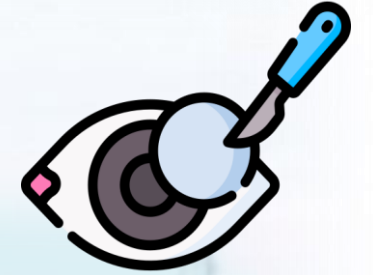




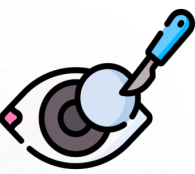
هسببنا كفا لارو سببنا
HOSPITAL SULTAN IDRIS SHAH, SERDANG



To Reduce Repeated Pre-operative Assessment Visit Prior To Cataract Surgery In Hospital Sultan Idris Shah, Serdang

Ophthalmology Department

TEAM MEMBERS



OPHTHALMOLOGY

Advisor

Dr Zaidah Binti Mohd Kassim	HOD Ophthalmology
Dr Rozita Binti Ismail	Consultant

Team members

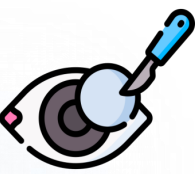
Dr Diymitra K Ganasan	Specialist
Dr Athifah Binti Ariff Johor	Medical Officer
Dr Wan Nur Najwa Binti Wan Zakaria	Medical Officer
Dr Ahmad Syazrin Abdullah bin Azlan	Medical Officer
Dr Mahalakshmi A/P Thillainathan	Medical Officer
Dr Subashini A/P Periasamy	Medical Officer
Dr Tan Ai Ling	Medical Officer
Pn Hazwani Binti Hassan	Optometrist



OUTLINE OF PROBLEM



PROBLEM IDENTIFICATION

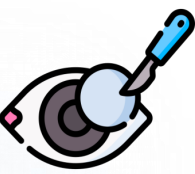


Selection of Opportunities for improvement

No Problem

1. High percentage of repeated laser Pan Retinal Photocoagulation (PRP) appointment
2. High percentage of repeated preoperative cataract assessment
3. High percentage of glaucoma suspect appointment
4. High cancellation rate of scheduled cataract surgery
5. Long waiting time for Humphrey Visual Field in Glaucoma patient

PROBLEM PRIORITISATION

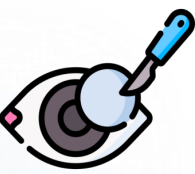


No	PROBLEM	S	M	A	R	T	Score
1	High percentage of repeated laser PRP appointment	35	34	35	33	31	168
2	High percentage of repeated preoperative cataract assessment	38	34	38	36	35	181
3	High percentage of glaucoma suspect appointment	33	35	31	31	33	163
4	High cancellation rate of scheduled cataract surgery	36	33	35	35	33	172
5	Long waiting time for Humphrey Visual Field	34	31	33	35	34	167

5-point scale (1=lowest; 2=low; 3=medium; 4=high; 5=highest)

Number of members in group: 8

REASON FOR SELECTION



☰ **NEW STRAITS TIMES**

NEWS

216,000 Malaysians became blind after delaying cataract surgery

By Bernama
October 14, 2016 @ 5:06pm

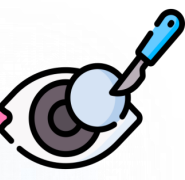
A photograph showing a male doctor in a white coat examining an elderly male patient's eye. A female doctor in a pink hijab and dark uniform is also present, looking through a surgical microscope. The setting appears to be an ophthalmology clinic or operating room.

SERIOUSNESS

The main cause of lens induced glaucoma is **phacomorphic glaucoma** stemming from **untreated cataract!**

A Yaakub, MD (USM), M.MED (Ophthal) USM, N Abdullah, MBBS (Malaya), I Siti Raihan, MD, M.MED (Ophthal) USM, and LS Ahmad Tajudin, MBBS (Malaya), MMED (USM), PHD (UK); Lens-induced glaucoma in a tertiary centre in northeast of Malaysia

REASON FOR SELECTION



MEASURABLE

Measurable by percentage of patient with repeated pre-operative assessment visit through clinic census.

APPROPRIATE

About 250,000 Malaysians are blind due to untreated cataract and this blindness is treatable

REMEDIAL

Remedial measures can be done to improve preoperative cataract assessment.

TIMELINESS

Can be completed within stipulated time.

LITERATURE REVIEW



 Log In

Dr Noor Hisham: Prevalence of blindness is 1.2% of country's population



NATION
Thursday, 13 Oct 2022 7:46 PM MYT



Untreated cataract (58.6%) one of the commonest causes of blindness in Malaysia.⁵

5. Chew FLM, Salowi MA, Mustari Z, Husni MA, Hussein E, Adnan TH, et al. (2018) Estimates of visual impairment and its causes from the National Eye Survey in Malaysia (NESII)

The resulting prolonged elevated intraocular pressure (IOP) in phacomorphic glaucoma will lead to **irreversible optic nerve damage and visual impairment.**^{2, 3, 4}

2. David R, Tessler Z, Yassur Y . Long term outcome of primary acute angle closure glaucoma. Br J Ophthalmol 1993; 17: 33–36.

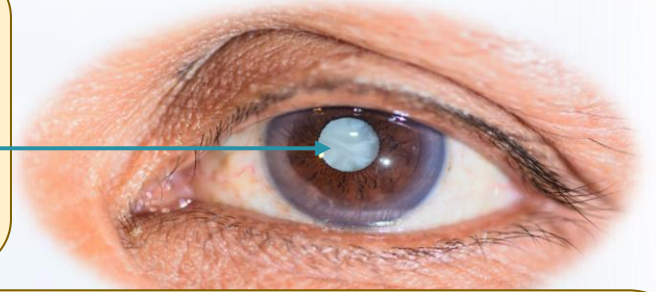
3. Kanellopoulos AJ, Perry HD, Donnenfeld ED . Comparison of topical timolol gel to oral acetazolamide in the prophylaxis of viscoelastic-induced ocular hypertension after penetrating keratoplasty. Cornea 1997; 16 (1): 12–15

4. Hart WM, Becker B . The onset and evolution of glaucomatous visual field defect. Ophthalmology 1982; 89: 991–998.

TERMS & DEFINITIONS



1. **Cataract:** **Clouding** of the natural intraocular lens that is **treated with surgery.**

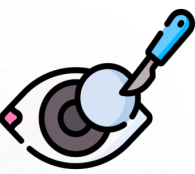


2. **Pre-operative assessment visit:** Patient's appointments that includes an investigation day and a clinic day to be reviewed and assessed prior to cataract surgery.

Single pre-operative assessment:
Operation date given after
ONE
assessment visit

Repeat pre-operative assessment:
Operation date given after
MULTIPLE
assessment visit

INTRODUCTION



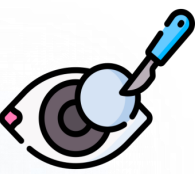
Selangor's Oculoplastic Centre

- >1500 cataract surgery / year
- >3500 clinic patients / month
- >600 pre-operative cataract clinic monthly

80% are **repeated**

pre-operative assessment visit

INTRODUCTION



PRE-OPERATIVE ASSESSMENT



1

Investigation's day:

- Blood testing
- Biometry calculation
- ECG

2

Doctor's review day:

- Investigations
- Patient's condition
- Type of anaesthesia
- Type of lens

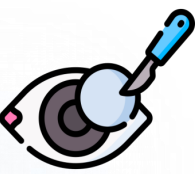
3

Referral appointment
if necessary

4

Given cataract operation
date

TYPE OF INTRAOCULAR LENS



INTRAOCULAR LENS OPTIONS

SELF-PAYING

- Cost of IOL paid by the patient



PeKa
B40

WELFARE PEKA B40

- Free lens by government for **B40** group
- Approval time: **3 month**

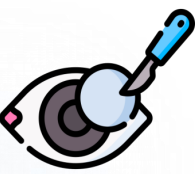


JPA

- For JPA pensioner
- Approval time: **1 month**

PROBLEM ANALYSIS

5W + 1 H



WHAT

- High percentage of patient for **repeated pre-operative cataract assessment**

WHY

- Weakness in workflow or system that leads to delay of cataract surgery

WHERE

- Ophthalmology Clinic Hospital Sultan Idris Shah Serdang

WHO

- Patient, doctors and staff nurse involved

WHEN

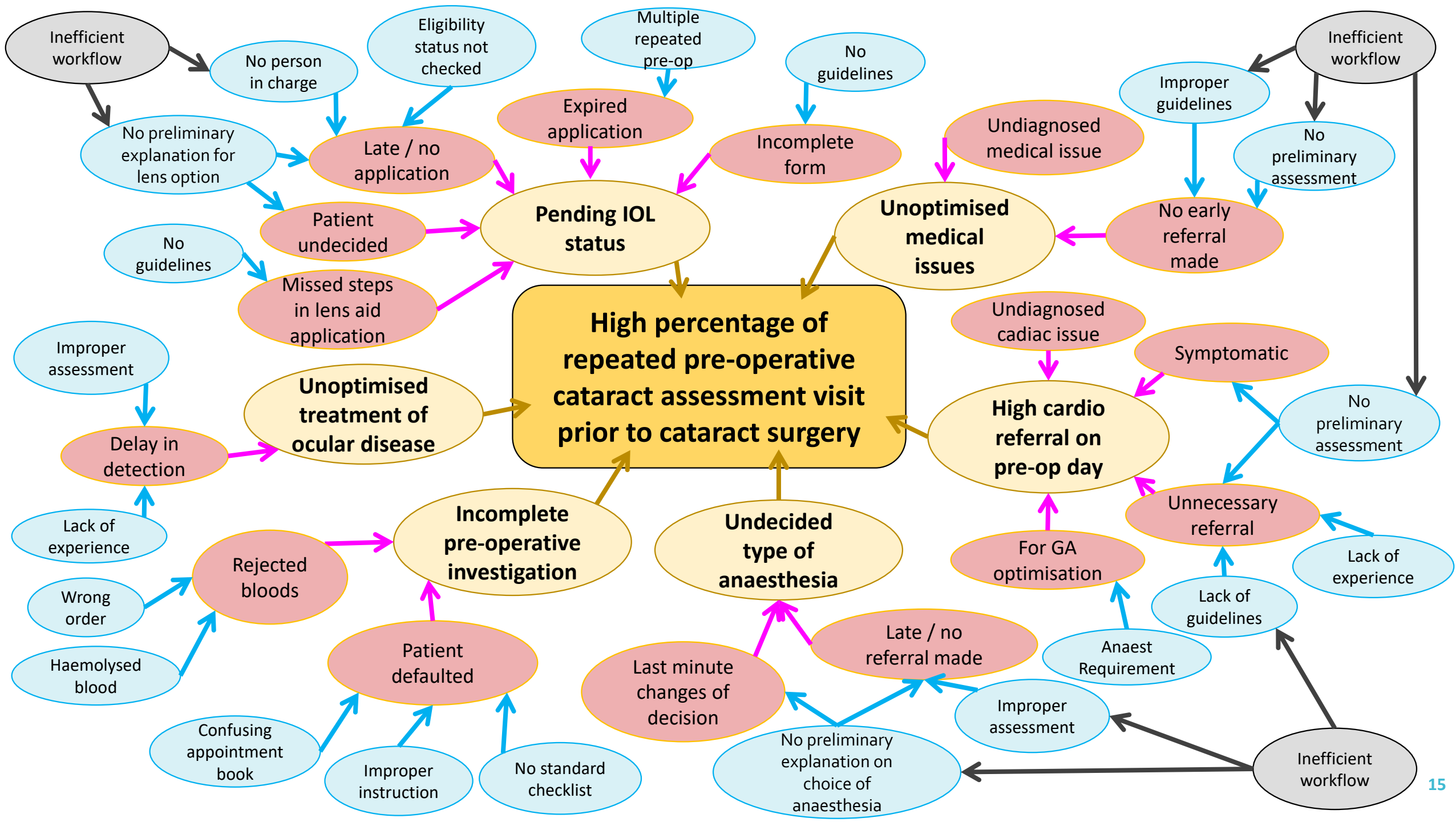
- Every clinic day since increasing number of patient **in 2016** until **now**

HOW

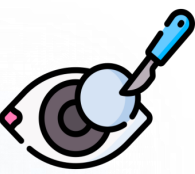
- Patient with repeat preoperative assessment is due to multiple factors

PROBLEM ANALYSIS CHART





PROBLEM STATEMENT



PROBLEM	Out of 600 patients who come for pre-operative assessment, 80% will require repeat pre-operative assessment.
EFFECT	Delay in surgery will lead to irreversible ocular complication, patient dissatisfaction, economic and logistic burden to hospital, patient and family members.
POSSIBLE CAUSE	Multiple factors including disorganize workflow, ocular infection, uncontrolled co-morbidity, and financial/intraocular lens aid contributed to this problem.
AIM OF STUDY	This study will help to reduce repeated pre-operative assessment visit prior to cataract surgery in Hospital Sultan Idris Shah, Serdang

OBJECTIVE



GENERAL OBJECTIVE:

- To **reduce percentage of repeated pre-operative assessment visit** prior cataract surgery in HSIS.

SPECIFIC OBJECTIVES:

- To verify **the percentage** of patient with repeated preoperative assessment visit prior to cataract surgery.
- To identify the **contributing factors** of repeated preoperative assessment visit prior to cataract surgery.
- To formulate and implement **remedial actions**
- To evaluate **effectiveness** of remedial measures

KEY MEASURE FOR IMPROVEMENT



PROCESS OF CARE



GENERAL CLINIC

Stage 1

Patient eligible for cataract surgery

PIC: Doctors



Appointments given for Preoperative Assessment

PIC: Nurses



BLOOD CENTRE & EYE PROCEDURE ROOM

Stage 2

Patient come for Pre-operative Investigation

Biometry, blood and ECG

PIC: Nurses/Optom



Patient come for Pre-operative Cataract Assessment

PIC: Doctors



PRE - OPERATIVE CLINIC

Stage 3

Suitable for surgery?

No

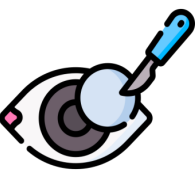
Repeat Pre-operative Assessment date given



Yes

Operation date given

MODEL OF GOOD CARE



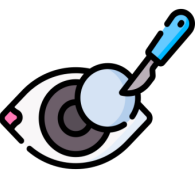
PROCESS	CRITERIA	STANDARD
1. Assessment of patient's eligibility for cataract surgery	1. Identify patient with medical comorbidity	100%
	2. Referral to respective department	100%
	3. To explain regarding intraocular lens options	100%
	4. Refer patient with financial issue for intraocular lens aid application (PekaB40 / JPA)	100%
	5. Explain to patient regarding choice of anaesthesia (GA or LA)	100%
2. Appointment given for pre-operative assessment	Nurses to ensure 2 appointment dates given I. For biometry calculation, blood taking and ECG II. Preoperative assessment date	100%
3. Patient comes for pre-operative investigation	Patient comes for biometry calculation, blood taking and ECG	100%

MODEL OF GOOD CARE



PROCESS	CRITERIA	STANDARD
4. Patient comes for pre-operative cataract assessment clinic (Pre-Op Clinic)	1. Ensure medical and ocular issues have been optimized	100%
	2. Ensure availability of intraocular lens (IOL lens) I. Able to pay for self-paying patients II. Approved IOL lens status for PekaB40/JPA applicants	100%
	3. Review biometry, blood and ECG results are in acceptable range	100%
	4. Review anesthesiology clinic input if surgery planned under GA	100%
	5. To counsel regarding procedure of cataract surgery	100%
5. Repeat pre-operative assessment date	Patient to be given a repeat pre-operative assessment date if not suitable for surgery	0%

INDICATOR & STANDARD



Indicator

Percentage of patient with repeated pre-operative assessment visit

Formula

Number of patient with repeated pre-operative assessment

Total patient comes for pre-operative cataract assessment **x 100**

Standard

≤30%

Based on department consensus as stated in
Minit Mesyuarat Pengurusan Jabatan
Bil. 1/2022
(HSIS.600-8/18/1)

PROCESS OF GATHERING INFORMATION

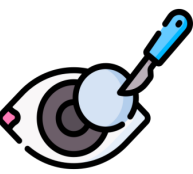


METHODOLOGY



Study Design	QA/QI study (Quasi experimental)
Study Population	Patient eligible for cataract surgery HSIS
Sampling Technique	Universal
Inclusion Criteria	Age (> 18 years old) and eligible for cataract surgery
Exclusion Criteria	Patient who refuse or postpone cataract surgery and not because of medical/ cardiology/ intraocular lens issue
Sample Size	Verification : 136 Patients *confidence level: 95% , margin of error: 5% Cycle 1 : 535 pts Cycle 2 : 355 pts Cycle 3 : 752 pts
Study Period	Verification Study: Jan – Feb'22 Cycle 1 : March – July'22 Cycle 2 : August'22 – Feb'23 Cycle 3 : March – November'23
Study Analysis Method	Microsoft Excel 2013

DATA COLLECTION METHOD



Target
Number of
patients with
cataract
with surgery
preoperative
assessment
day
Contraindications
factors
repeat
preoperative

QA Data collection 2022 : RePC issue
Date: 2/2/2022

Total no of PC Patients**:
Total no of pt come for rePC:
Total fail PC (today):

No	Name	SD	Come for PC/Repc	No of rePC	Reasons for Repc	PC today		If fail, reason for rePC	Plan (refer cardio/KK/etc)
						pass	fail		
1	Wiewchen nawi	295550	rePC		A scan. IAPD rt eye	✓		BZ PPD + cardio issue	rePC 6/12 .over
2	Siti rahwan	504045	rePC			✓		cardio issue	rePC 1/12
3	Sarapha	188965	rePC			✓		not approve pela B40	rePC 3/12 refer 5/12
4	Suvela	103672	rePC					pela B40 pending	rePC 6/12
5	Thannimalai	987862	rePC					Refer JKM	rePC 3/12
6	Thannabody	657896	rePC			✓		pending JPA - pending JPA	rePC 3/12
7	Senden	616757	rePC		repc. TRO COAA	✓		pending JPA - refer, refer	rePC 1/12 + blood
8	Kardi	1154792	rePC			✓		pending JPA	rePC 2/12
9	Mimunah	705166	rePC			✓		pending pela B40	rePC 2/12
10	Mimunah	705							
11	V. Vallasamy	577166	rePC					lot glare, welfare	re PC 2/12
12	Palanesamy	1001583	rePC					welfare, blind by light	re p 3/12
13	Lok Ah Chai	1208420	re-PC					welfare, refer B40	rePC 3/12
14	Dorajuraja	256275	PC			✓			
15	M. Zarwani	1199241	rePC			✓		welfare	rePC 2/12
16	Murajul Islam	1036698	re-PC			✓			
17	Mahalingam	674805				✓			
18	Majarvitay	310993	rePC				✓	Blood IX expired	2/12
19	M. Khutib	487676	rePC			✓			
20	Rudzali	1210089	rePC			✓			
21	Pwziah	1100128	re-PC				✓	TRO - JPA gate refer CS	3/12
22	Yusuf	391372	rePC					A scan	1/12
23	Rahimih	209987	PC			✓			3/12

