



Singapore Healthcare
Management 2019

Cancellation Reduction Intervention for Surgical Procedures

¹Lai, F.W., ¹Leong, A.F.W., ³Seet, E., ³Kumar, C, ⁴Tan, K., ⁴Selathorai, S.,
⁵Tan, K.S.I., ²Yip, C.C.
¹Day Surgery Centre, ²Ophthalmology & Visual Sciences, ³Anaesthesia,
⁴Operations, ⁵Finance
Khoo Teck Puat Hospital



1 Introduction & Background

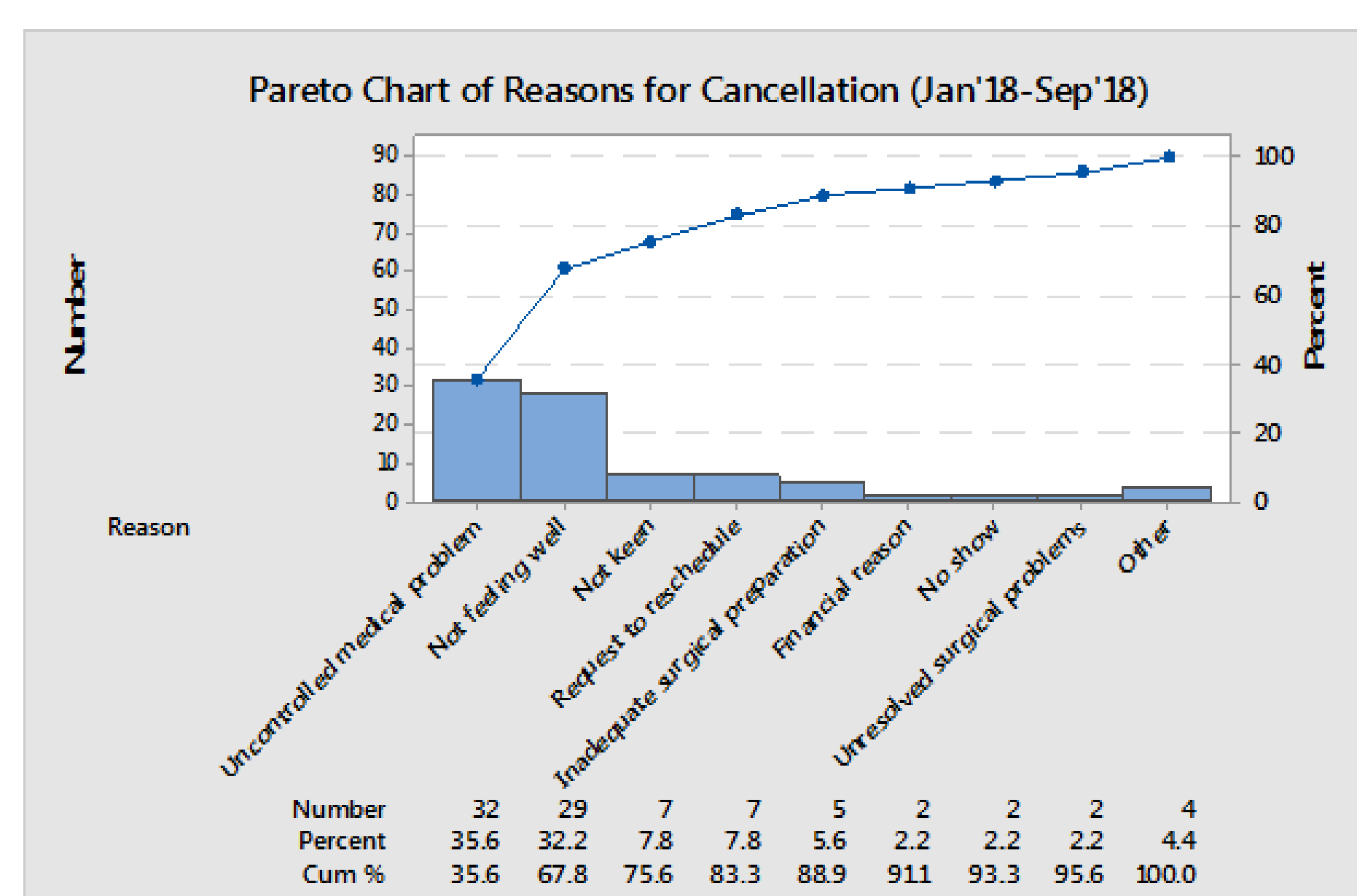
A collaborative project by Day Surgery Centre, Ophthalmology & Visual Sciences (OVS), Anaesthesia and Operations.

