

National Quality Improvement Conference

A multi-pronged approach to reducing Length of Stay and Blood Transfusion Rates in Hysterectomy - A Value Driven Care initiative from a Tertiary Institution in Singapore

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Problem Statement

Value Driven Care initiative for Hysterectomy (Benign Gynaecology Conditions) commenced in 2020 in Singapore General Hospital (SGH), measuring composite metrics representing good patient outcomes, with the aim of initiating projects to optimize these outcomes cost effectively. The metrics consist of post-operative length of stay (LOS) ≤ 4 days, no 30-day blood transfusion, no 30-day complication, no 30-day return to operating theatre (RTOT), no 30-day readmission and no inpatient mortality.

Baseline data (CY2020 Q1) revealed 77.8% cases meeting all targets, with 86.7% and 91.1% of all patients meeting LOS and no blood transfusion targets, respectively. With opportunities for improvement highlighted by the data, this paper details SGH's journey in implementing initiatives to improve patient outcomes.

Project Aim

1. To improve % of patients who have LOS ≤ 4 days from 86.7% (2020) to 90% in 12 months.
2. To improve no 30-day blood transfusion from 91.1 % (2020) to 95% in 12 months.

Lessons Learnt

A multidisciplinary approach with stakeholder buy-in was key in the adoption and success of this initiative. The team will continue to work closely with all stakeholders to ensure sustained outcomes and continuity of these initiatives. In addition, SGH will be rolling out intra-operative cell salvage (ICS) and individual clinician report (ICR) soon to promote safe and efficient blood transfusions whilst encouraging standardised practices.

Potential Solutions

The table below shows the underlying causes behind the indicators with areas of improvement, and our improvement initiatives:

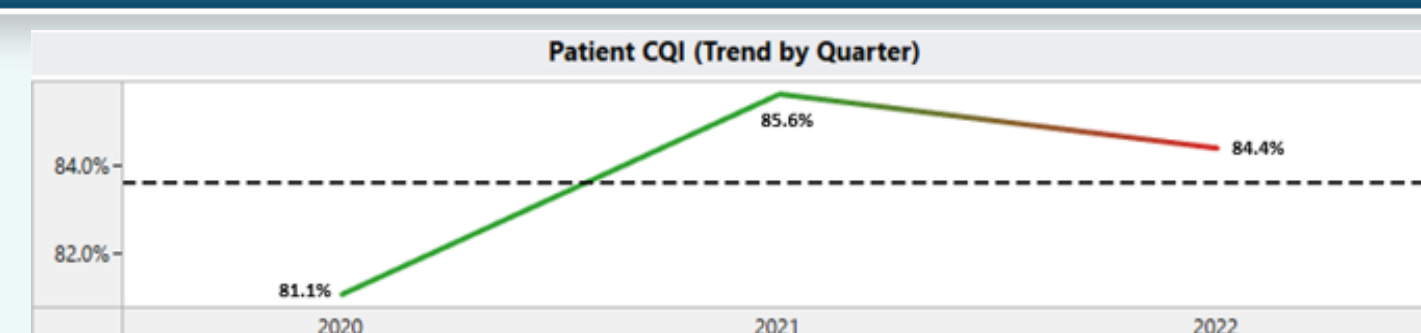
Indicator	Opportunity for improvement identified through Value Analysis	Value Improvement Initiatives
Post-op LOS	There is clear variation in post-op LOS across different surgeons, and there is also opportunity to further improve the mean hospital post-op LOS performance	Implementation of ERAS program to improve post-op LOS
Blood transfusion rates	A review of the individual blood transfusion showed varying practices in blood transfusion thresholds and needs	Educate both senior and junior clinicians on appropriate blood transfusion guidelines post-op
		To promote awareness and implementation of Patient Blood Management protocols within the Department Plan for piloting ERAS on hysterectomy cases with close collaboration with PEC and pre-operative optimization of anaemia

(Table 1).

Enhanced Recovery After Surgery (ERAS) and Patient Blood Management (PBM) was rolled out in June 2020 and January 2019 respectively, and the measurable outcomes of the overarching initiatives were evaluated thereafter. ERAS is a comprehensive perioperative pathway which involves pre-operative assessment, notification of ERAS on admission, intra and post-operative care followed by post-operative evaluation telephonically.

