

Project Title

Provision of Step-Down Glaucoma Care by an Optometrist-Assisted Clinic (OAC) at NTFGH Eye Service

Project Lead and Members

Project Lead: Dr Lennard

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Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group Involved in this Project

Medical (Ophthalmology), Allied Health

Applicable Specialty or Discipline

Ophthalmology, Optometry

Project Period

Start date: Jan 2019

Completed date: May 2023

Aims

1. Reduce total time patient spent in glaucoma clinic
2. Reduce healthcare cost for patients

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

See poster appended/ below

Conclusion

See poster appended/ below

Project Category

Care Continuum

Outpatient Care

Care & Process Redesign

Access To Care

Keywords

Optometry, Glaucoma Clinic, Goldmann Applanation Tonometry (GAT), Optometrist-Assisted Clinic (OAC) Service

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PROVISION OF STEP-DOWN GLAUCOMA CARE BY AN OPTOMETRIST-ASSISTED CLINIC (OAC) AT NTFGH EYE SERVICE

MEMBERS: DR LENNARD THEAN, DR JOCELYN CHUA, DR LIM RONGXUAN, FIFIANA TAN, JASON KWAN, ADELINE TAN, NUR ZIANA BINTE AZIN

- SAFETY
- QUALITY
- PATIENT EXPERIENCE
- PRODUCTIVITY
- COST

Define Problem, Set Aim

Problem/Opportunity for Improvement

- Glaucoma is an age-related eye disease that requires lifelong observation and management once diagnosed. With the ageing population in Singapore, the number of glaucoma patients are expected to increase.
- An increasing number of outpatient glaucoma visits in the hospital per annum has already been seen: 3928 (2016), 4308 (2017), 5483 (2018), 4166 (2019). If the increase in number of ophthalmologists is not proportional to this increase in demand, the waiting time to obtain glaucoma specialist care will potentially increase, risking delay in the diagnosis of glaucoma.
- Average duration spent per clinic visit is 1-2 hours, depending on need for glaucoma investigations. Long duration of visit and waiting time may make patients less likely to attend a subsequent visit which risk disease progression to be undetected. Higher default rate also means disruption in clinic schedules and waste of clinic slots.
- With limited appointment capacity, ophthalmologist stretch time intervals between follow-up visits causing delay in review
- The need for lifelong observation and management make healthcare affordability a potential concern for glaucoma patients

Aim

- Reduce total time patient spent in clinic
- Reduce healthcare cost for patients

Establish Measures

Outcome Measure

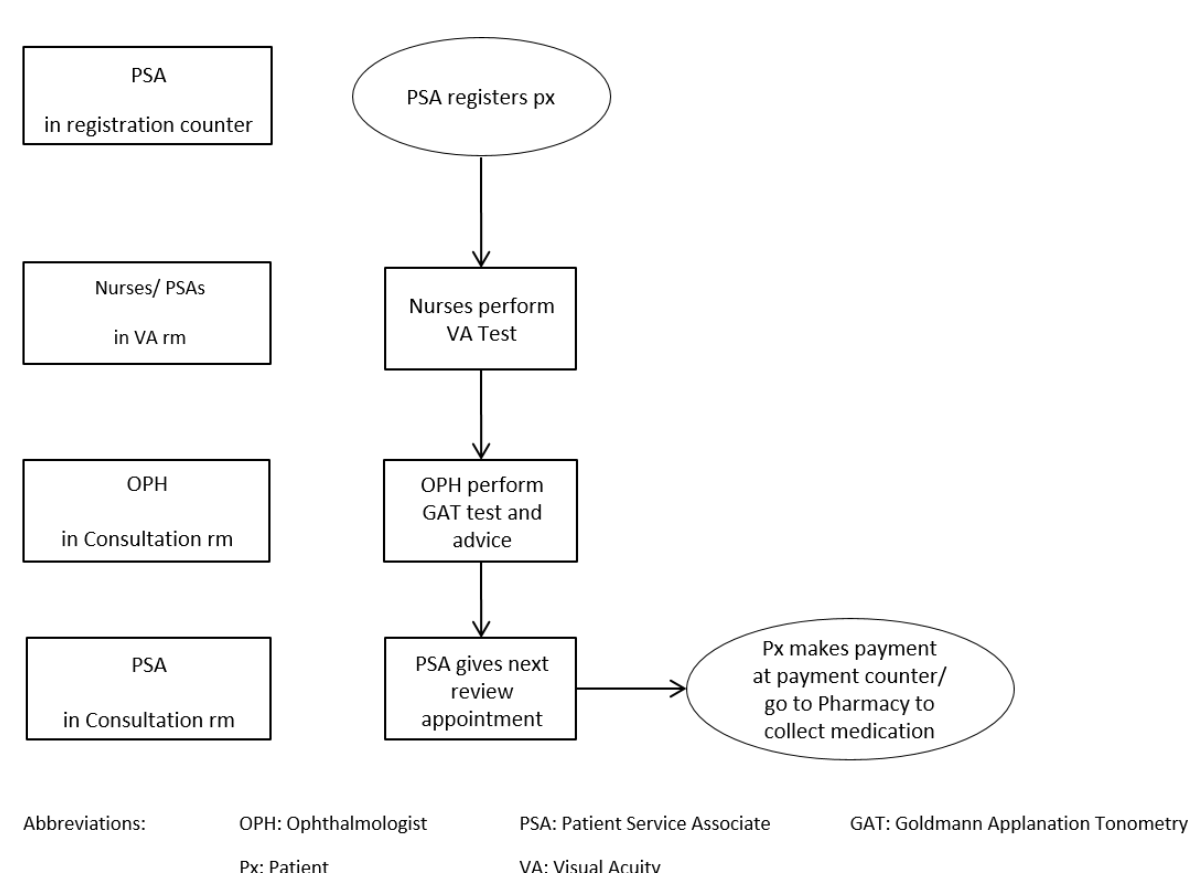
- Total time spent in clinic
- Total cost for patients per visit