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DATA ANALYSIS

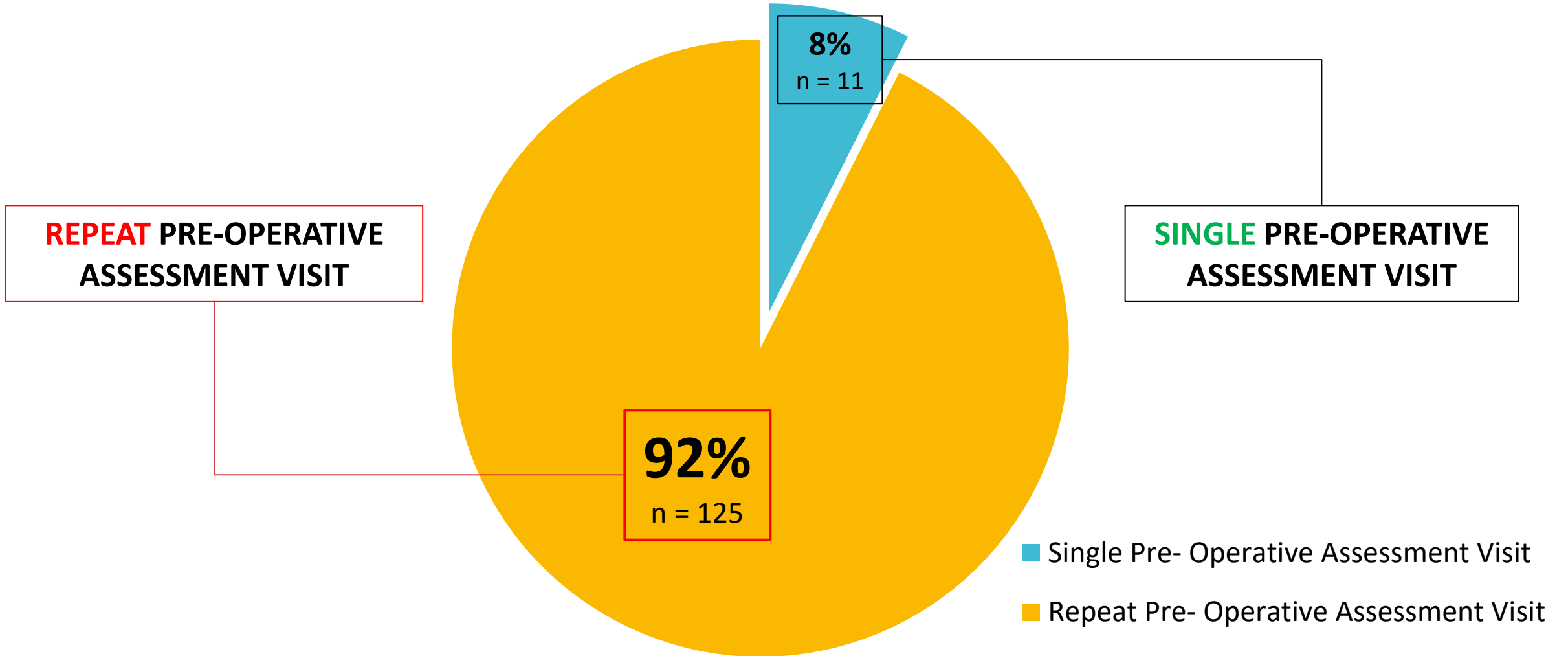
VERIFICATION STUDY





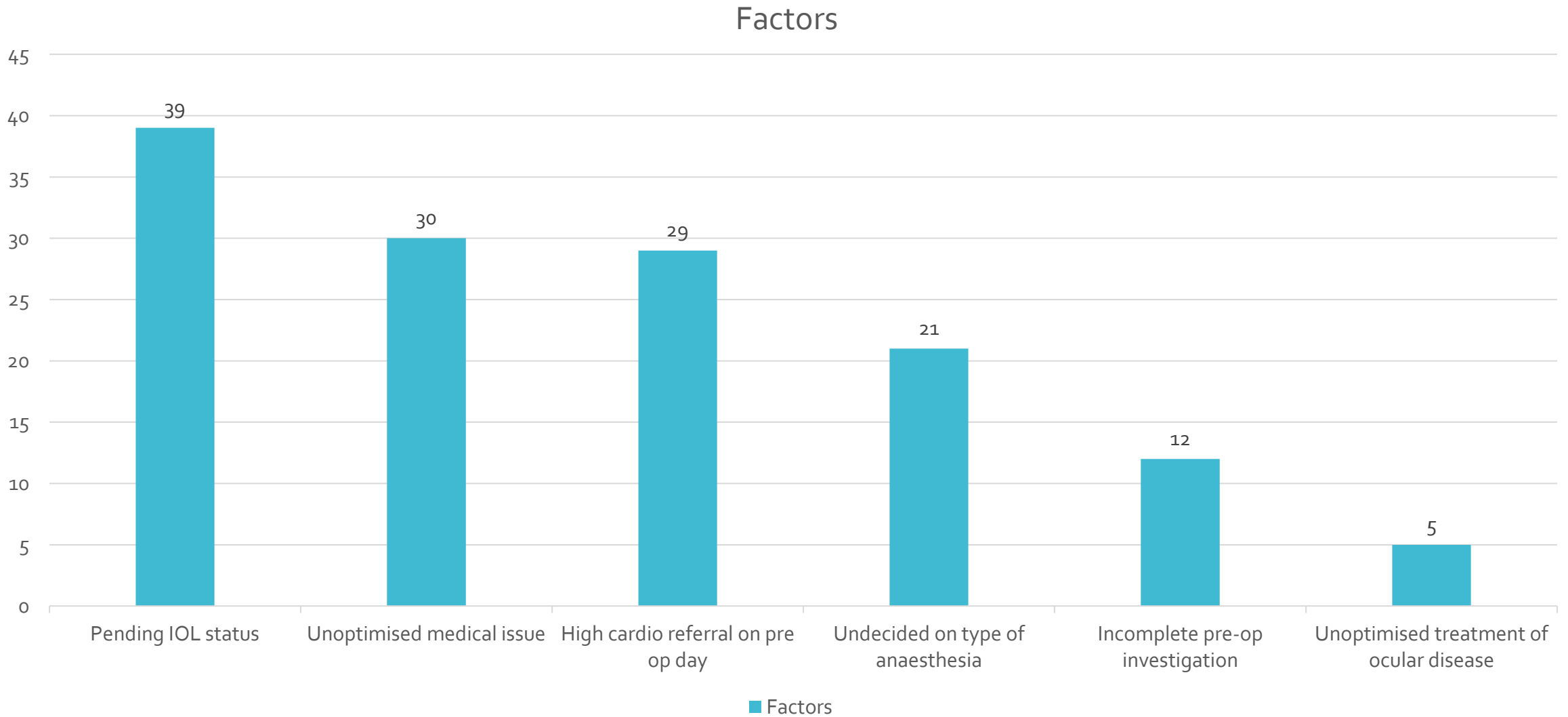
VERIFICATION STUDY

Percentage of pre-operative cataract assessment visits

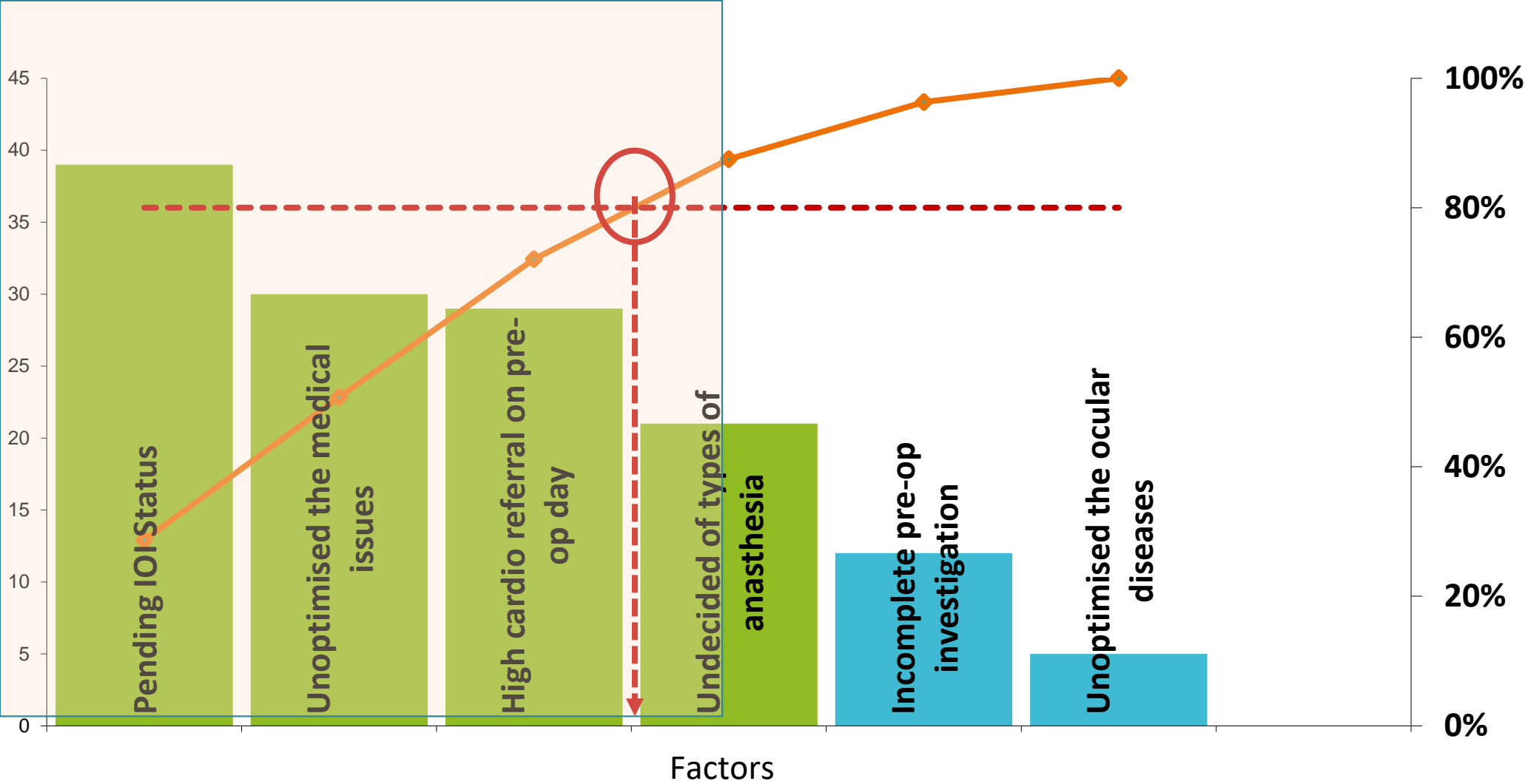




Factors of repeated pre-operative assessment visit



Factors of repeated pre-operative assessment visit

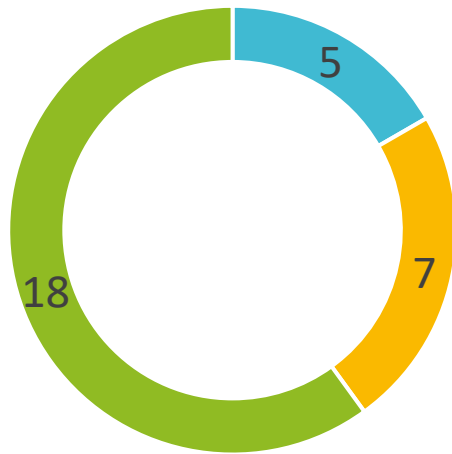


Pareto Chart: Factors of Repeated Pre-Operative Assessment Visit

SURVEY AMONGS DOCTORS

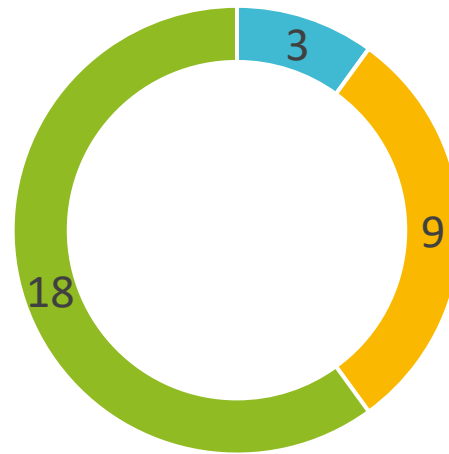


Pending Lens Status



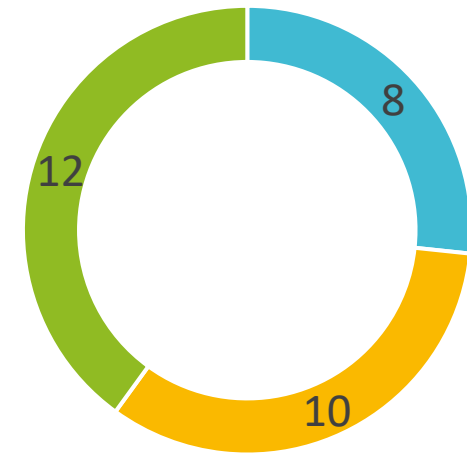
- No guidelines
- No preliminary explanation
- Inefficient workflow

Unoptimised medical issues



- Lack guidelines
- No preliminary assessment
- Inefficient workflow

High cardio referral



- Lack guidelines
- No preliminary assessment
- Inefficient workflow

MODEL OF GOOD CARE



PROCESS	CRITERIA	STANDARD	Verification n=136
1. Assessment of patient's eligibility for cataract surgery	1. Identify patient with medical comorbidity	100%	5%
	2. Referral to respective department	100%	5%
	3. To explain regarding intraocular lens options	100%	5%
	4. Refer patient with financial issue for intraocular lens aid application (PekaB40 / JPA)	100%	5%
	5. Explain to patient regarding choice of anaesthesia (GA or LA)	100%	70%
2. Appointment given for pre-operative assessment	Nurses to ensure 2 appointment dates given I. For biometry calculation, blood taking and ECG II. Preoperative assessment date	100%	100%
3. Patient comes for pre-operative investigation	Patient comes for biometry calculation, blood taking and ECG	100%	80%

MODEL OF GOOD CARE



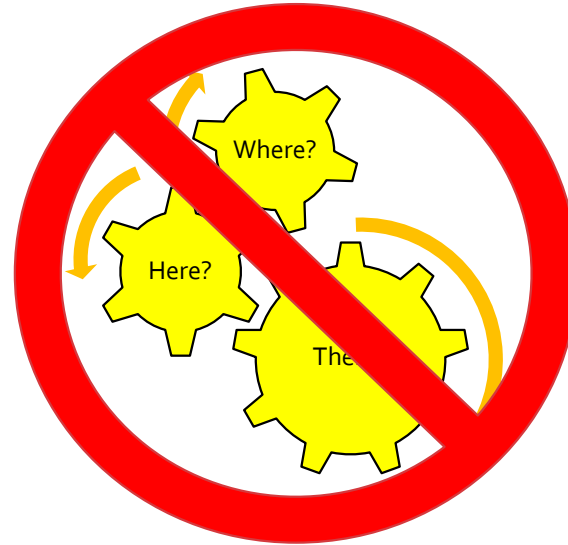
PROCESS	CRITERIA	STANDARD	Verification n=136
4. Patient comes for pre-operative cataract assessment clinic (Pre-Op Clinic)	1. Ensure medical and ocular issues have been optimized	100%	70%
	2. Ensure availability of intraocular lens (IOL lens) I. Able to pay for self-paying patients II. Approved IOL lens status for PekaB40/JPA applicants	100%	90%
	3. Review biometry, blood and ECG results are in acceptable range	100%	70%
	4. Review anesthesiology clinic input if surgery planned under GA	100%	90%
	5. To counsel regarding procedure of cataract surgery	100%	100%
5. Repeat pre-operative assessment date	Patient to be given a repeat pre-operative assessment date if not suitable for surgery	0%	92%

FINDINGS FOR VERIFICATION STUDY



92%

High percentage of repeated pre-operative assessment visit



Improper workflow



Doctor:

