

Project Title

Value Driven Outcome: Identifying Hurdles To Providing Optimal Care

Project Lead and Members

Project lead: Ms Evelyn Low

Project members: Ms lim, R., Dr Soon Yuen and A/Prof Cheah Wei Keat

Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group Involved in this Project

Nursing

Project Period

Start date: 2017

Aims

To improve quality care index (CQI) in our first phase and cost in our second phase. Our plan was first to identify outliers in our project and harmonise care, thus improving workflow. From our CQI, we identified two major areas to be improved in phase 1:

- (1) To increase rate of Day Surgery and
- (2) To decrease waiting time to surgery.

Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Lessons Learnt

Identification of outliers in VDO project has allowed us to discover opportunities for improvement. With accurate cost and quality data, the team managed to secure engagement from stakeholders whilst implementing these projects.

Conclusion

See poster appended / below

Project Category

Care & Process Redesign, Quality Improvement, Workflow Redesign, Access To Care, Waiting Time, Turnaround Time, Bed Occupancy Rate, Value Based Care, Length of Stay, Training & Education

Keywords

Day Surgery Rate, Inpatient Care

Name and Email of Project Contact Person(s)

Name: Ms Evelyn Low

Email: evelyn_low@nuhs.edu.sg

VALUE DRIVEN OUTCOME: IDENTIFYING HURDLES TO PROVIDING OPTIMAL CARE

- SAFETY
- PRODUCTIVITY
- PATIENT EXPERIENCE
- QUALITY
- VALUE

MS LOW, E., MS LIM, R., DR SOON, Y., & A/P CHEAH, W.K.

Define Problem, Set Aim

Opportunity for Improvement

In 2017, a series of Value Driven Outcome (VDO) projects were launched in NTFGH with the NUHS re-clustering, with the support of NUHS Academic Informatics Office. Inguinal hernia repair was one of the VDO projects launched. These VDOs were chosen as part of a MOH push to improve value and outcomes for common conditions.

Clinical Quality Indicators (CQI) were identified of which 11 indicators were selected (see Figure 1). The data was obtained via hospital databases (SAP, EPIC, OBIEE PASS, iPharm, etc.). Clinical notes were only used to support further analysis when patients were outliers of the identified indicators.

Figure 1: Quality Care Indicators

No Readmission within 30 Days (all causes)	No conversion from laparoscopic to open surgery
No Return to OT within 30 days	No (Unilateral and Bilateral) Hernia Recurrence within 90 days
No Length of Stay more than or equal to 24hours	No Post-op complications
No Day Surgery turned Inpatient	No blood Transfusion
No elective Surgery Wait Time more than 42 Days	No ICU Transfer
	No In-Hospital Mortality

Aim

To improve quality care index (CQI) in our first phase and cost in our second phase. Our plan was first to identify outliers in our project and harmonise care, thus improving workflow.

From our CQI, we identified two major areas to be improved* in Phase 1.

- (1) To increase rate of Day Surgery
- (2) To decrease waiting time to surgery

In Phase 2, we aimed to reduce our baseline cost.

In Phase 3 our targets are to further improve the CQI looking at factors with less impact and more difficult to achieve. Thus it is excluded from this early report.

**This is after intensive data hygiene improvement activities.*

Analyse Problem

- Doctors were listing cases as an inpatients (Same Day Admission) when it is possible to list as day surgery.
- Restriction had been imposed for admission into DS23 Ward. Admission is only allowed for patients whose procedure is scheduled in the afternoon.
- There was no workflow to enable doctor to observe post-operative patient in DS23 ward instead of admission into general ward. The facility at ambulatory ward was not suitable to flex the ward into a short-stay ward (Gradual Escalation QIP)
- Doctors are unaware that a review before 24 hours is necessary in DS23 before patient can be discharged.
- Long duration from registration to time of surgery (hence the total time patient is with facility exceeds 24 hours)
- Cost-detailed analysis from Finance helped identify variances

Test & Implement Changes

Phase 1: To improve CQI (Overall: 47%-67%, JMC: 90%-100%)

- (1) Education of colleagues to encourage day case booking.
- (2) Education of colleagues to convert admit day case to Short-stay ward (DS23) instead of general ward for minor discharge issues.
- (3) DS23 to accept hernia repair cases without scheduling restriction.
- (4) Training of our surgical scheduling nurse to reclassify patient's request for delays to patient's choice.
- (5) We are now trying to encourage colleagues to pool their operation listing together to further decrease patient waiting time.