2 Aim

The team aims to **improve operating room utilisation, Maximise resources and reduce cancellations** thru a system-based **Cancellation Reduction Intervention for Surgical Procedures (CRISP)**.

3 Methodology

A **pareto chart** was used to derive at the most commons reasons for cancellations:



The most common reasons for cancellations were identified to tackle **preventable causes**

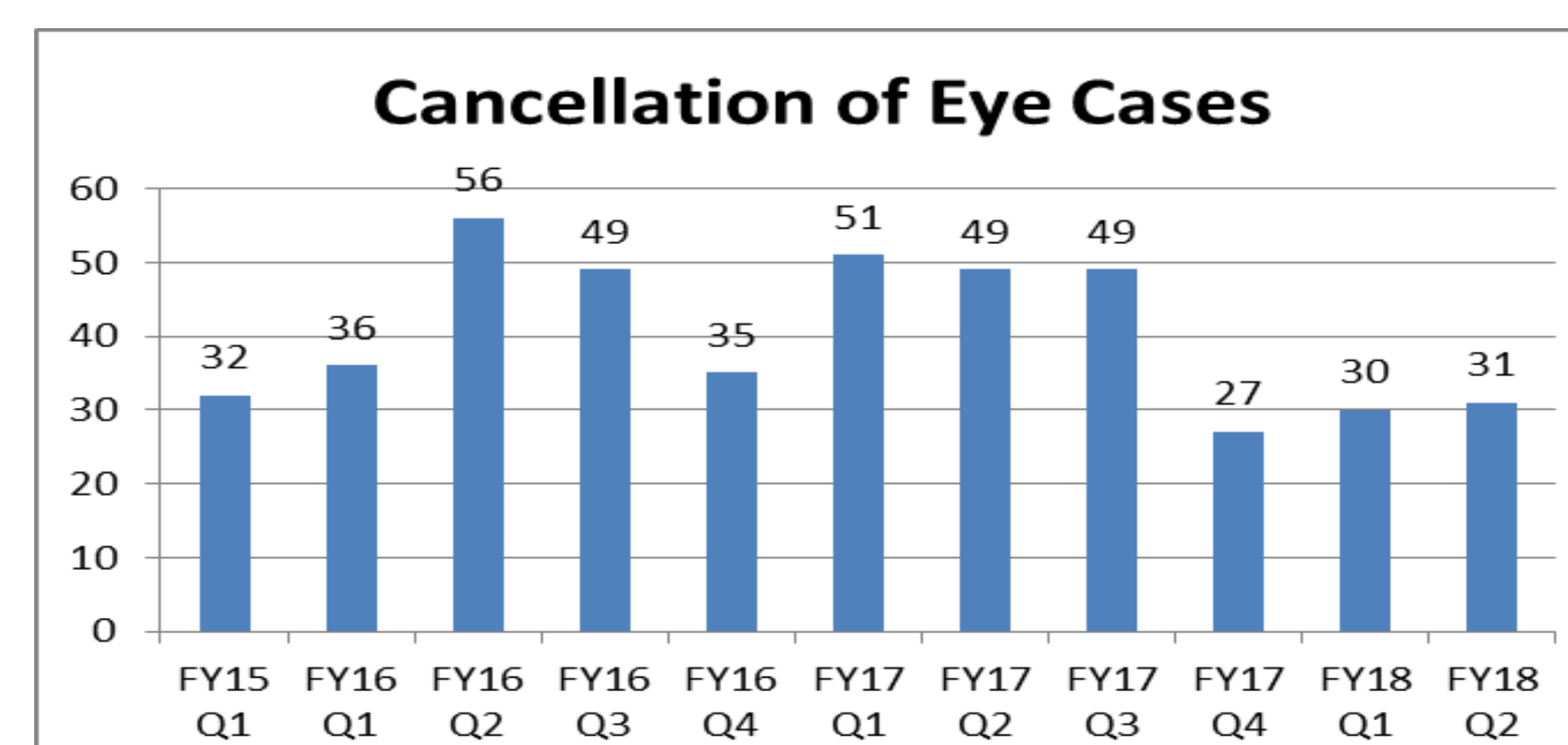
The team brainstormed and **a system-based thinking** was adopted to strategize, design and plan the solutions to ensure a seamless care delivery.