- Delay in referring for unoptimised comorbids
- Delay in referring for lens aid



STRATEGIES FOR CHANGE

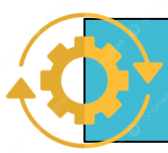
CYCLE 1



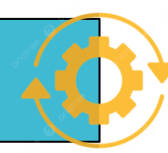
STRATEGIES



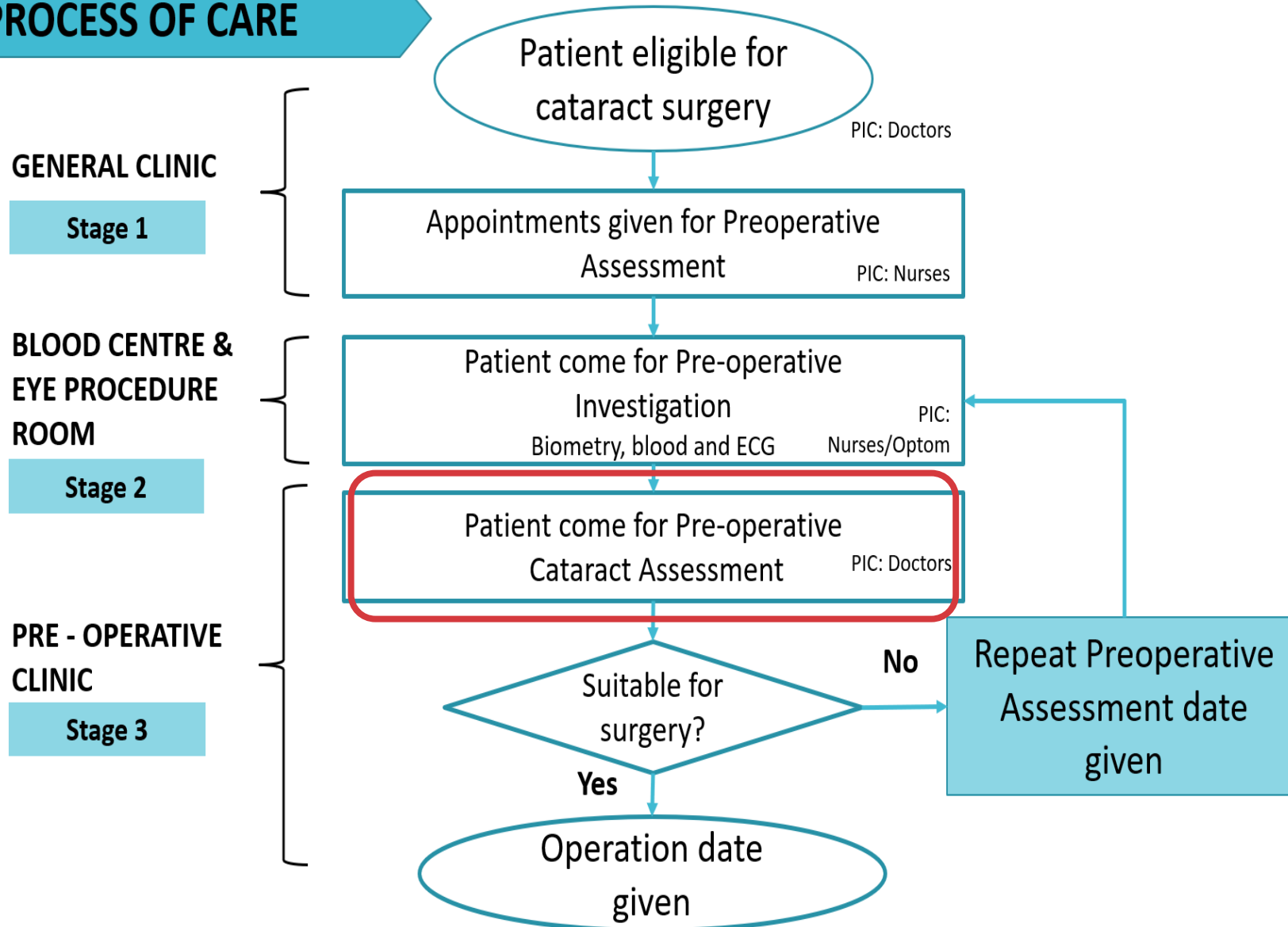
PROBLEM	ACTION
Ineffective workflow in SOP	Change of workflow , create new SOP
No checklist for preoperative assessment	Checklist created and placed in every general clinic doctor's room. Blasted in our formal WhatsApp group
No referral made to cardio during general clinic.	Cardiac risk referral template for easier referral
Patient missed appointment for pre-op investigation	New patient's appointment slip Easier to view, clipped with the appointment book



STRATEGY 1: CHANGE OF WORKFLOW

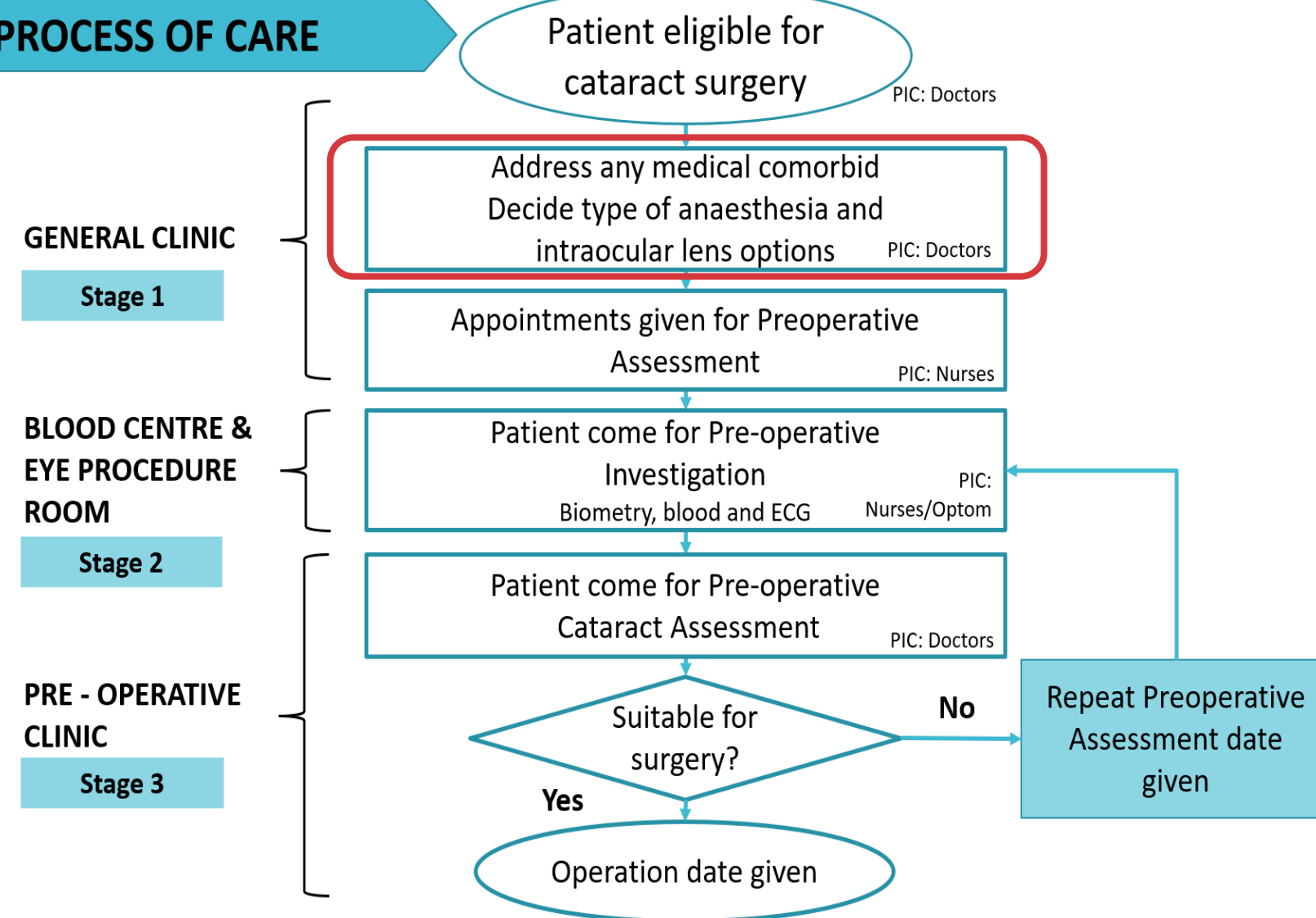
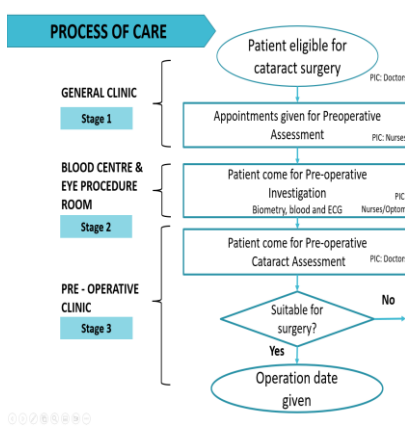


PROCESS OF CARE



STRATEGY 1: CHANGE OF WORKFLOW

PROCESS OF CARE





STRATEGY 1: CHANGE OF WORKFLOW



QUICK CHECKLIST PRIOR GIVING CATARACT PRE-OP CLINIC APPOINTMENT

	ACTION
OCULAR	
• Eyelids clean, no blepharitis/chalazion	To treat 1st if any and review back accordingly
• No conjunctivitis	
• No Nasolacrimal duct obstruction	
• Glaucoma	At least baseline HVF if none Consider new HVF if already more than 1 year IOP <30
• Diabetic maculoedema	To do focal/gird laser if indicated/possible
SYSTEMIC PROBLEM	
• BP/DXT	Quick check at room 90, if uncontrol to do early referral to KK/MOPD
• History of recent heart attack or stroke	To defer until 6 month
• Known case or heart problem	Refer cardiology for cardiac risk assessment

IMPORTANT ISSUES

• Hearing problem	Refer ENT
• Recent covid19 infection	Safe surgery only after 7 weeks post infection (Anaesth guideline elective surgery March 2022)
ANAESTHESIA	
• Local anaesthesia	Criteria: -Able to lie flat at least 30 to 45 minutes -cooperative on slit lamp -understand/follow simple command -no gross tremor -not mentally challenged -Age>40
• General anaesthesia	Patient not fit for local anaesthesia, refer anaesth clinic
INTRAOCCULAR LENS	
• Federal/state government pensioner	-Fill in JPA form -process would take at least 2 month
• PekaB40	-Can check eligibility (use patient/spouse IC) at: kelayakan.pekab40.com.my -Referral letter to social welfare -process would take at least 2 month
• Not eligible for PekaB40 but cant afford IOL	-refer Social welfare
• Self pay patient	To inform patient estimated cost

Ocular

- Eyelids clean
- No conjunctivitis
- Glaucoma
- Diabetic maculoedema

Intraocular lens

- Pensioner
- PekaB40 eligible
- Self-paying

Systemic – Medical

- BP / Glucose
- h/o recent cardiac event
- Skin disease
- DFU
- Unable to lie flat
- Hearing problem

Anaesthesia

- LA
 - Able lie flat
 - Cooperative
 - Understand command
- GA
 - Not fit for local

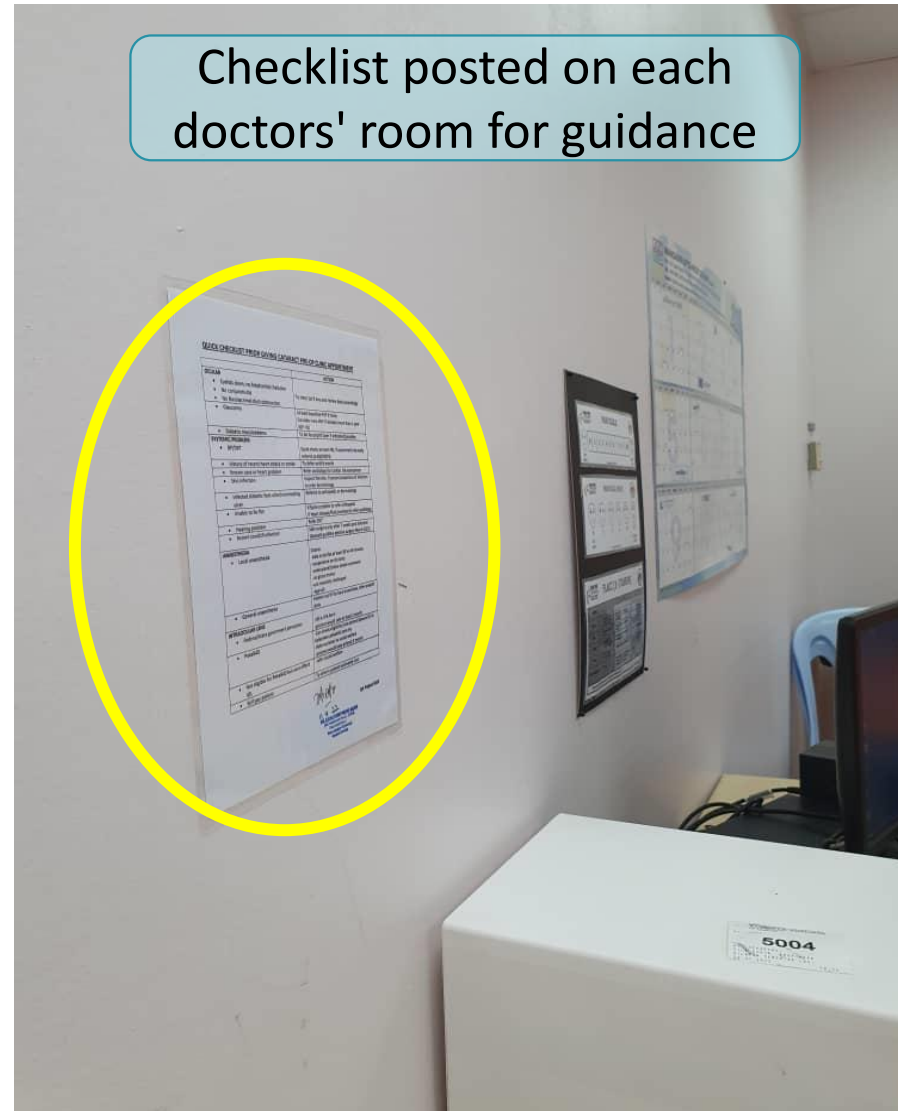


STRATEGY 1: CHANGE OF WORKFLOW



Checklist posted on each doctors' room for guidance

QUICK CHECKLIST PRIOR GIVING CATARACT PRE-OP CLINIC APPOINTMENT	
	ACTION
OCULAR	
<ul style="list-style-type: none"> Eyelids clean, no blepharitis/chalazion No conjunctivitis No Nasolacrimal duct obstruction Glaucoma 	To treat 1st if any and review back accordingly
<ul style="list-style-type: none"> Diabetic maculoedema 	At least baseline HVF if none Consider new HVF if already more than 1 year IOP <30 To do focal/gird laser if indicated/possible
SYSTEMIC PROBLEM	
<ul style="list-style-type: none"> BP/DXT 	Quick check at room 90, if uncontrol to do early referral to KK/MOPD
<ul style="list-style-type: none"> History of recent heart attack or stroke 	To defer until 6 month
<ul style="list-style-type: none"> Known case or heart problem 	Refer cardiology for cardiac risk assessment
<ul style="list-style-type: none"> Skin infection 	Inspect the skin, if unsure/suspicious of infection to refer dermatology
<ul style="list-style-type: none"> Infected diabetic foot ulcer/non-healing ulcer 	Referral to orthopedic or dermatology
<ul style="list-style-type: none"> Unable to lie flat 	If Spine problem to refer orthopedic If Heart disease/fluid overload to refer cardiology
<ul style="list-style-type: none"> Hearing problem 	Refer ENT
<ul style="list-style-type: none"> Recent covid19 infection 	Safe surgery only after 7 weeks post infection (Anaesth guideline elective surgery March 2022)
ANAESTHESIA	
<ul style="list-style-type: none"> Local anaesthesia 	Criteria: -Able to lie flat at least 30 to 45 minutes -cooperative on slit lamp -understand/follow simple command -no gross tremor -not mentally challenged -Age>40
<ul style="list-style-type: none"> General anaesthesia 	Patient not fit for local anaesthesia, refer anaesth clinic
INTRAOCULAR LENS	
<ul style="list-style-type: none"> Federal/state government pensioner 	-Fill in JPA form -process would take at least 2 month
<ul style="list-style-type: none"> PekaB40 	-Can check eligibility (use patient/spouse IC) at: kelayakan.pekab40.com.my -Referral letter to social welfare -process would take at least 2 month
<ul style="list-style-type: none"> Not eligible for PekaB40 but cant afford IOL 	-refer Social welfare
<ul style="list-style-type: none"> Self pay patient 	To inform patient estimated cost



Effective date:
22nd April 2022

Department Meeting:
15th April 2022

Blasted in Department
WhatsApp group:
22nd April 2022



STRATEGY 2: CARDIAC RISK REFERRAL TEMPLATE



- Free hand
- Easily missed crucial notes
- Non-standard

BEFORE

JABATAN OFTALMOLOGI
HOSPITAL SERDANG
JALAN PUCHONG
43000 KAJANG
SELANGOR DARUL EHSAN

Telefon : 03-89475555
EXT : 5283/1593

MULTI MEDIA SUPER CORRIDOR

Medical Officer _____ Date: _____
Cardiology Department _____
Dear Sir/ Madam,

Cardiac Risk Assessment

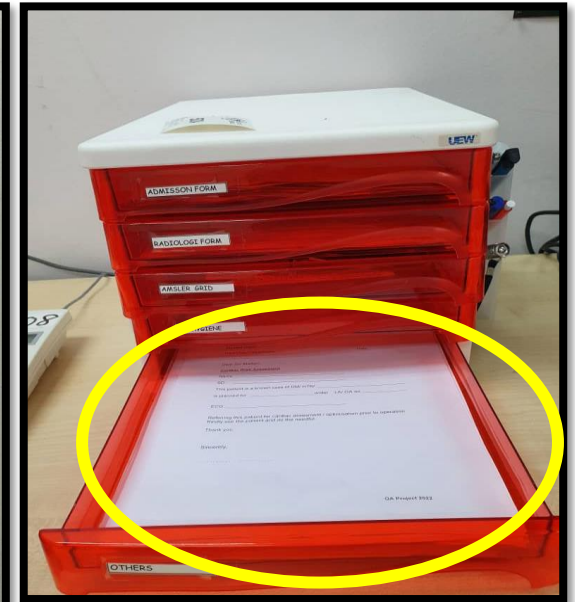
Name: _____
SD : _____
This patient is a known case of DM/ HTN/ _____
is planned for _____ under LA/ GA on _____.
ECG : _____

Referring this patient for cardiac assesment / optimisation prior to operation.
Kindly see the patient and do the needful.

Thank you.

Sincerely,
.....