Phase 2: To reduce cost (Overall cost reduction = 9.2%)

- (1) Detailed study with Finance showed reduced cost in Jurong Medical Centre (JMC) resulted from changes in practices and no admission (see Figure 2).
- (2) Simpler Hernia repair cases for appropriate patients are redirected to JMC (See Figure 3).

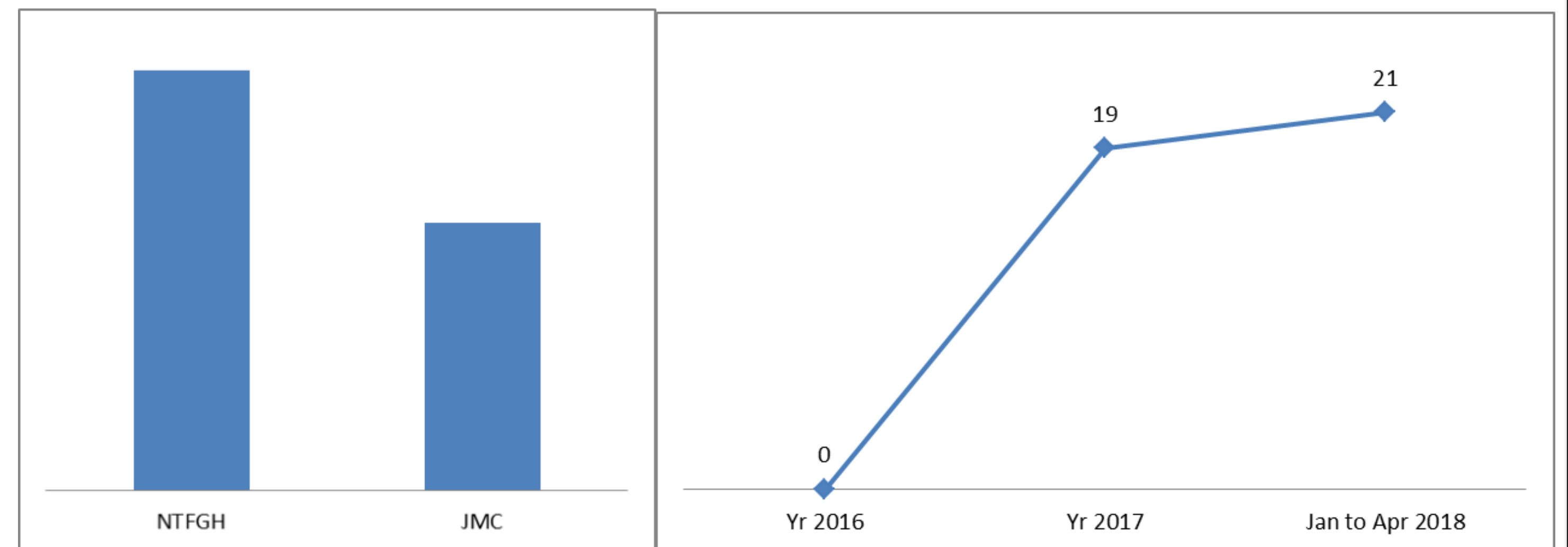


Fig 2: Cost Comparison between NTFGH and JMC

Fig 3: Hernia Workload in JMC

- (3) Overall cost base rises yearly due to inflation (See Figure 4). With JMC, our total average cost has reduced.

