:NC ratio by doctors etc.

Results

1) **Reduction in Patients waiting for appointments more than 60 days**



	Period	No. of Patients (N)	Waiting Time to Appointment (Mean ± Std Dev)	P – Value
Pre-Intervention	Oct'17 – May'18	5,783	66.4 ± 38.6 days	<0.05
Post-Intervention	Jun'18 – Feb'19	7,697	49.9 ± 37.6 days	

Figure 7. Monthly GAS WTA Trend pre-post intervention. The improvement in the mean NC SUB patient's WTA pre-post intervention was significant using independent t-test.

2) **Improvement in FP:NC ratio**

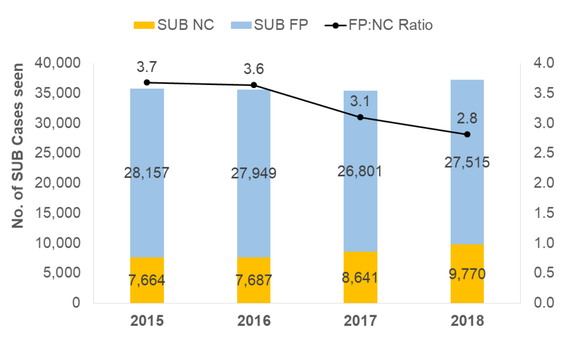


Figure 8. Improvement in FP:NC Ratio. The increase in new cases seen without a corresponding increase in follow-up cases illustrates the improvement in (1) access to specialist care to patients and (2) effort to right-site patients with stable chronic conditions back to community care.

3) **More doctors meeting the department target of NC SUB cases seen per general clinic**

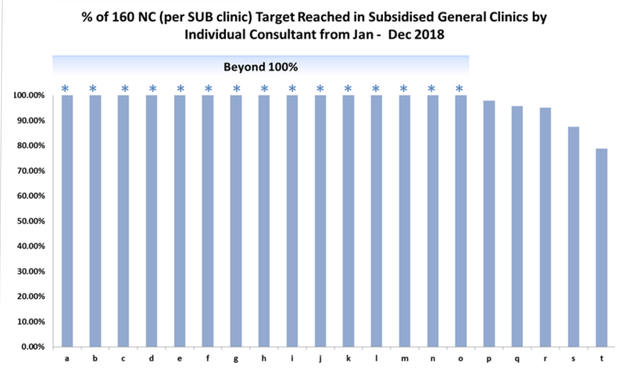


Figure 9. Adherence to Department KPI on the number of NC SUB cases seen per general clinic. Doctors' concerns of equity of job plan and key responsibility areas (KRA) were identified and addressed in continuous communication by HOD – equity and not equality. Equity means that the number of clinics run by each doctor is determined by their role in the department i.e. Clinician Scientist, Educator, Clinician.

Conclusion

The Vision Deployment Matrix offers a systems thinking approach to understand the long WTA issue in SOC for the department. It assists the department to identify the key issues that are stopping us from achieving our desired vision in providing timely quality care in SOC. The significant reduction in WTA encourages the department to continue system thinking approach to achieve our desired high quality care for timelines in a sustainable way.

Acknowledgement

The team would like to thank all the GAS doctors who have contributed to the success of this project, Miss Chua Xin Ni (SGH – Organization Planning & Performance) for her guidance and advice throughout the project period, and the unwavering support from all of the staff in SGH Centre of Digestive and Liver Diseases (CDLD).

Reference

1. Wolfe A. 2001. Institute of Medicine Report: Crossing the Quality Chasm: A New Health Care System for the 21st Century. Policy, Politics, & Nursing Practice. 2 (3): 233–235