QA Project 2022

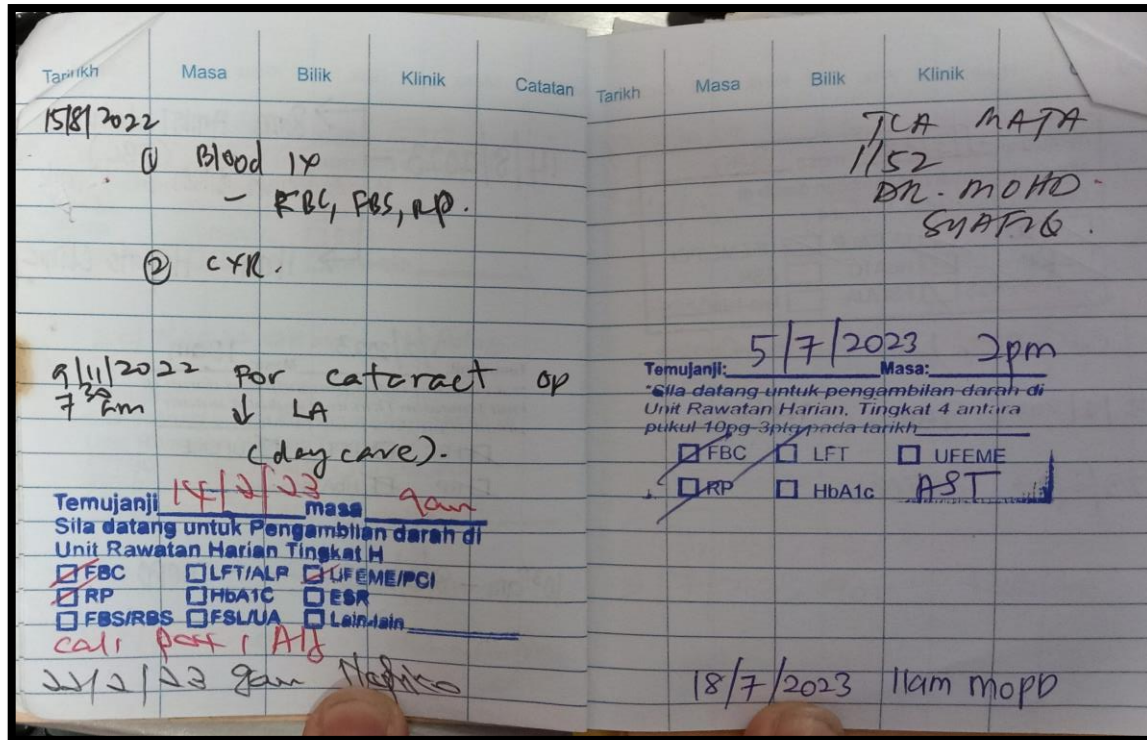


- Standardised
- Contain important information
- Available in all rooms

AFTER

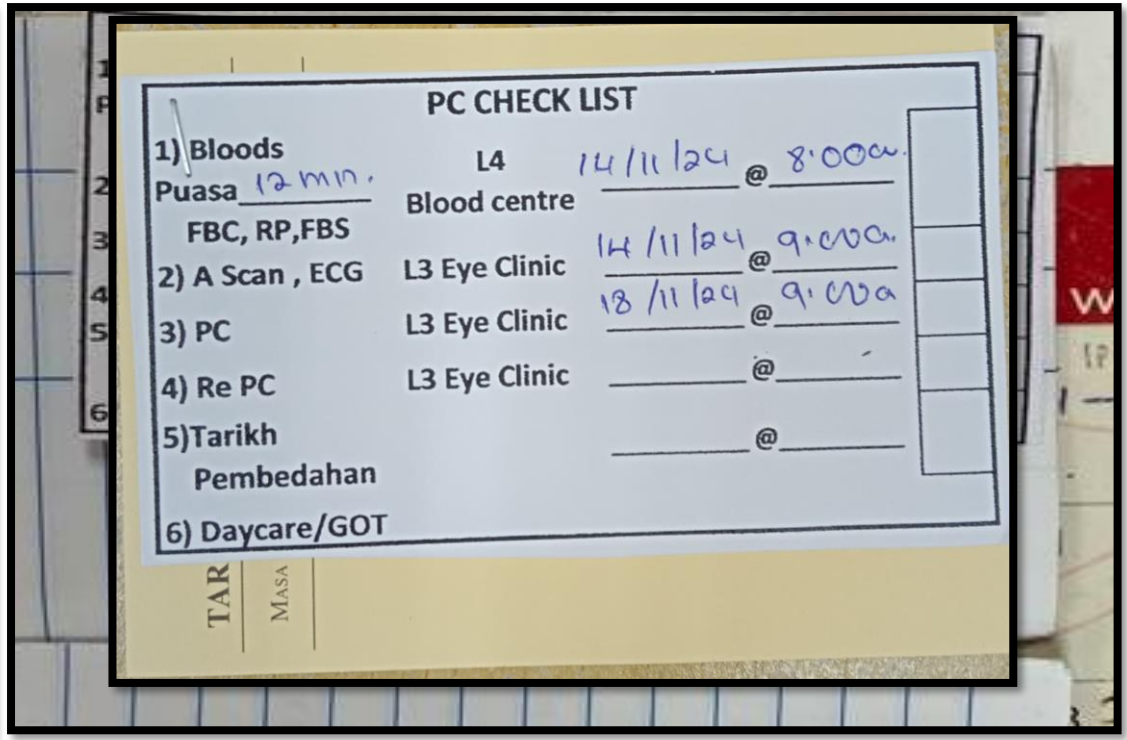


STRATEGY 3: NEW PATIENT'S APPOINTMENT SLIP



- Easily missed
- "Busy" Appointment Book

BEFORE



- Standardised
- Organised
- Front page for easier viewing

AFTER

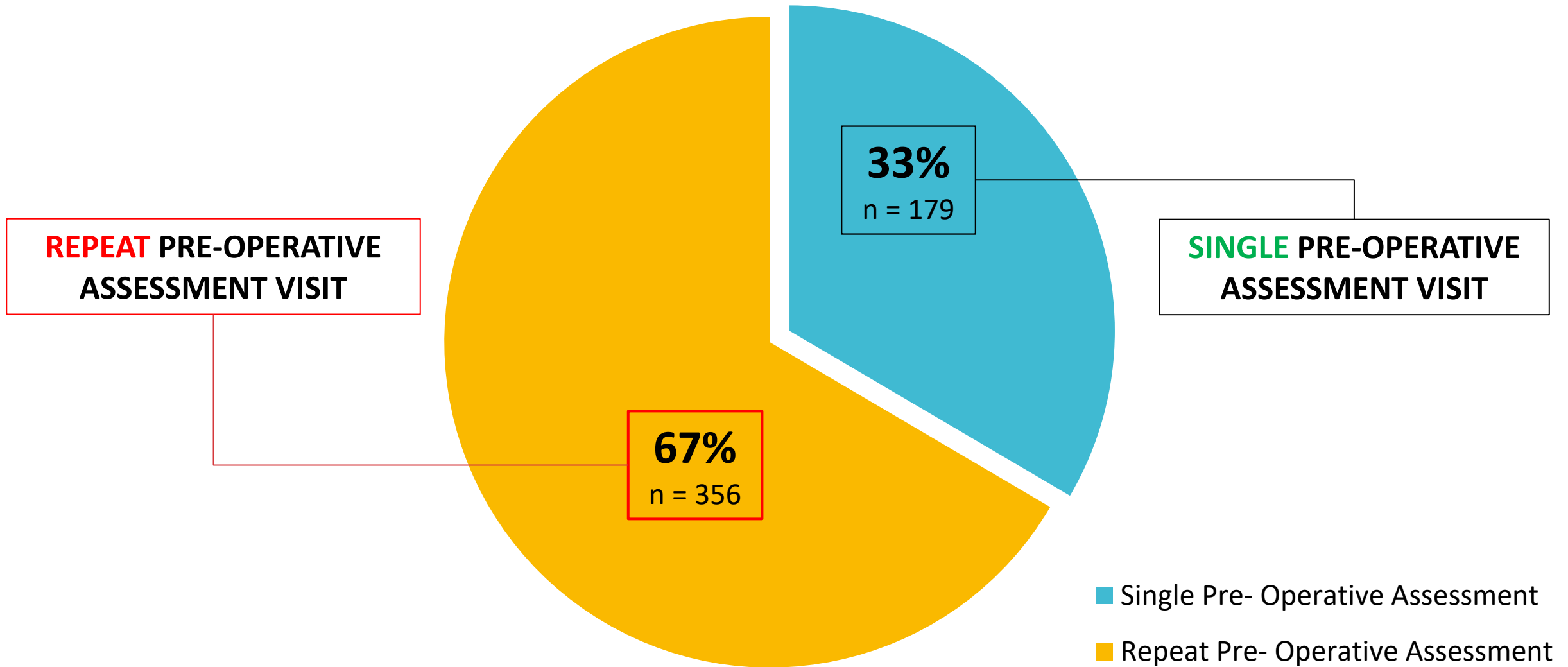
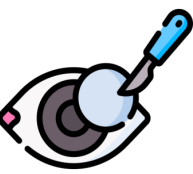
EFFECT OF CHANGE

CYCLE 1

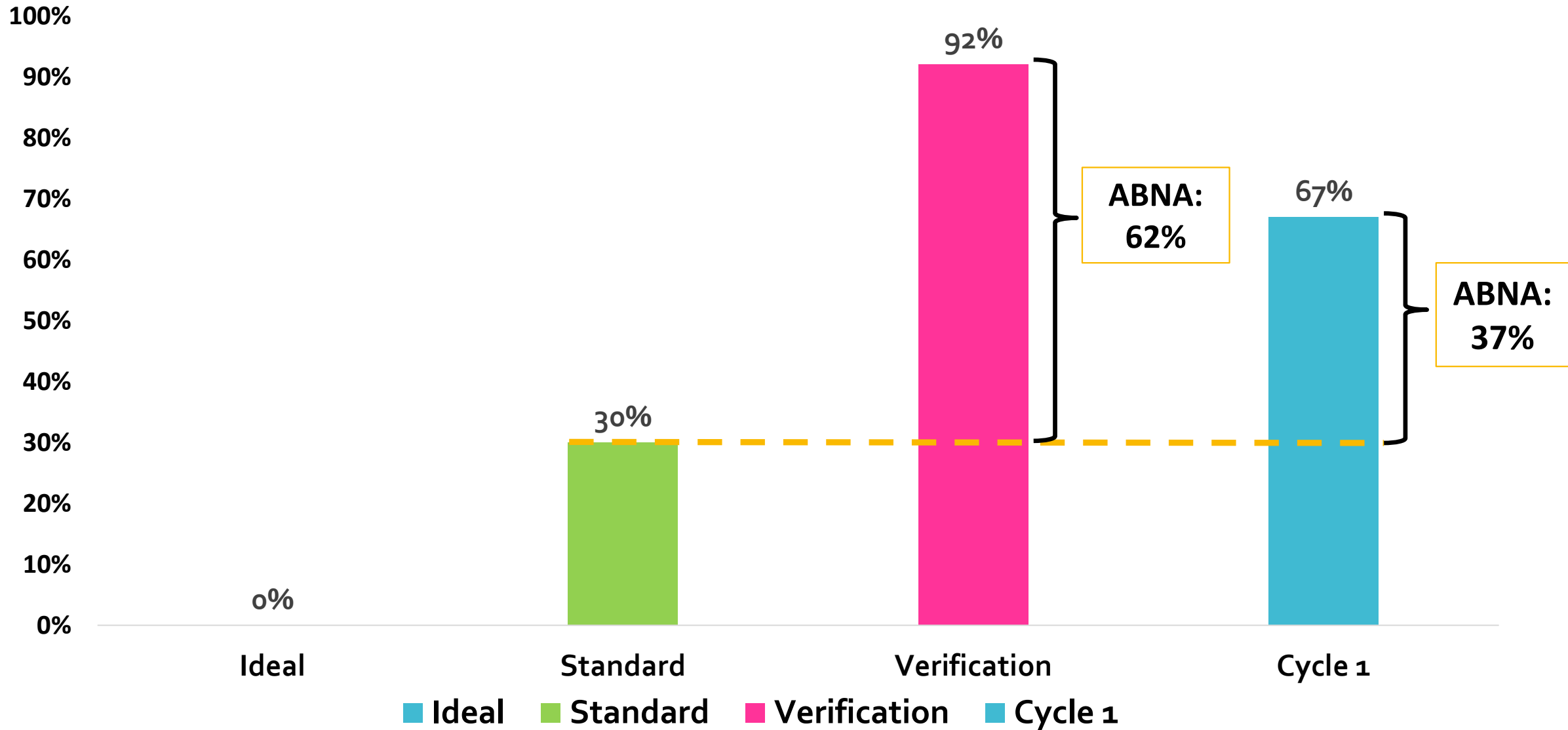


EFFECT OF CHANGE: CYCLE 1 RESULT

Percentage of pre-operative cataract assessment visits



Percentage of Repeated Pre-operative Cataract Assessment Patients



MODEL OF GOOD CARE

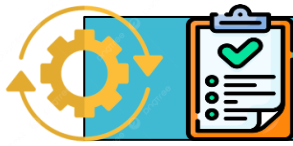


PROCESS	CRITERIA	Stand...	Verif.. n=136	Cycle 1 n = 535
1. Assessment of patient's eligibility for cataract surgery	1. Identify patient with medical comorbidity	100%	5%	30%
	2. Referral to respective department	100%	5%	30%
	3. To explain regarding intraocular lens options	100%	5%	50%
	4. Refer patient with financial issue for intraocular lens aid application (PekaB40 / JPA)	100%	5%	50%
	5. Explain to patient regarding choice of anaesthesia (GA or LA)	100%	70%	80%
2. Appointment given for pre-operative assessment	Nurses to ensure 2 appointment dates given			
	I. For biometry calculation, blood taking and ECG II. Preoperative assessment date	100%	100%	100%
3. Patient comes for pre-operative investigation	Patient comes for biometry calculation, blood taking and ECG	100%	80%	95%

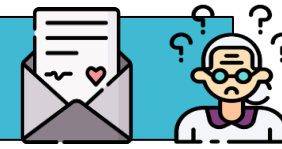
MODEL OF GOOD CARE



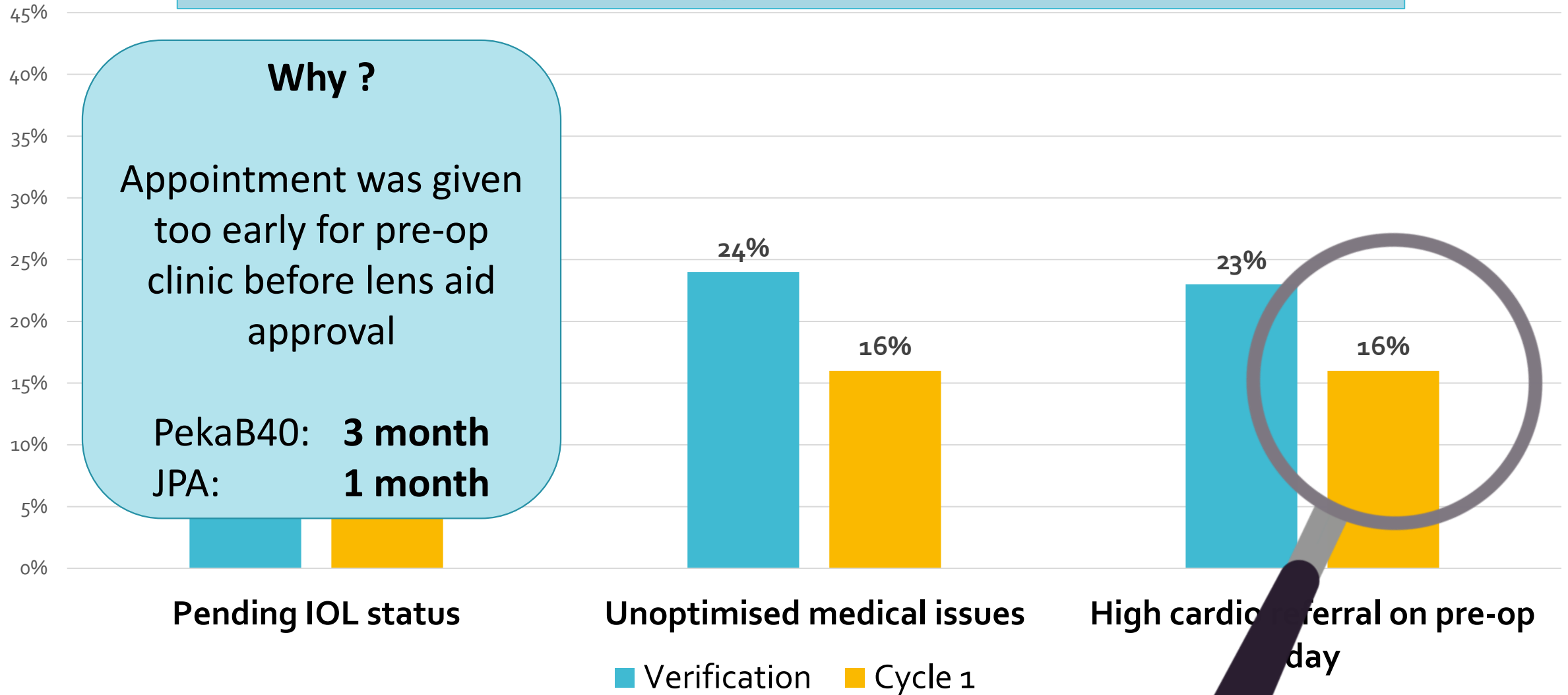
PROCESS	CRITERIA	Stand..	Verif.. n=136	Cycle 1 n = 535
4. Patient comes for pre-operative cataract assessment clinic (Pre-Op Clinic)	1. Ensure medical and ocular issues have been optimized	100%	70%	85%
	2. Ensure availability of intraocular lens (IOL lens) I. Able to pay for self-paying patients II. Approved IOL lens status for PekaB40/JPA applicants	100%	90%	95%
	3. Review biometry, blood and ECG results are in acceptable range	100%	70%	80%
	4. Review anesthesiology clinic input if surgery planned under GA	100%	90%	90%
	5. To counsel regarding procedure of cataract surgery	100%	100%	100%
5. Repeat pre-operative assessment date	Patient to be given a repeat pre-operative assessment date if not suitable for surgery	0%	92%	67%



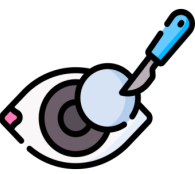
FINDINGS FOR CYCLE 1



THREE MAIN FACTORS OF REPEATED PRE-OPERATIVE ASSESSMENT VISIT Cycle 1 Result



SURVEY AMONG DOCTORS: CARDIAC RISK ASSESSMENT



You have low confidence in interpretation of basic ECG

All patients with abnormal ECG need to be referred to the Cardiology Department

All patients with known case of cardiac problem need to be referred to the Cardiology Department