Process Measure

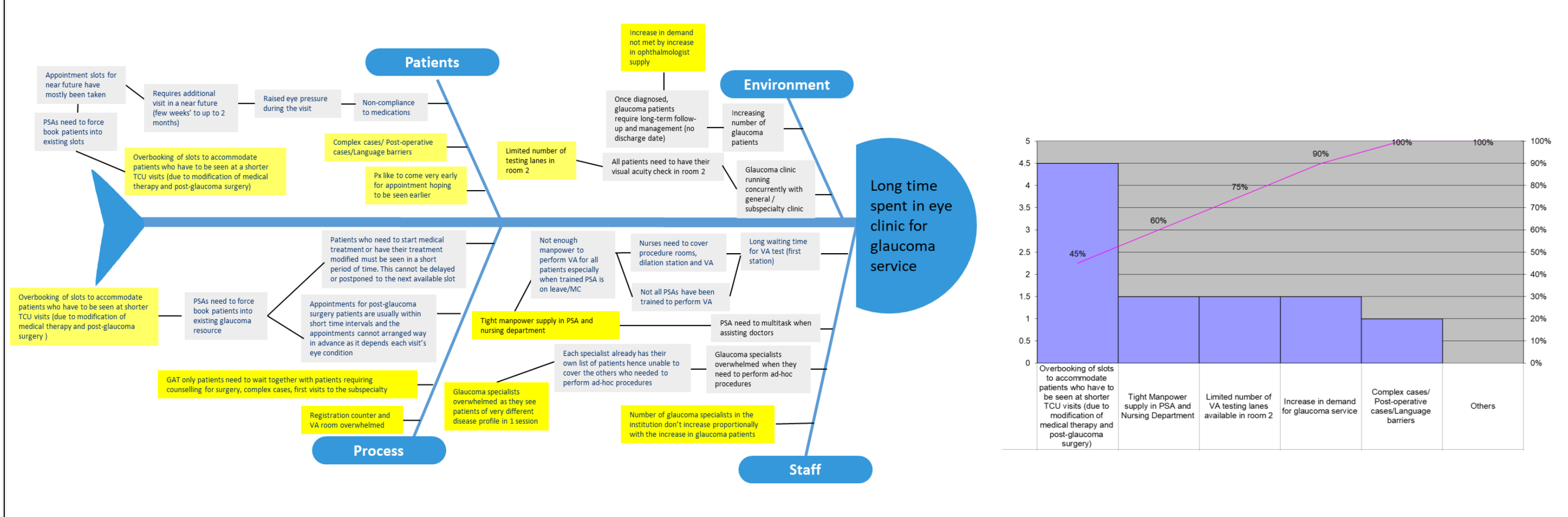
- Waiting time for Goldmann Applanation Tonometry (GAT) for eye pressure check