Reasons for cancellation	Strategies	Strategies In Action
Patients / NOK forgets to take pre-op medications	Pre-op phone calls (Implemented since 2010)	Pre-op calls are made one day before surgery to remind patient of their surgical appointments, fasting statuses and management of medications for high BP, high cholesterol and Diabetes.
Patients were uncontactable during pre-op calls	SMS Reminders (Implemented since year 2010)	SMS Reminders are sent to all patients who do not respond the phone calls. Customized SMS are available in English and Chinese.
Patients had non-pathological or anxiety related irritable cough	Throat Lozenges just before going to operating theatre (implemented since 2014)	Lozenges are provided by the ward staff in consultation with the anaesthetist (Kumar CM, Gopal L. A simple remedy to help suppress coughing during cataract surgery under local anaesthesia.
Patients forget about the fasting requirement and consume food before surgery	No Fasting for non-complicated cases (implemented since Oct 2016)	Patients who fulfill the criteria do not need to fast before surgery. The no fasting protocol reduces surgery cancellation as patients not under this protocol would have to fast 6-8 hours before surgery.
Patients got anxious and needed relaxation pre-op	Aromatherapy (implemented as part of research since April 2017)	Aromatherapy to reduce high BP caused by anxious state (project lead: Dr Philip Stanley)
Patients / NOK forgot the pre-op instructions	QR Codes (to be implemented in Dec 2018)	Pre-surgery Information slips are provided in the form of QR code.
Patients forgot to put pre-op eye drops	Reduction of pre-op eye drops regime (to be implemented in Nov 2018)	Reduction of eye drops instillation duration from 3 days to 0 day.

Designed Solutions to each problem

4 Results & Project Impact

In FY17-18, with the implementation of strategies, results demonstrated an **improvement in cancellation rates**.



The **strategies** are effective to address the reasons for cancellation. They are **well-received by patients & relatives** with many positive feedbacks:

Year	Cancellation of Eye Cases	Variance (Year-on-Year)
FY16	176	-
FY17	176	0
FY18	122 (Annualised)	-31%

- **Staff** – “..practical & useful strategies..”, “—reduces patients’ anxiety..”.
- **Patients** – “..safer alternative compared to medications..”. “No fasting is hassle-free!”

Cost Savings

Costing savings of **\$39,019 per year**

Breakdown	Operating theatre cost	Surgeon manpower cost
Estimated cost savings	\$31,347	\$7,672