All patients with cardiac problem will require an ECHO prior to cataract surgery

All patients with blood thinner should be referred to the Cardiology Department

OPHTHALMOLOGY DEPARTMENT

HOSPITAL SULTAN IDRIS SHAH SERDANG

KNOWLEDGE OF DOCTORS REGARDING CARDIO ASSESSMENT ENCOUNTERED DURING PRE CLERKING

Designation : _____

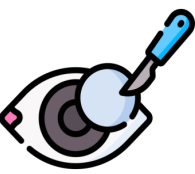
Date : _____

Please rate how much you agree with the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
You have low confidence in interpretation of basic ECG	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All patients with abnormal ECG need to be referred to the Cardiology Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All patients with known case of cardiac problem need to be referred to the Cardiology Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All patients with cardiac problem will require an ECHO prior to cataract surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All patients with blood thinner should be referred to the Cardiology Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Total participant: 25
- Personnel involve: **Specialist and MO's**
- Date conducted: 10th August 2023

SURVEY RESULTS



Q&A	Q 1	Q2	Q3	Q4	Q5
Strongly agree	15	12	20	10	13
Agree	<p>Summary Most Doctors are hesitant in performing cardiac risk assessment</p>				7
Neutral					1
Disagree					2
Strongly Disagree	1	1	-	5	2

STRATEGIES FOR CHANGE

CYCLE 2



STRATEGIES



Pre-operative **appointment** given not according to IOL approval time

Timeframe guideline for fixing appointment date



Lack **confidence** on cardiac risk assessment

Organise a Cardiac Risk Assessment workshop



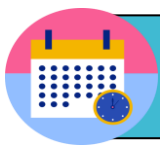
Lack **confidence** in filtering out unnecessary referral

Organise an ECG workshop

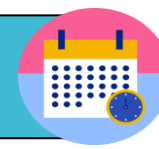


High turn-over rate of new staff to the clinics

Making regular reminders for all the staffs



STRATEGY 1: TIMEFRAME GUIDELINE



BEFORE

IOL Options	Minimum duration of PC
Self pay	Nearest available date
JPA/ATM	1 month
PEKA B40	3-4 months

- Appointment given according to IOL application approval

AFTER



STRATEGY 2: CARDIAC RISK WORKSHOP



QA Ophthalmology department in collaboration
with Cardiology department presents

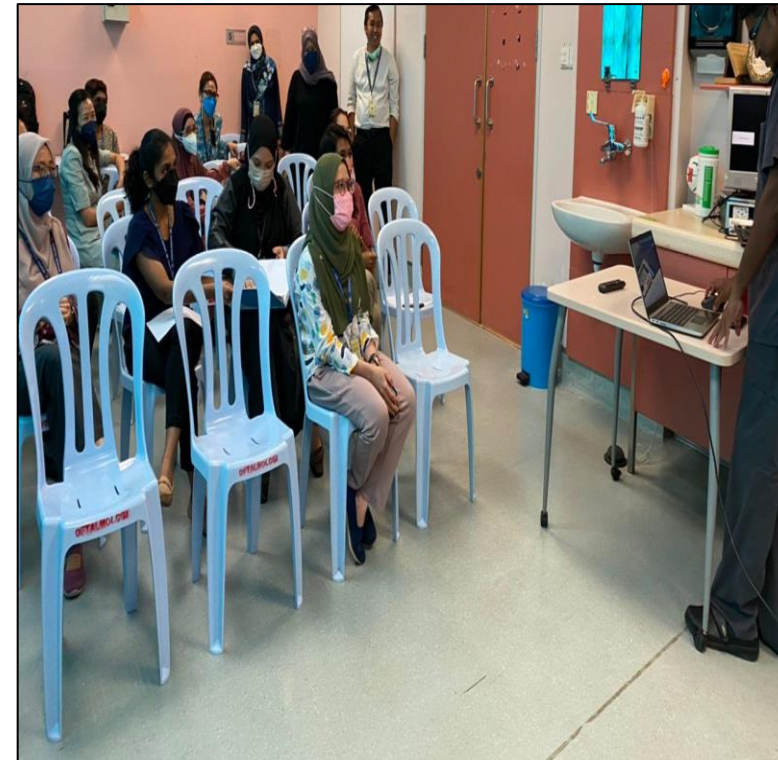
CARDIAC RISK ASSESSMENT IN CATARACT SURGERY

Speaker : Dr Shargunandass A/L Iyam
Clinical Cardiologist
Hospital Serdang

Aug. 19, 2022 (FRIDAY)
1500PM to 1700PM
Seminar Room Ophthal Clinic

A talk to improve quality of
cardio referral in cataract
surgery.

All Specialist and MO are invited!



By Cardiology Dept on
19th of August 2022
Ophthalmology seminar
room

Attended by M.Os
and Specialist
75% of doctors



STRATEGY 2: CARDIAC RISK WORKSHOP



By Cardiology Dept
14th of October 2022
Ophthalmology seminar
room

Attended by M.Os and
Specialist
75% of doctors



STRATEGY 3: STAFF PRE-OPERATIVE TRAINING



**Monthly TRAINING
For current and new
Doctors / Nurses /
Optometrist**

Covered 80% staff within
1st 6 months.

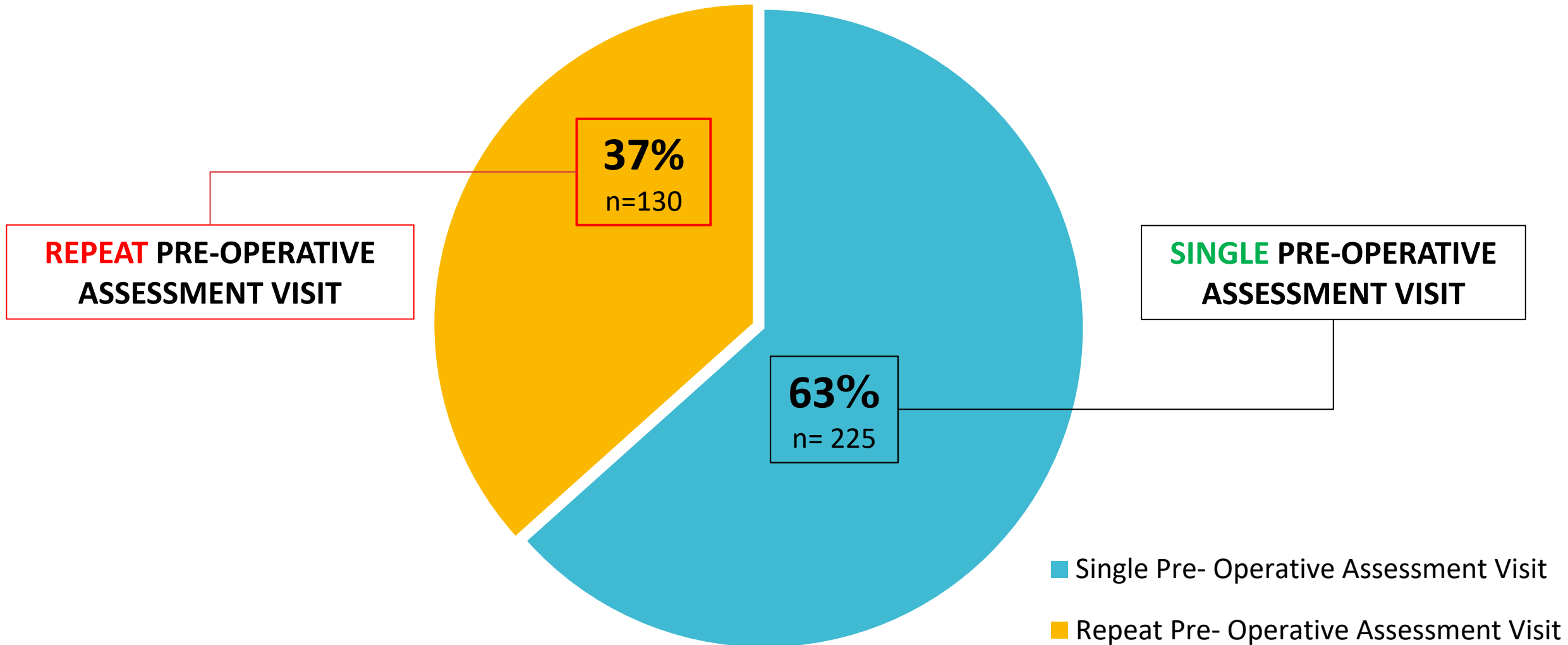
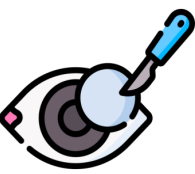
EFFECT OF CHANGE

CYCLE 2

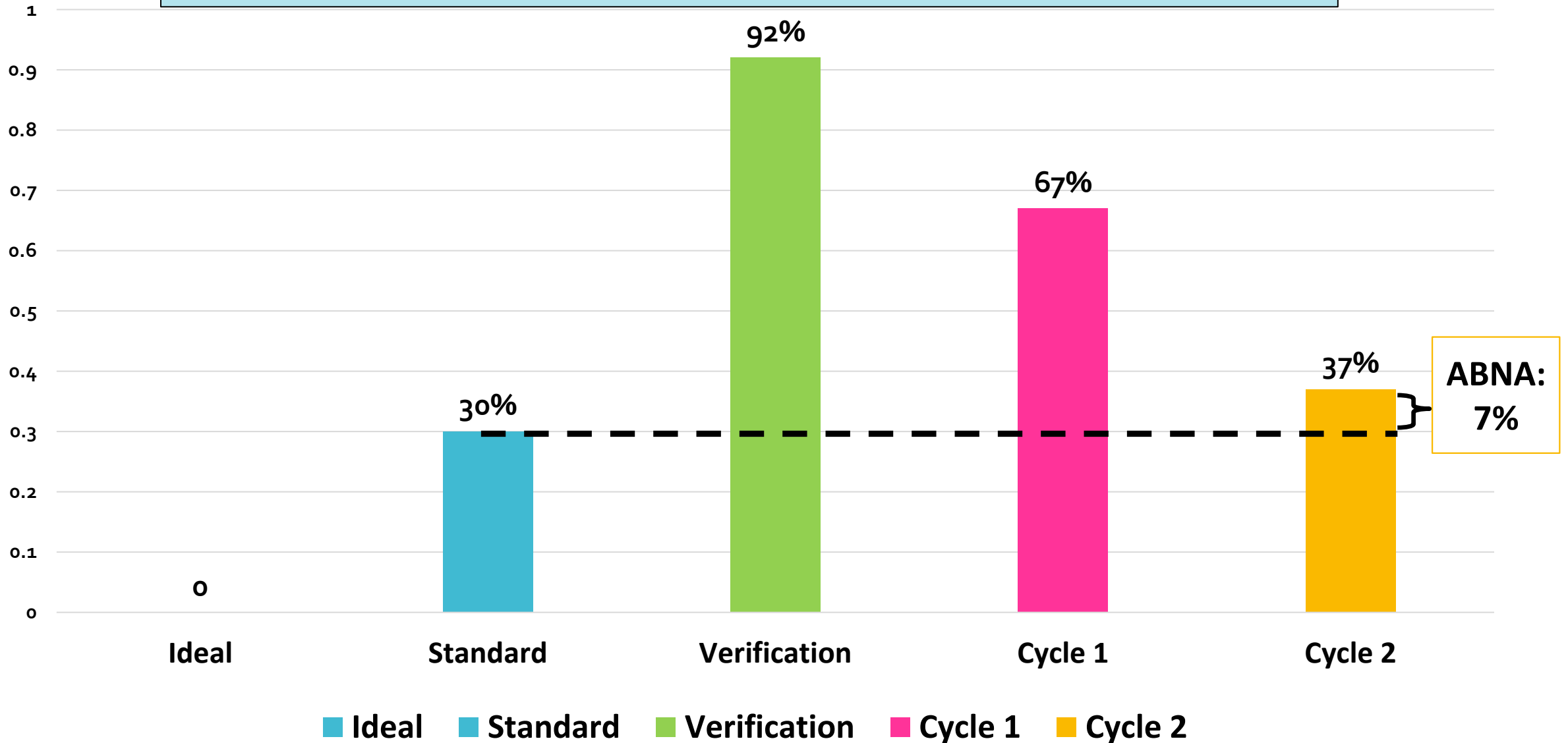


EFFECT OF CHANGE: CYCLE 2 RESULT

Percentage of pre-operative cataract assessment visits



Percentage of patient with Repeated Preoperative Cataract Assessment



MODEL OF GOOD CARE



PROCESS	CRITERIA	Stand..	Verif.. n=136	C1 n = 535	Cycle 2 n = 355
1. Assessment of patient's eligibility for cataract surgery	1. Identify patient with medical comorbidity	100%	5%	30%	98%
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	3. To explain regarding intraocular lens options	100%	5%	50%	90%
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	5. Explain to patient regarding choice of anaesthesia (GA or LA)	100%	70%	80%	95%
2. Appointment given for pre-operative assessment	Nurses to ensure 2 appointment dates given				
	I. For biometry calculation, blood taking and ECG II. Preoperative assessment date	100%	100%	100%	100%
3. Patient comes for pre-operative investigation	Patient comes for biometry calculation, blood taking and ECG	100%	80%	95%	97%

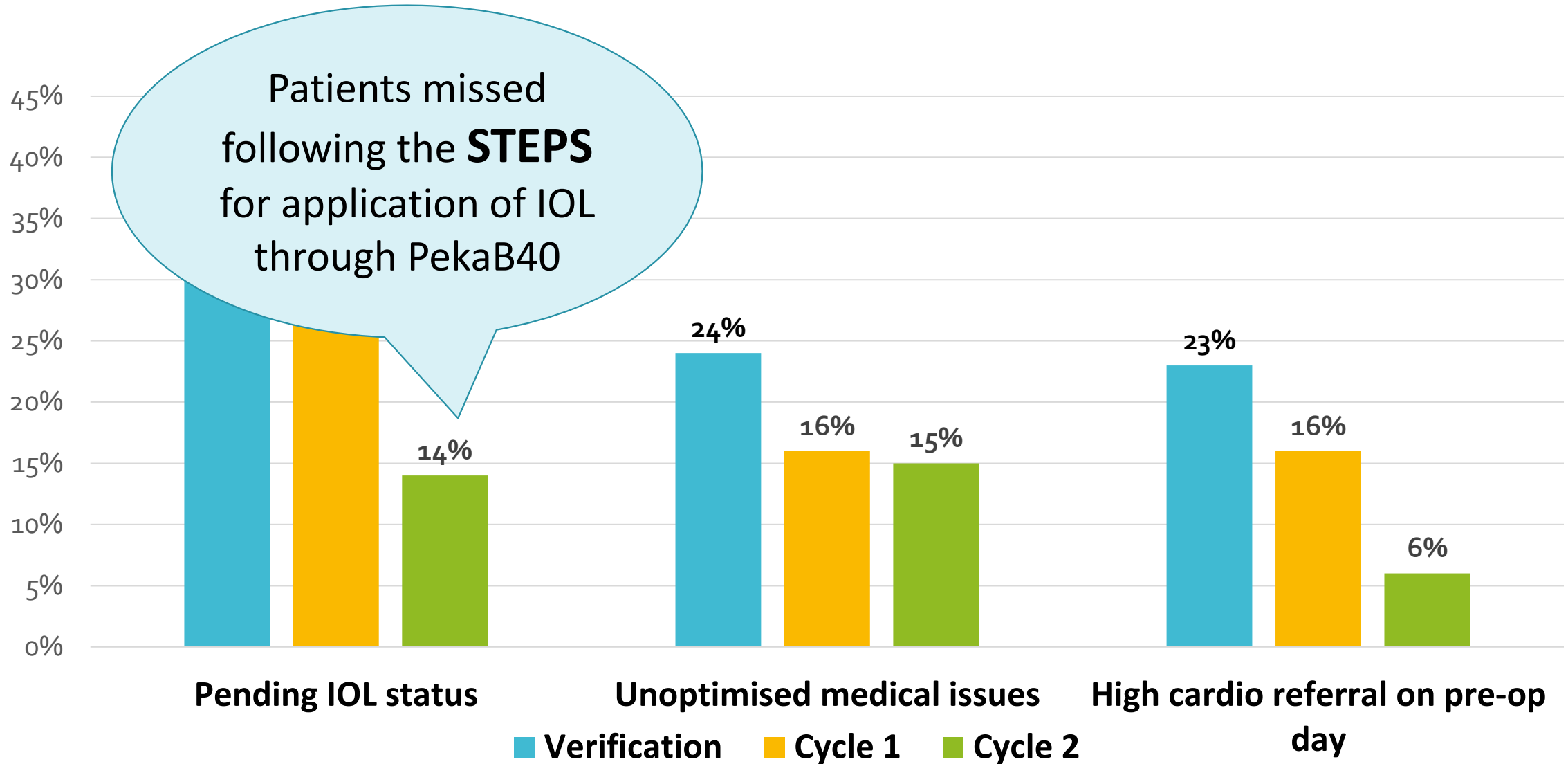
MODEL OF GOOD CARE



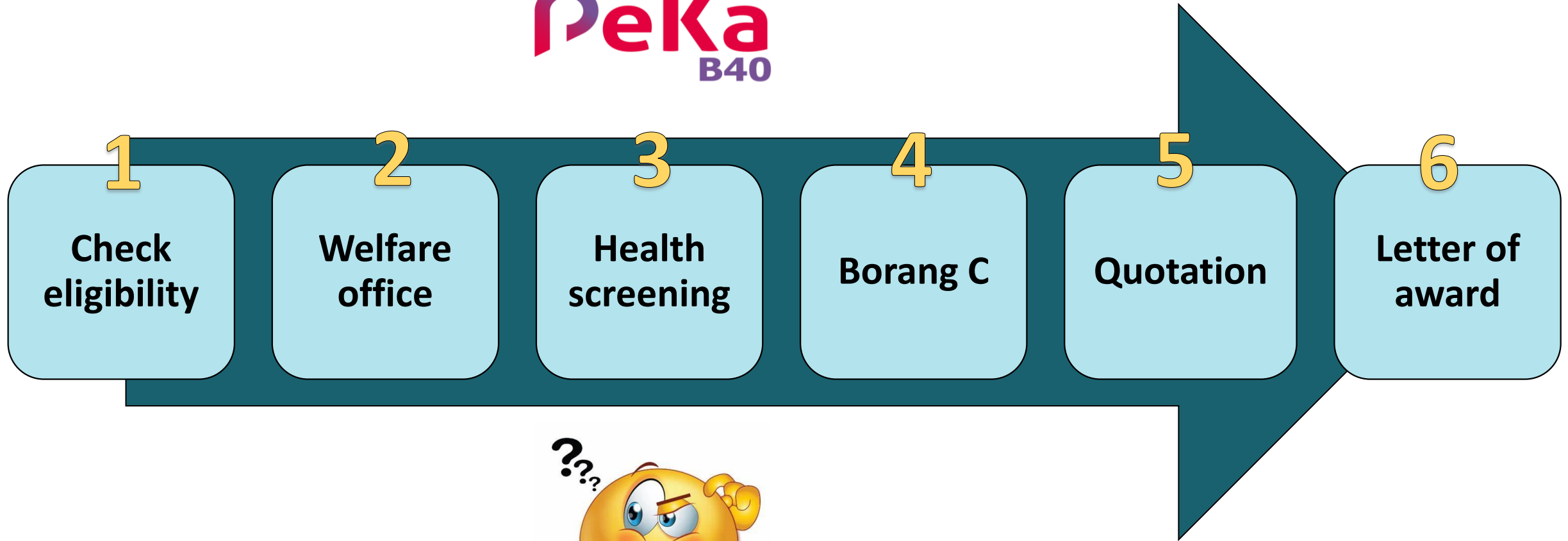
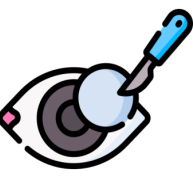
PROCESS	CRITERIA	Stand..	Verif.. n=136	C1 n = 535	Cycle 2 n = 355
4. Patient comes for pre-operative cataract assessment clinic (Pre-Op Clinic)	1. Ensure medical and ocular issues have been optimized	100%	70%	85%	90%
	2. Ensure availability of intraocular lens (IOL lens)	100%	90%	95%	98%
	I. Able to pay for self-paying patients				
	II. Approved IOL lens status for PekaB40/JPA applicants				
	3. Review biometry, blood and ECG results are in acceptable range	100%	70%	80%	90%
4. Review anesthesiology clinic input if surgery planned under GA	100%	90%	90%	95%	
	5. To counsel regarding procedure of cataract surgery	100%	100%	100%	100%
5. Repeat pre-operative assessment date	Patient to be given a repeat pre-operative assessment date if not suitable for surgery	0%	92%	67%	37%