Analyse Problem

Process Before Intervention

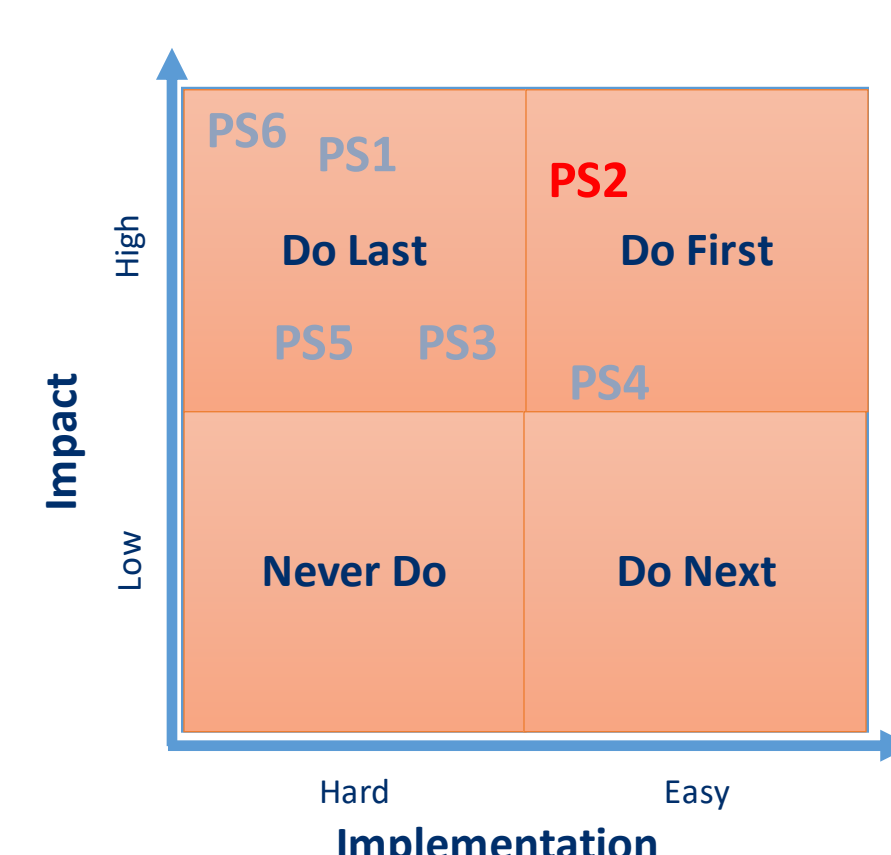


Probable Root Causes



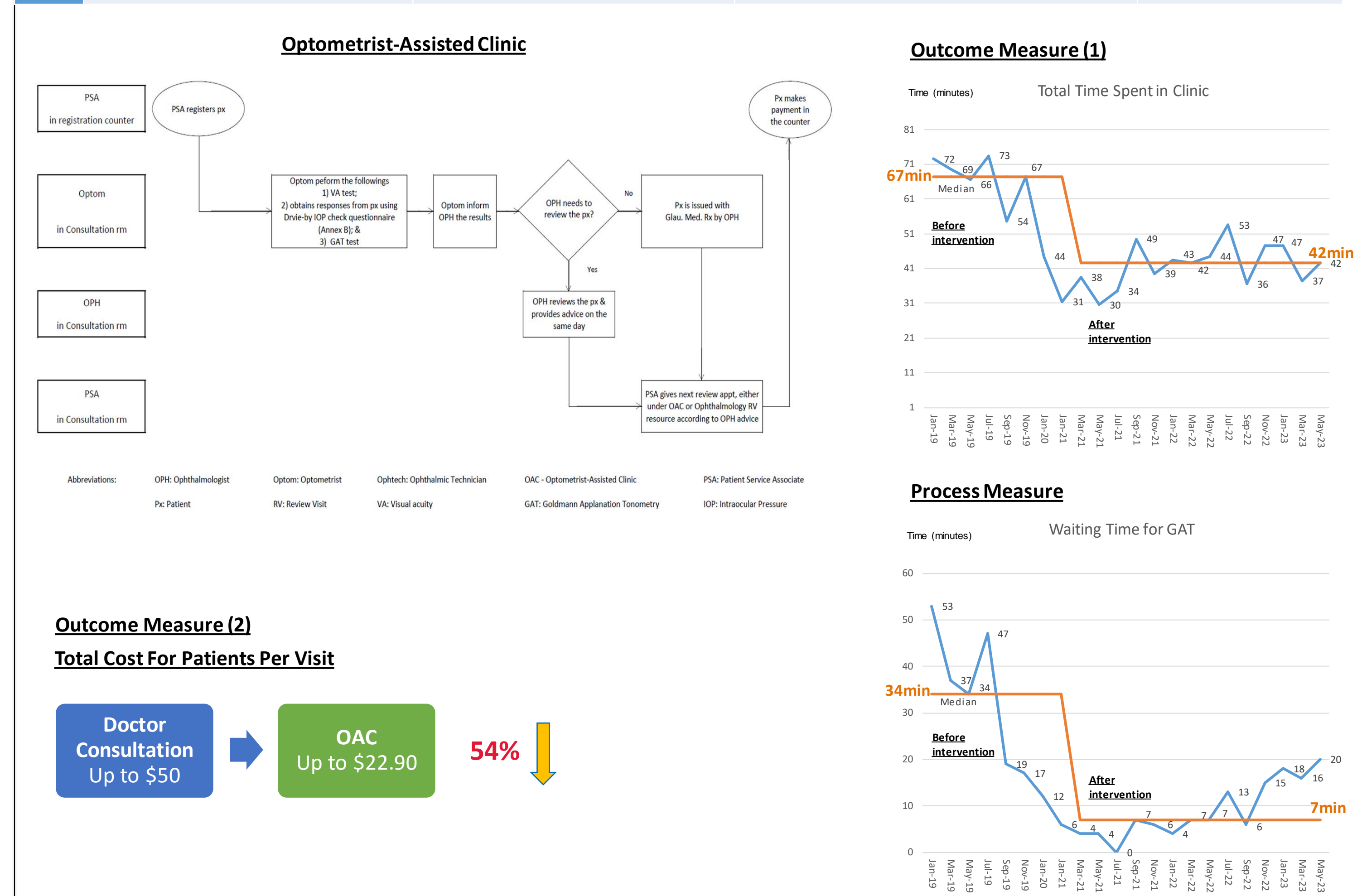
Select Changes

Root Cause	Potential Solutions
Overbooking of slots to accommodate patients who have to be seen at shorter TCU visits (due to modification of medical therapy and post-glaucoma surgery)	1. Train Medical Officers to run GAT service clinic only to free-up glaucoma resource slots to offload glaucoma specialists so they can handle complex cases 2. Train up Optometrists to run GAT service to co-manage patients who require GAT only after beginning treatment or treatment modification to offload glaucoma specialists so they can focus on complex/post-op cases. Optometrist perform VA for this group of patient as well.
Tight Manpower supply in PSA and Nursing Department	3. Hire more nurses/PSAs and send for VA training 4. Ask patient to check oneNUHS app for next appointment date (PSAs do not have to make appointment for patient immediately)
Limited number of VA testing lanes available in room 2	5. Extra room and equipment for VA test
Increase in demand for glaucoma service	6. Hire more glaucoma specialist



Test & Implement Changes

Cycle	Plan: "What will happen if we try something different?"	Do: "Let's try it."	Study: "What happened?"	Act: "What's next?"
1	<ul style="list-style-type: none"> Glaucoma specialists train optometrists to perform GAT Optometrists complete logbook and gets certified by glaucoma specialist to perform GAT and run Optometrist-Assisted Clinic (OAC) service Meeting with all stakeholders on resource planning and plan patient journey from registration to payment Create new resource names Optometrist-Assisted clinic Resource (OAR) and appointment slots for OAR-GAT group 	<ul style="list-style-type: none"> Pilot run Optometrist-Assisted Clinic service under new OAR resource—optometrist perform VA and GAT for patients Optometrist notifies Dr of result and Dr order medication and advise plan for next TCU PSAs book appointment for next TCU 	<ul style="list-style-type: none"> Shorter waiting time for and VA, GAT and lesser total time spent in clinic But waiting time for appointment date for next TCU was still long because counter and room PSA were too occupied with patients to make appointment for OAC patients Long waiting time to speak to Dr on