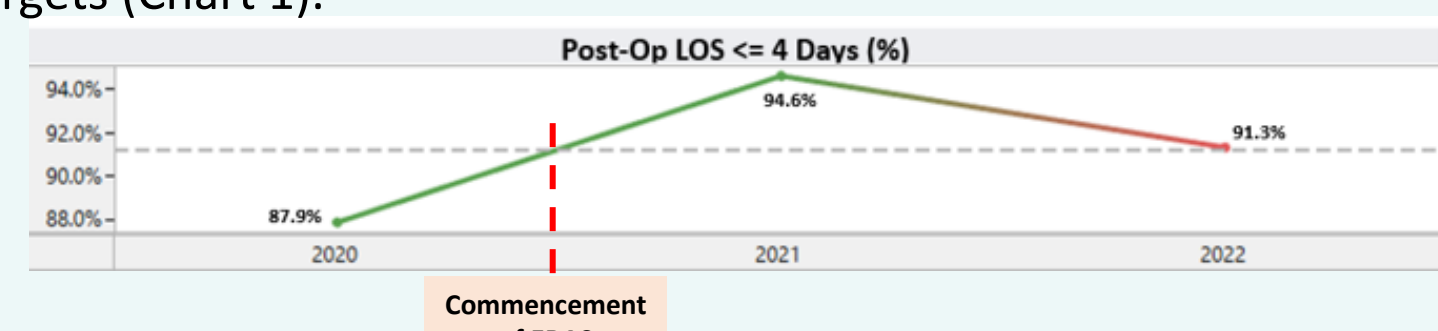
PBM seeks to eliminate unnecessary transfusion via a three-pronged approach, specifically, pre-operative haemoglobin optimisation, intra-operative use of tranexamic acid and post-operative monitoring to restrict blood transfusions.

Outcomes & Impacts



(Chart 1).

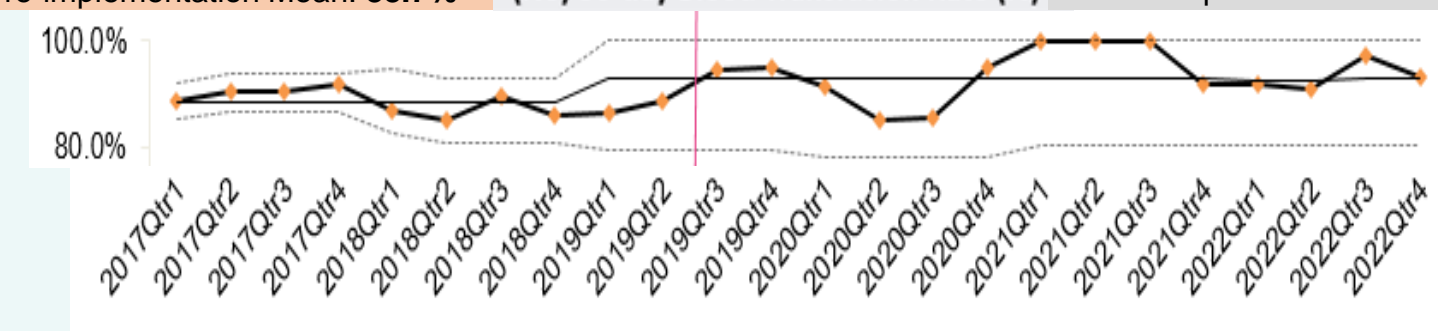
There was overall improvement in the proportion of patients attaining all CQI targets (Chart 1).



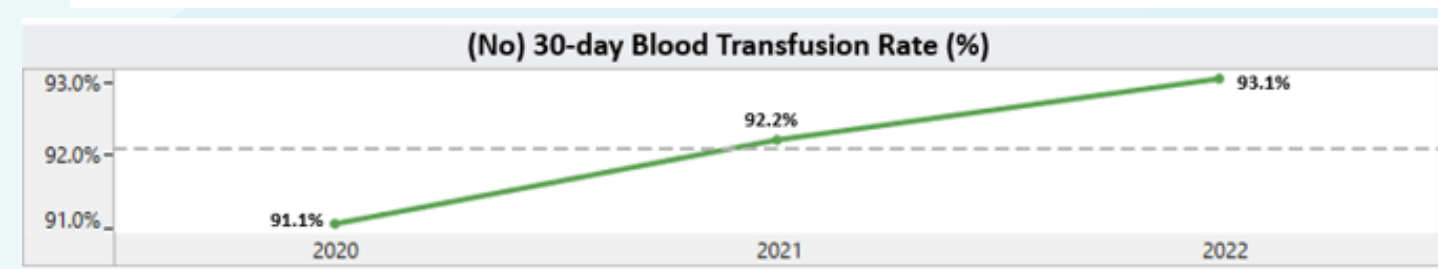
(Chart 2).

ERAS reduced the average LOS from 3.2 days (2020) to 2.8 days (2021) and 2.9 days (2022). 66.8 and 51.9 excess bed days were saved in 2021 and 2022 respectively versus the average LOS in 2020 (Chart 2). Average costs per patient decreased by 11.7% from 2020 to 2021 and by 10.2% from 2020 to 2022.

Pre-implementation Mean: 88.7% (No) 30-day Blood Transfusion Rate (%) Post-implementation Mean: 93.7%



(Chart 3).



(Chart 4).

PBM decreased the number of patients requiring blood transfusion within 30 days post-operation (Chart 3), with sustained improvement (Chart 4).