FINDINGS FOR CYCLE 2



PEKAB40 APPLICATION PROCESS

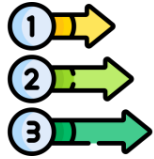


STRATEGIES FOR CHANGE

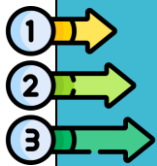
CYCLE 3



STRATEGIES

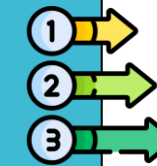


PROBLEM	ACTION
Patient missed steps for the process of lens aid application	Making a checklist for patient's reference
Miss important patient's issues that need to be addressed	Invented a cataract booklet for easy reference
Surgeon factors for patient's eligibility for surgery	Making a guideline handbook for standard references
Low understanding for new staff regarding the new SOP and guidelines	Making regular and continuous CME for all staff



STRATEGY 1: LENS AID APPLICATION GUIDELINES

COLLABORATION WITH WELFARE DEPT



LANGKAH-LANGKAH PERMOHONAN PEKAB40

Hadir ke **klินิก** wakil PekaB40
Bawa bersama MyKad



Jalani **saringan** kesihatan oleh klinik tersebut



Menerima **keputusan** saringan daripada klinik (3-7 hari)



Telefon Jabatan Kerja Sosial Perubatan (JKSP) 03-89475263
Maklumkan saringan selesai



Semakan dan **permohonan** diteruskan oleh pihak JKSP

- Steps **guideline** for patients for lens aid application process
- **Checklist** for clinic and welfare staffs to keep track on the lens aid application status

Borang semak kanta bantuan Peka B40


Aktiviti	Individu	
Semak kelayakan di laman sesawang kelayakan.pekab40.com.my	Doktor	
Surat merujuk ke Jabatan Kerja Sosial Perubatan (JKSP)	Doktor	
Menerima surat rujukan dari pesakit dan memproses permohonan	JKSP	
Melakukan pemeriksaan kesihatan & kemaskinikan kembali kepada JKSP	Pesakit	
Pesakit mendapatkan perkembangan terkini mengenai kelulusan kanta seminggu sebelum tarikh temujanji bertemu doktor dengan JKSP	Pesakit	

1. Jika lulus: sila hadir temujanji yang telah ditetapkan
2. Jika belum selesai: sila tundakan tarikh temujanji



STRATEGY 2: CATARACT BOOK



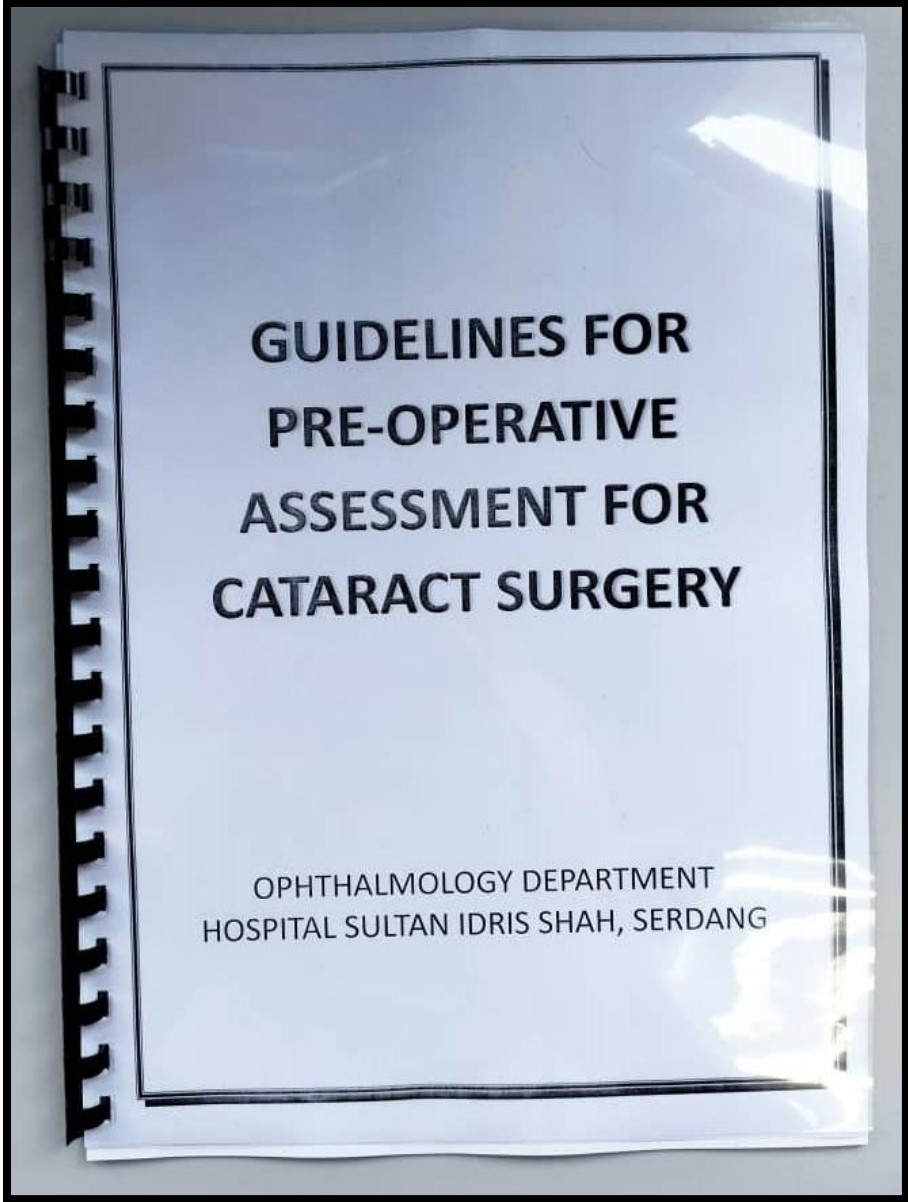

**Cataract Surgery Pre-Operative
Assessment Book**
 Jabatan Oftalmologi Hospital Serdang

- Small and compact
- Organised
- Important assessment findings
- Op planned

RIGHT EYE		
Checklist	Yes [] No []	Action
Blepharitis/chalazion/conjunctivitis/NLDO	Yes [] No []	To treat first if presence and review accordingly
Underlying glaucoma	Yes [] No []	Baseline HVF if none IOP<30mmHg
Diabetic macular edema	Yes [] No []	Focal/grid laser if indicated To start Gutt Nevanac 2/52 prior to surgery
Active PDR/ischaemic CRVO	Yes [] No []	To complete PRP if view permissible
History of Uveitis	Yes [] No []	Prime with Gutt Maxidex 2/52 prior to surgery
BP:	control [] uncontrol []	Refer KK/MOPD if uncontrolled
DXT:	control [] uncontrol []	
Recent MI/Stroke	Yes [] No []	Defer for 6 months
Skin infection	Yes [] No []	Refer Dermatology
Infected DFU/non-healing ulcer	Yes [] No []	Refer Ortho/surgical
Hearing problem	Yes [] No []	Refer ENT
Recent Covid-19 infection	Yes [] No []	Defer 7 weeks post infection (Anaesth guideline elective surgery March 2022)
Unable to lie flat (To test patient lying down on a bed if required)	Yes [] No []	Undiagnosed spine problem to refer Orthopaedic If failure sx/fluid overload presence to refer cardiology
Recent MI/Stroke On Warfarin	Yes [] No []	Defer for 6 months Off warfarin 3/7 prior to surgery Only Prosthetic Valve patient require bridging in ward
	Yes [] No []	
On Aspirin	Yes [] No []	May consider off 3/7 prior if plan for ECCE/ICCE
BPH on Tamsulosin	Yes [] No []	Consider off 2/52 prior to op if no contraindication



STRATEGY 3: PRE-OPERATIVE GUIDELINES BOOK



GUIDELINES FOR PRE-OPERATIVE ASSESSMENT FOR CATARACT SURGERY

OPHTHALMOLOGY DEPARTMENT
HOSPITAL SULTAN IDRIS SHAH, SERDANG

- Guideline for surgery for patients with comorbidities
- A **joint effort** with cardiology dept
 - Approved by both dept HOD
- Reducing surgeon factor in deciding for surgery
- Educating staff about pre-op clinic
- Effective on **2nd Feb 2024**

- Consist acceptable parameters on:
 - Investigations –
bloods/biometry/ECG/Xrays
 - Systemic
 - Cardiac status



STRATEGY 4: CONTINUOUS CME FOR DOCTORS



Conducted 3 times from June till August 2023 on :

- 23.6.23
- 21.7.23
- 25.8.23

Re-emphasis on guidelines to reduce rate of pre-clerking

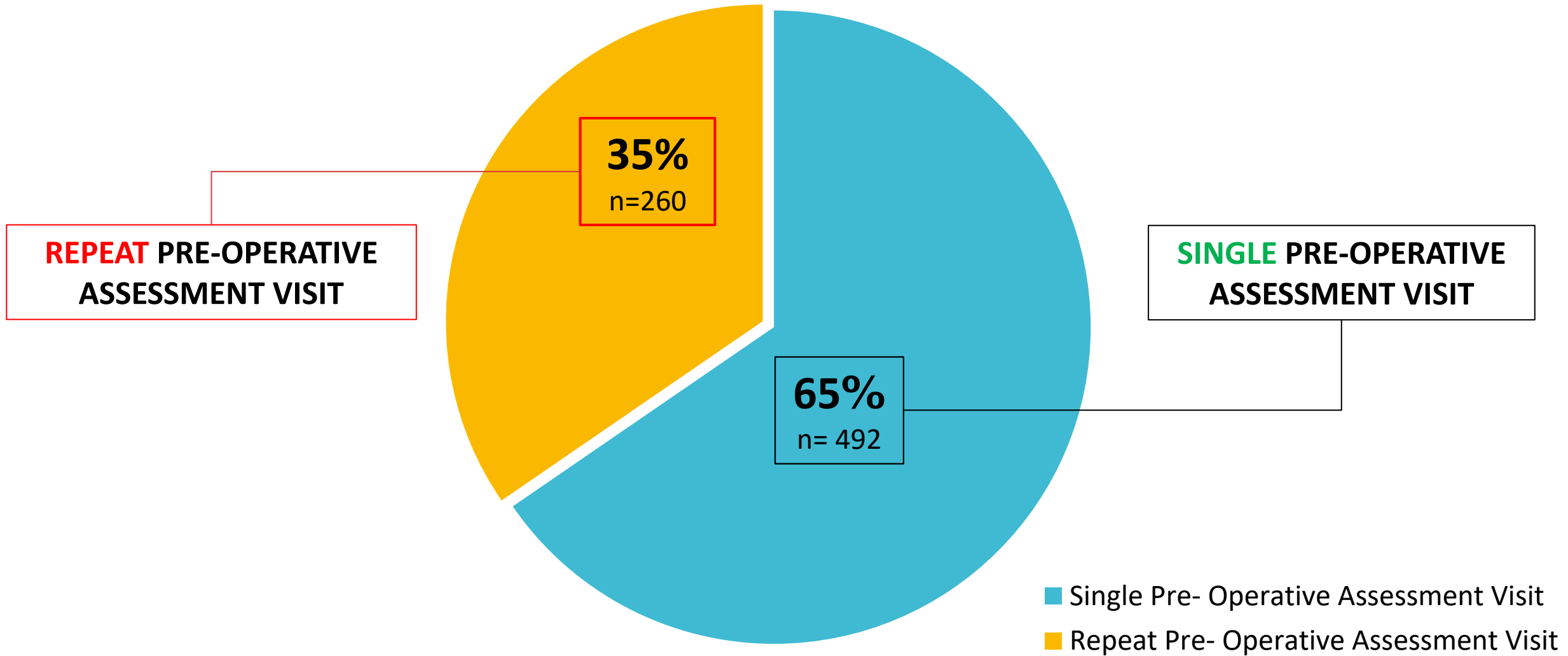
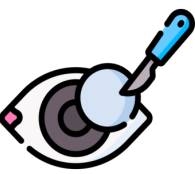
EFFECT OF CHANGE

CYCLE 3

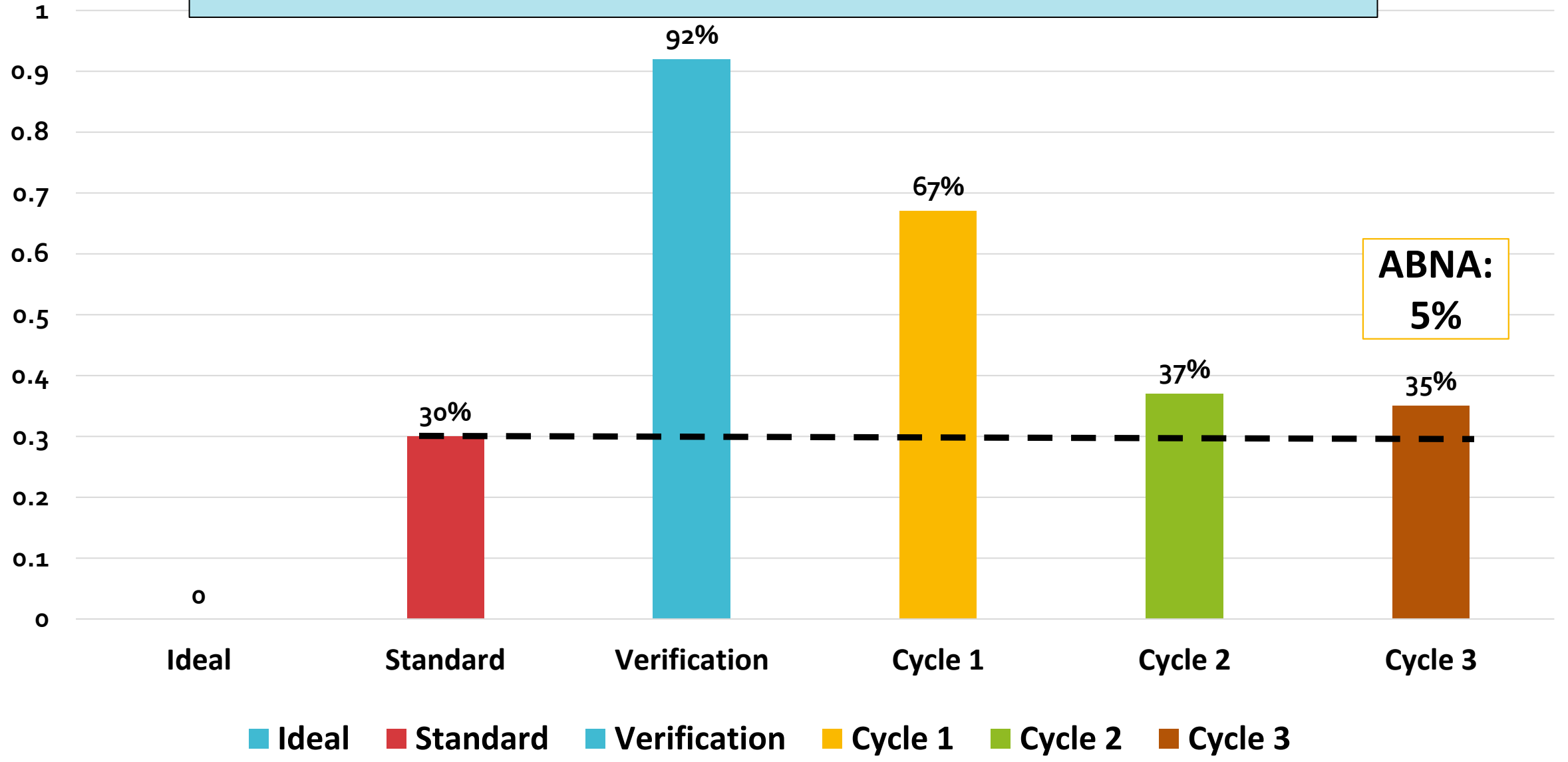


EFFECT OF CHANGE: CYCLE 3 RESULT

Percentage of pre-operative cataract assessment visits



Percentage of patient with Repeated Preoperative Cataract Assessment



MODEL OF GOOD CARE

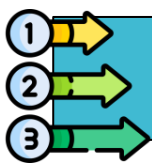


PROCESS	CRITERIA	Stand..	Verif.. n=136	C1 n = 535	C2 n = 355	Cycle 3 n = 752
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3. Patient comes for pre-operative investigation	Patient comes for biometry calculation, blood taking and ECG	100%	80%	95%	97%	98%