findings when Dr is seeing her patient hence next patient has to wait longer for GAT as the optometrist is still waiting for Dr's instructions about earlier patient(s) <p>Observation and feedback:</p> <ul style="list-style-type: none"> Patient is happy with the shorter time spent in clinic Patient uses OAC visit to clarify use of the medications; They understand their eye conditions and purpose of eyedrops better hence are more motivated to be compliant 	<ul style="list-style-type: none"> Adopt OAC clinic For next cycle <ul style="list-style-type: none"> Aim to shorten waiting time for appointment date from PSA Aim to shorten amount of time waiting for Dr and not delaying the subsequent patients
2	<ul style="list-style-type: none"> Discuss with PSAs on how to shorten the patient waiting time for appointment Discuss with Ophthalmologists on how to shorten amount of time waiting for her and not delaying the subsequent patients 	<ul style="list-style-type: none"> Instead of asking patient to wait for their appointment letter, tell patient PSA will send patient appointment date via SMS or patient to check oneNUHS app within a week to check their next appointment date. Assign 1 PSA to be in-charge of booking appointments for OAC patients. Optometrist alert room PSA that she need to discuss with Dr about findings. PSA noted optometrist when Dr is ready. During this time optometrist can attend to other patients. 	<ul style="list-style-type: none"> Patients are happy with receiving SMS or check oneNUHS app for their next appointment Total time spent in clinic is further reduced 	Adopt changes in cycle 2



Spread Changes, Learning Points

Strategies To Spread Change After Implementation

Announce the commencement of new OAC service to eye doctors, nurses, PSAs and optometrists. Work with PSAs, service ops managers to create and manage resources for appointments. Notify call center staff of this new service and which resource to book patients into in case patients call in to reschedule appointments.

Key Learning Points

Patients are generally open to be enrolled into step-down care services so long as they feel that the quality of care is not compromised. Optometrists are available workforce that can be readily trained to co-manage certain eye conditions with Ophthalmologists hence allowing Ophthalmologist to focus on complex cases.