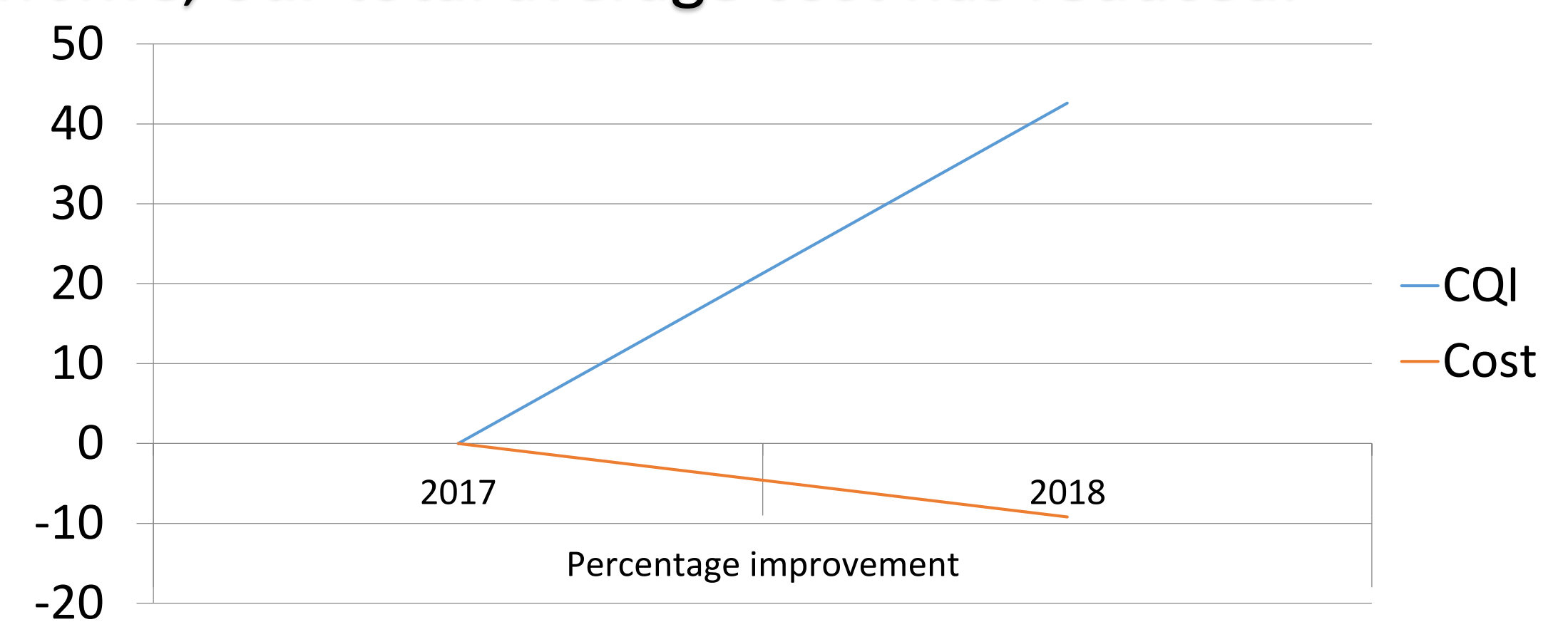


Fig 4: Hernia VDO improvement after QIP in 2017

Learning Points

Identification of outliers in VDO project has allowed us to discover opportunities for improvement. In the initial project, we have sought to implement changes with the highest Value/Outcome improvements. With accurate cost and quality data, we have secured engagement from stakeholders whilst implementing these projects.

The coming projects will be less impactful and more difficult to implement as we go through the quality improvement cycle. The next project would be to encourage other departments to partake in this VDO. We would then focus to change group behaviour to improve average costs and outcome CQIs. Nonetheless the improvement seen with simple QIP and improvement of workflow has seen dramatic improvements in our VDO.