MODEL OF GOOD CARE



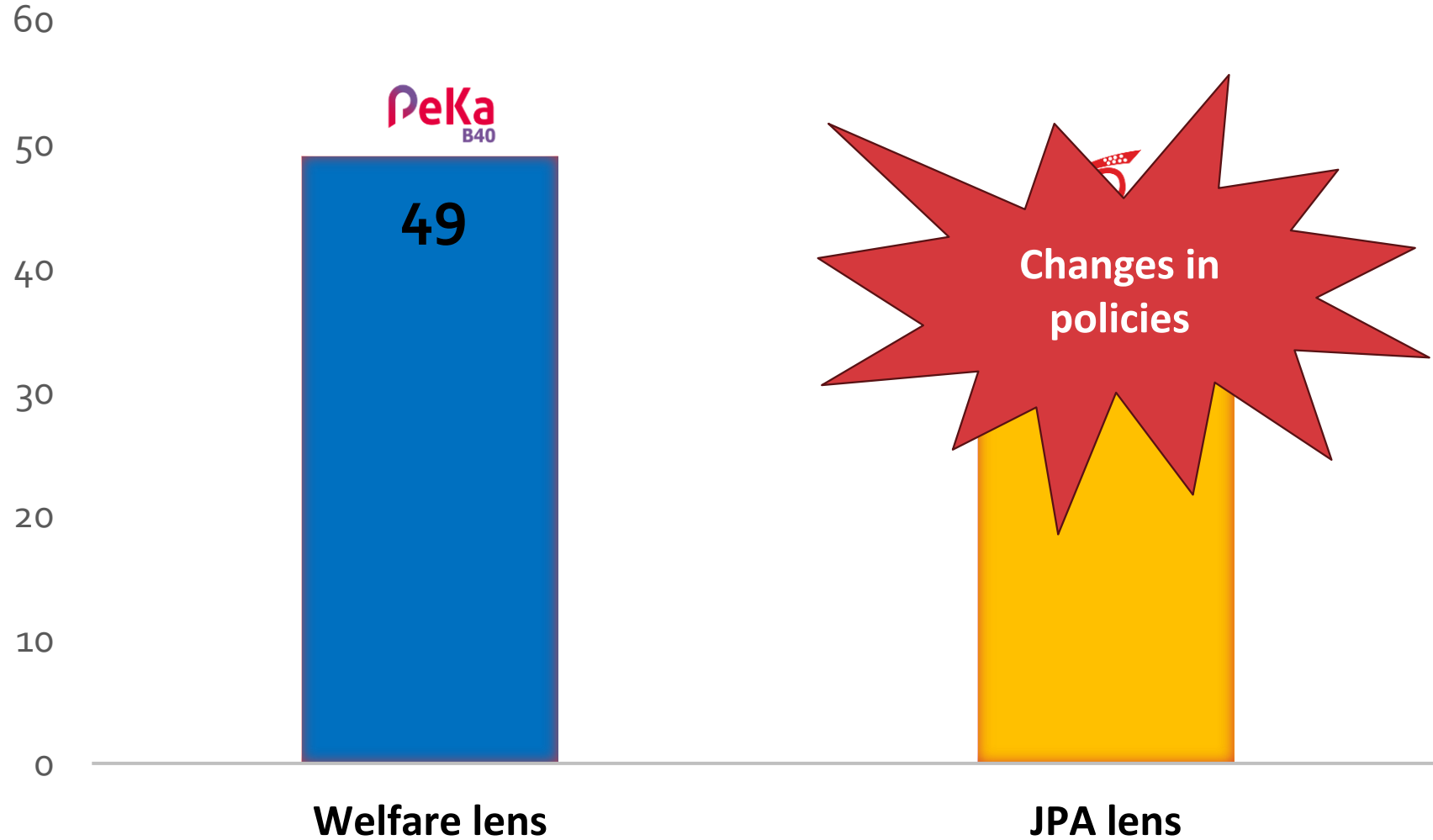
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	3. Review biometry, blood and ECG results are in acceptable range	100%	70%	80%	90%	98%
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	5. To counsel regarding procedure of cataract surgery	100%	100%	100%	100%	100%
5. Repeat pre-operative assessment date	Patient to be given a repeat pre-operative assessment date if not suitable for surgery	0%	92%	67%	37%	35%



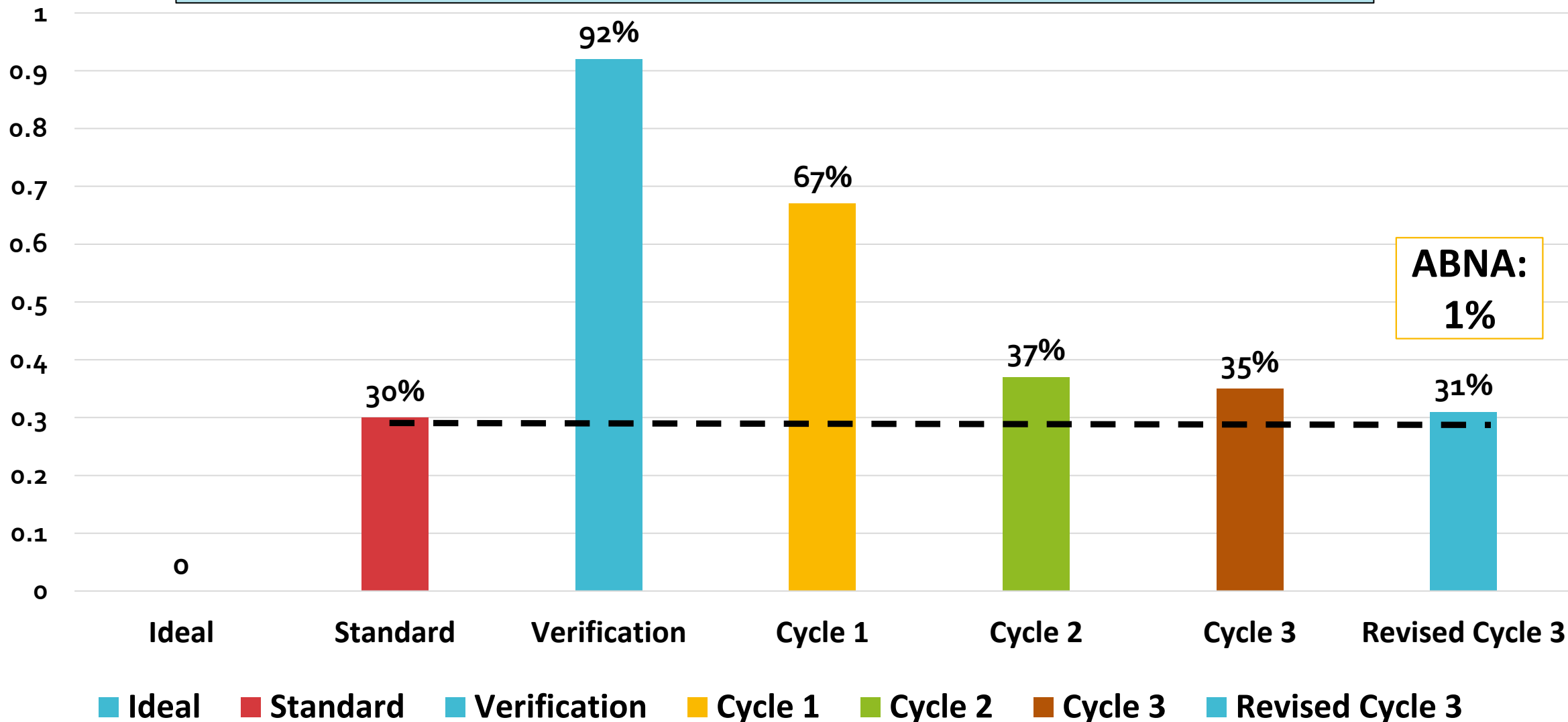
FINDINGS FOR CYCLE 3



PENDING IOLS TYPE



Percentage of patient with Repeated Preoperative Cataract Assessment



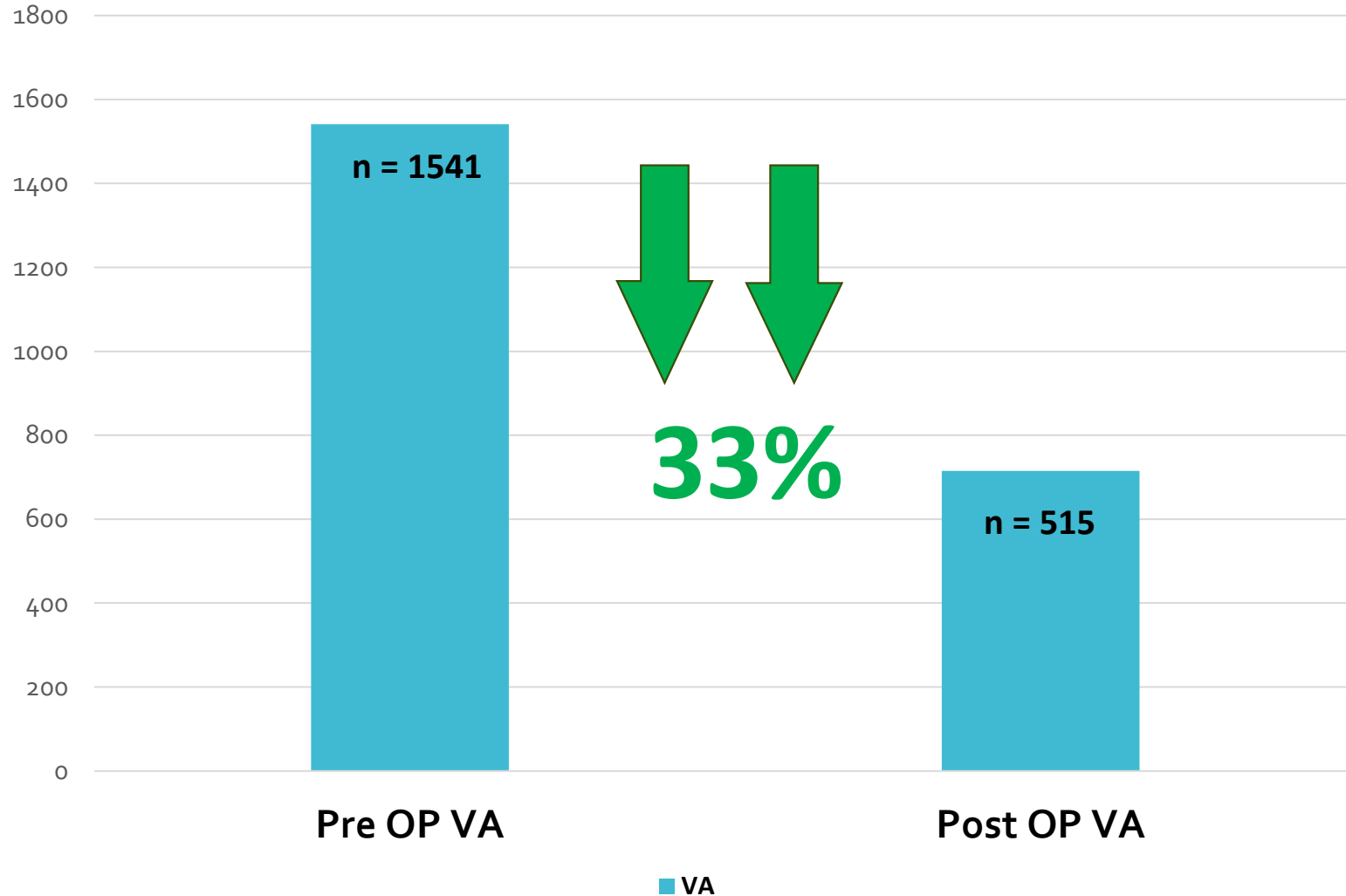
IMPACT OF STUDY



IMPACT OF STUDY: PATIENTS



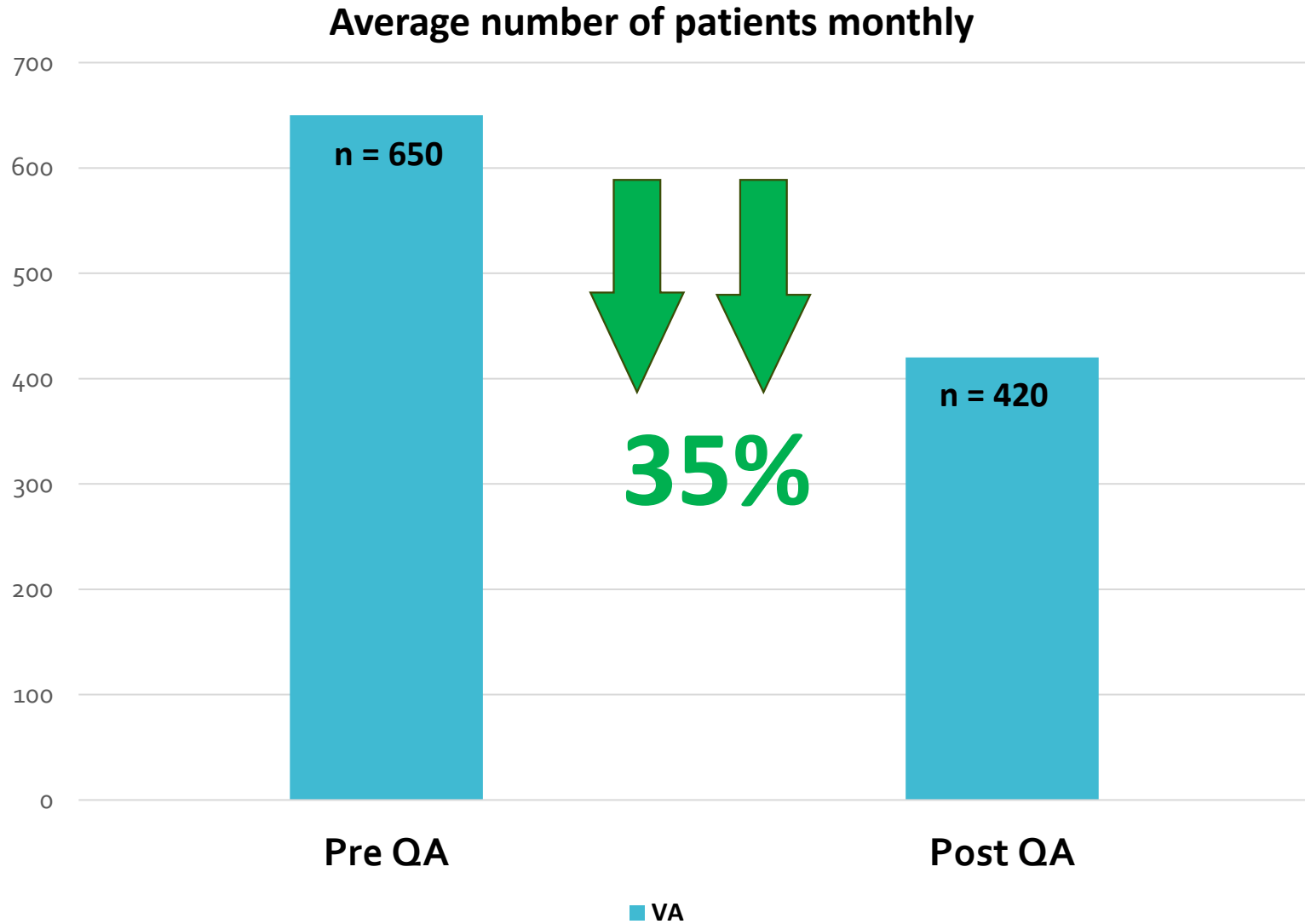
VA: <6/12 on RE (1st op)



Improve patient's vision and reduce risk of developing **Phacomorphic Glaucoma**

Data: Right eye vision **Pre vs Post** HSIS year 2023
Source: National Eye Database

IMPACT OF STUDY: PATIENTS

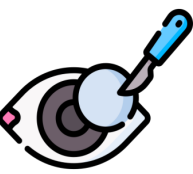


Reduces the total number of patient per pre-op clinic day.