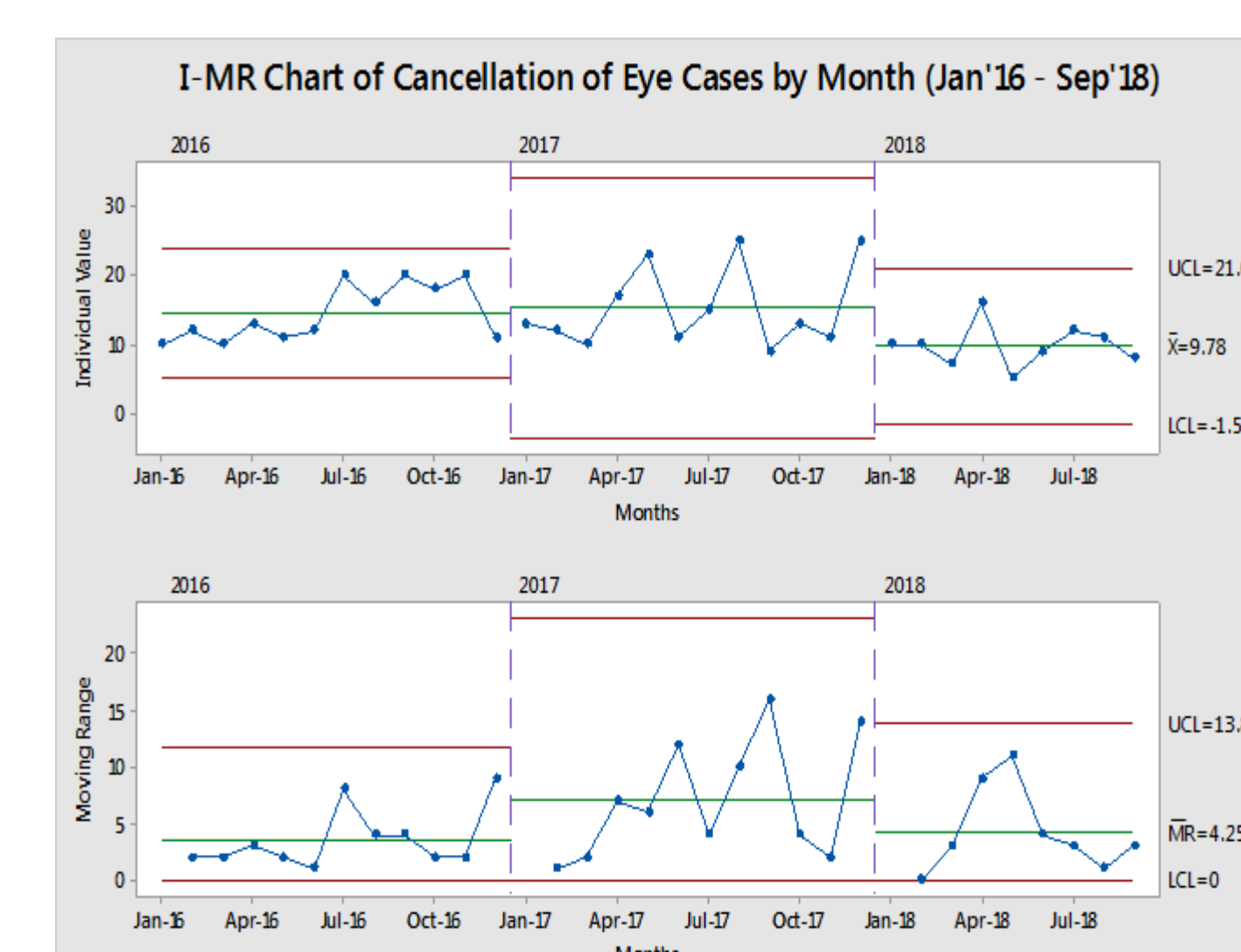
Improved operating room **efficiency/productivity**.
Reduced **inconveniences** via reduced disruptions.
Patient-centric care & improved patient’s **satisfaction** – information are readily available
Safer care – lozenges are practical & safe.
Closing communication gaps – the reminders create personal dialogue & builds rapport.

5 Sustainability

Sustainability

- **Standardized** workflow & operating procedures
- CRISP included in the **new staff orientation program**
- **Regular meetings** to review cancellation rate
- **Poka-Yoke**: checklists & photo illustrations of workflow
- To pilot use of QR codes & removal of pre-op eye drops. Control charts for **continuous monitoring & review**:

The I-MR chart shows a downward trend in cancellation of eye cases (~9 cancelled cases/month as of Jan’18-Sep’18, as compared to 2017 with 15 cancelled cases/month)



6 Conclusion

- Using a system-thinking based design, CRISP is effective in reducing elective cataract surgery cancellations.