Reducing overall staff workload

Source: Clinic census
HSIS year 2023

IMPACT OF STUDY: COST

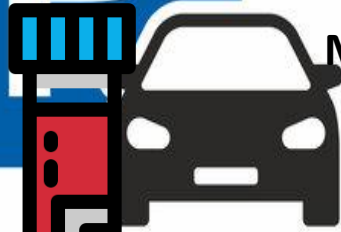


For every patient that **does not** require repeat pre-op visit(cycle 3)
n = 428



Parking cost

By: RM 8000±



Medical procedure cost

By: RM 4000±

RM 20 / day



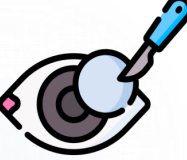
Visit cost

By: RM 2000±

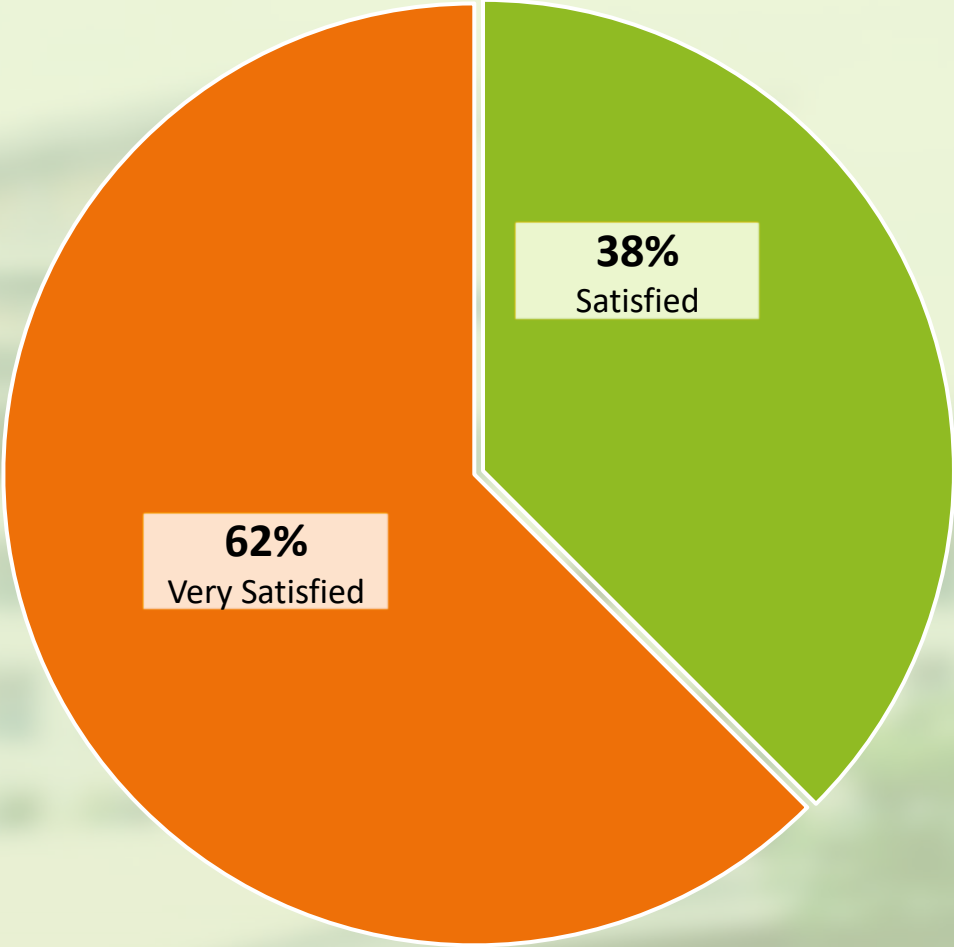
RM 11 / set

RM 5 / visit

IMPACT OF STUDY: PATIENTS



Patient's Satisfactory

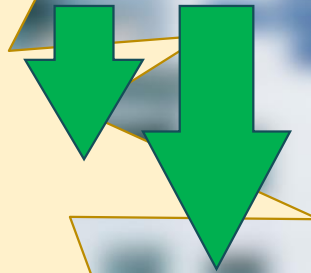


■ V. Dissatisfied ■ Dissatisfied ■ Satisfied ■ V. Satisfied

IMPACT OF STUDY: STAFF



17%

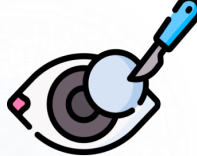


Reducing total number of referral to Cardio Dept

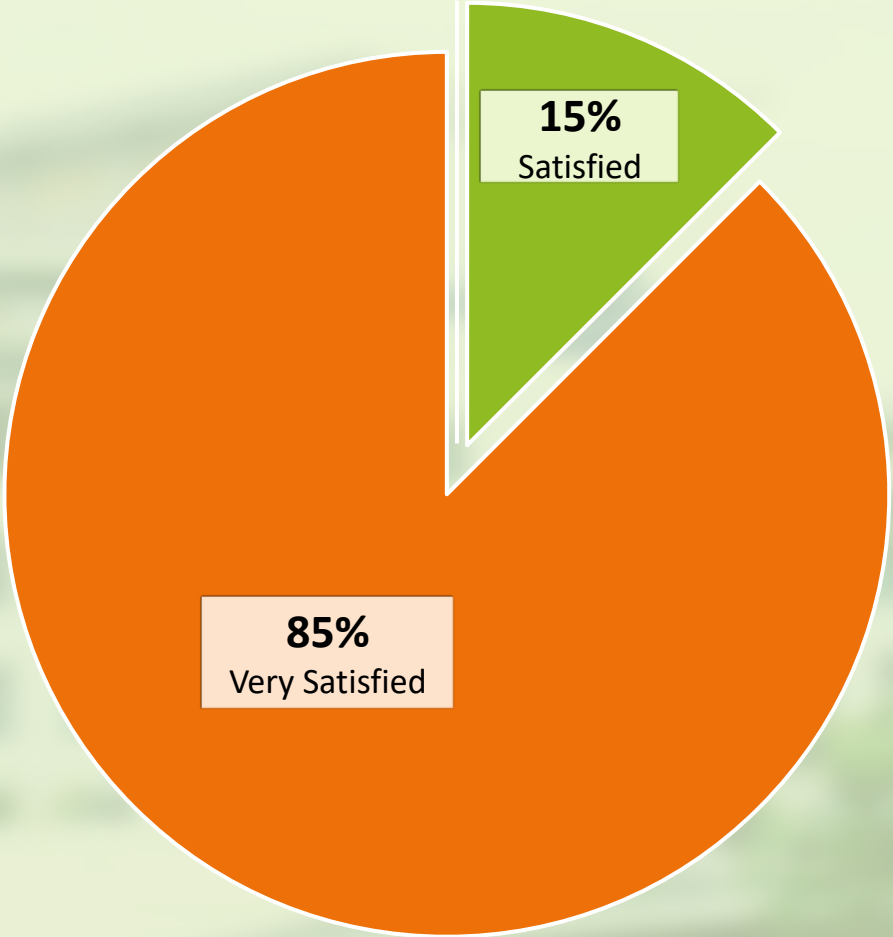
Reducing workload and resources

From ~ 600 to ~ 400 number of patients!

IMPACT OF STUDY: STAFF

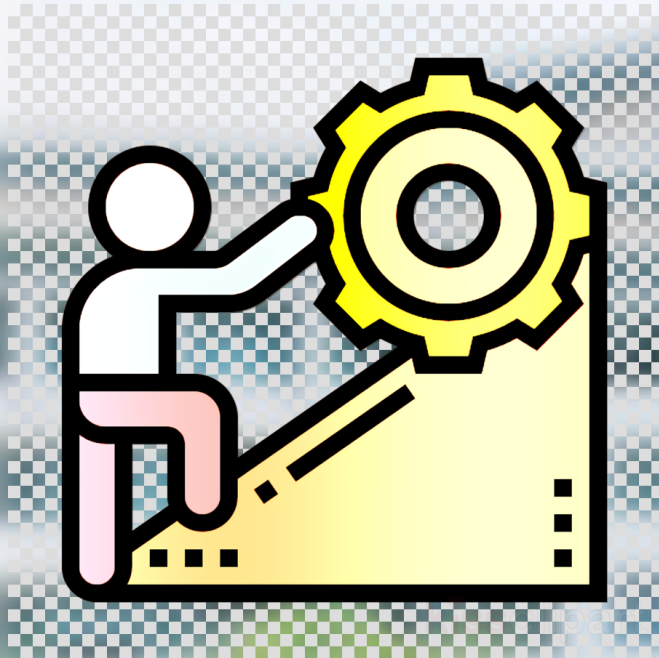
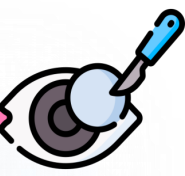


Staff's Satisfactory



■ V. Dissatisfied ■ Dissatisfied ■ Satisfied ■ V. Satisfied

CHALLENGES



1. New IOL aid policies

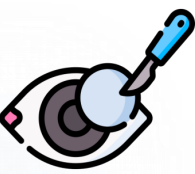
- JPA lens now requiring longer approval time, from 1-2 months to 3-4 months

2. Cataract booklet

- Financial issue : to print the book
- Patient's factors: not bringing / misplaced/ missing during TCA

3. Rapid staff turn over rate

4. Multidiscipline involvement



LESSON LEARNT

Clearer guidelines and earlier referral helps in improving the overall workflow and benefiting not just the patients but also to our own staff

We have managed to reduce up to 60% of repeated pre-operative assessment visit prior to cataract surgery in HSIS

Having dedicated staff with shared goal to also reduce patient burden and also own staff is the strength during this study

Preparing patient for surgery requires multidiscipline approach that some decision may fall beyond our jurisdiction

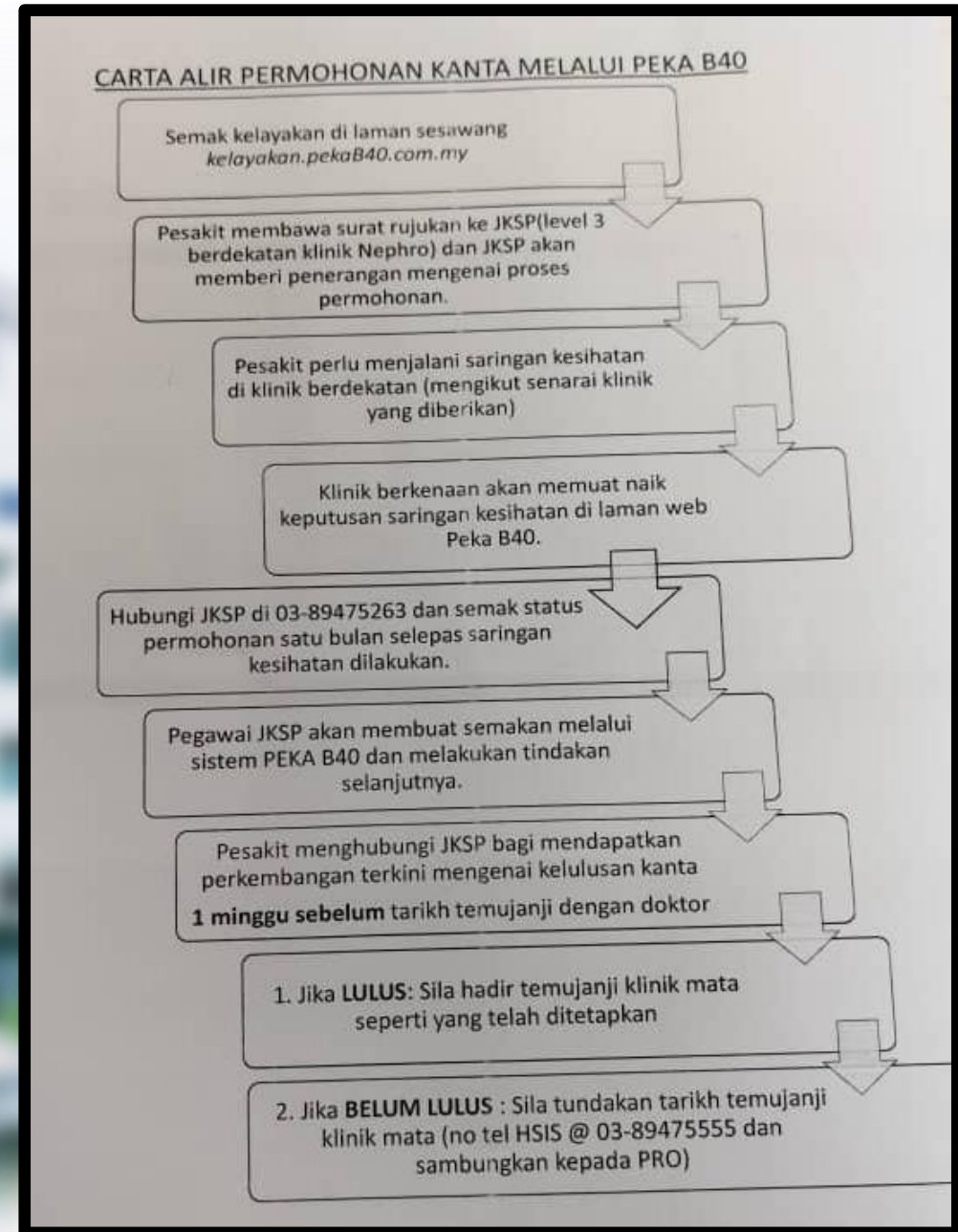
We would focus more on the training for staff and collaborate earlier steps if we were repeating this study

What's Next?





We have
simplified
IOL guideline
processes into a
single leaflet





D
Pre-
check
e-HI

POSTERIOR SEGMENT

Posterior Segment : RE OD 0.4 pink trigoid

ASSESSMENTS

Assessments : Bscan retina flat clear vitreous

DIAGNOSIS

Diagnosis : BE cataract

A. Patient Require PC Date? : Yes

If yes fill the subtab below:

1. Choice of IOL (Intraocular Lens) : PEKA / Welfare

2. Any evidence of Skin infection? No

3. Any evidence of Diabetic Foot Ulcer (DFU) or chronic venous ulcer? No

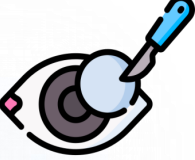
4. Choice of anesthesia? LA

5. Recent Cardiovascular event \leq 6 month? No

6. Recent stroke or TIA (Transient Ischemic Attach) event \leq 6 month? No

PLAN

Plan : PC date LE phaco pciol
PEka B40



REGIONAL CME LECTURES SERIES

REGIONAL CME 2022 HOSPITAL SERDANG

"CARDIAC RISK ASSESSMENT IN CATARACT SURGERY"

Dr Shargunandass A/L Iynam
Clinical Cardiologist
Department of Cardiology
Hospital Serdang

Date : 23 Sept 2022 (Friday)

Time : 3.00- 4.00pm

Platform : Zoom

Contact Person:
OPHTHALMOLOGY DEPARTMENT

More information:
OPHTHALMOLOGY DEPARTMENT

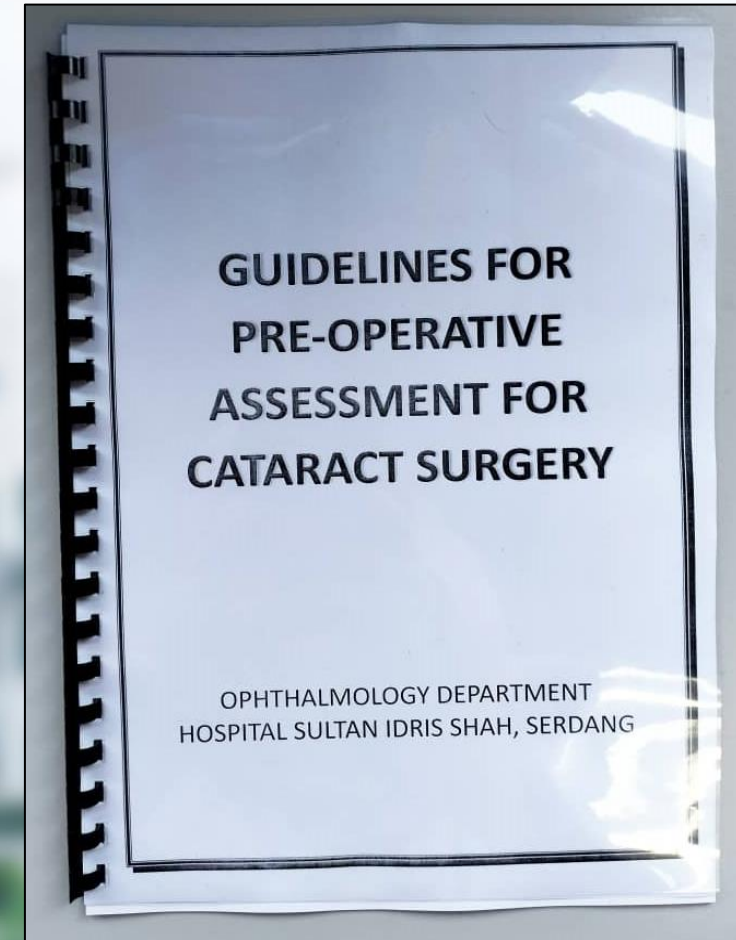
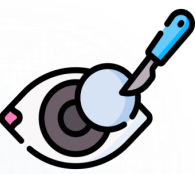
2022 ESC Guidelines on cardiovascular assessment and management of patients undergoing non-cardiac surgery

Official ESC Guidelines slide set

ESC
European Society of Cardiology

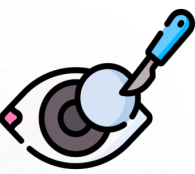
- ## Involved Hospital within Klang Valley
1. Hospital Serdang
 2. Hospital Ampang
 3. Hospital Klang
 4. Hospital Putrajaya
 5. Hospital Selayang
 6. Hospital Shah Alam
 7. Hospital Sungai Buloh
 8. PPUM
 9. PPUKM

SHARING OF GUIDELINE



HSAAS, UPM OPHTHALMOLOGY DEPARTMENT ON 1.2.2024

CONCLUSION



Pre-remedial data showed a 92% of patients require repeated pre-operative assessment visit prior to cataract surgery

The main contributing factors are the ineffectiveness of our process of care and delay in addressing patient's medical or financial issues

Strategies formulate include change of workflow and emphasis of MOGC standard, and collaboration different department for efficient workflow

Post-remedial data show percentage of repeated pre-operative visit reduce to 31% form 92%

GANTT CHART



Gantt chart



Planned



Actual





Administrative

Dr Farique Rizal Bin Abdul Hamid

Hospital Director

Cardiology Department

Dr Shargunandass A/L Lynam

Clinical Cardiologist

Welfare Department

Pn Rosalina Binti Sabirin

Ketua Jabatan
Kerja Social Perubatan



1. A Yaakob, MD (USM), M.MED (Ophthal) USM, N Abdullah, MBBS (Malaya), Siti Raihan, MD, M.MED (Ophthal) USM, and LS Ahmad Tajuddin, MBBS (Malaya), MMED (USM), PHD (UK); Lens-induced glaucoma in a tertiary centre in northeast of Malaysia
2. Angra SK, Pradhan R, Gary SP . Cataract induced glaucoma—an insight into management. Indian J Ophthalmology 1991; 39: 97–101.
3. QA/QI workbook the problem-solving approach, third edition 2020. Abd Jamil A , Izzatul Rahmi MU, Samsiah A, Siti Haniza M, Raja Zarina RS, Normaizira H, Norkhairah B
4. Phacomorphic glaucoma is often associated with a population of lower social economical class with inadequate access to medical care¹
5. Angra SK, Pradhan R, Gary SP . Cataract induced glaucoma—an insight into management. Indian J Ophthalmology 1991; 39: 97–101.
6. The 8th report of the Malaysia National Eye Database 2014 showed increasing number of cataract surgery from 12798 cases in 2002 to 40532 cases in 2014. 75.6% of these patient were found to have systemic co-morbidity

A decorative background element consisting of a horizontal, irregular splash of teal and light blue watercolor paint. The colors are blended together, with darker teal in the center and lighter, almost white, tones at the edges, creating a soft, painterly effect.

Thank You