



Review of Total Knee Replacement (TKR) Enhanced Recovery After Surgery (ERAS) Programme

Singapore Healthcare Management 2025

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Background

The Enhanced Recovery After Surgery (ERAS) Programme for Total Knee Replacement (TKR) started in 2019 as an evidence-based multi-disciplinary approach to peri-operative management of patients after major surgery. This approach has been proven to decrease complications, readmissions, length of stay, together with improvements in patient-reported outcomes and functional recovery. The ERAS Programme covers the patient journey starting from pre-admission, going through pre-operative, intra-operative, post-operative and post-discharge, and has shown better patient outcomes in the Value-Driven Care (VDC) indicators, as well as lower median cost for patients and the organisation.

With the projected plans to increase the uptake of the programme, it is a timely opportunity to review the existing ERAS programme workflow to identify areas of improvement in information flow among the staff, patients and community partners, and propose suitable enhancement to allow easier coordination and better communication.

Mission Statement

To review and analyse the current workflow of the TKR ERAS Programme, to improve the information flow among the staff and patients for easier coordination and better communication while managing the expansion of the ERAS programme.

Outcome Measurements

- Overall length of stay (LOS) for TKR patients.
- Number of re-billing occurrence by Patient Financial Service.

Process Measurements

- Percentage of TKR ERAS patients warded at Short Stay Ward (SSW).
- Percentage of TKR patients onboard the ERAS programme.

Analysis

The team mapped out the patient journey workflow to understand the various touchpoints with patients. The communication channel used by the healthcare professionals were also analysed to identify the challenges faced in the ERAS programme. Opportunity areas in 1) Improvement in current process and 2) Expansion of the programme, were identified with the respective interventions (Fig 1).

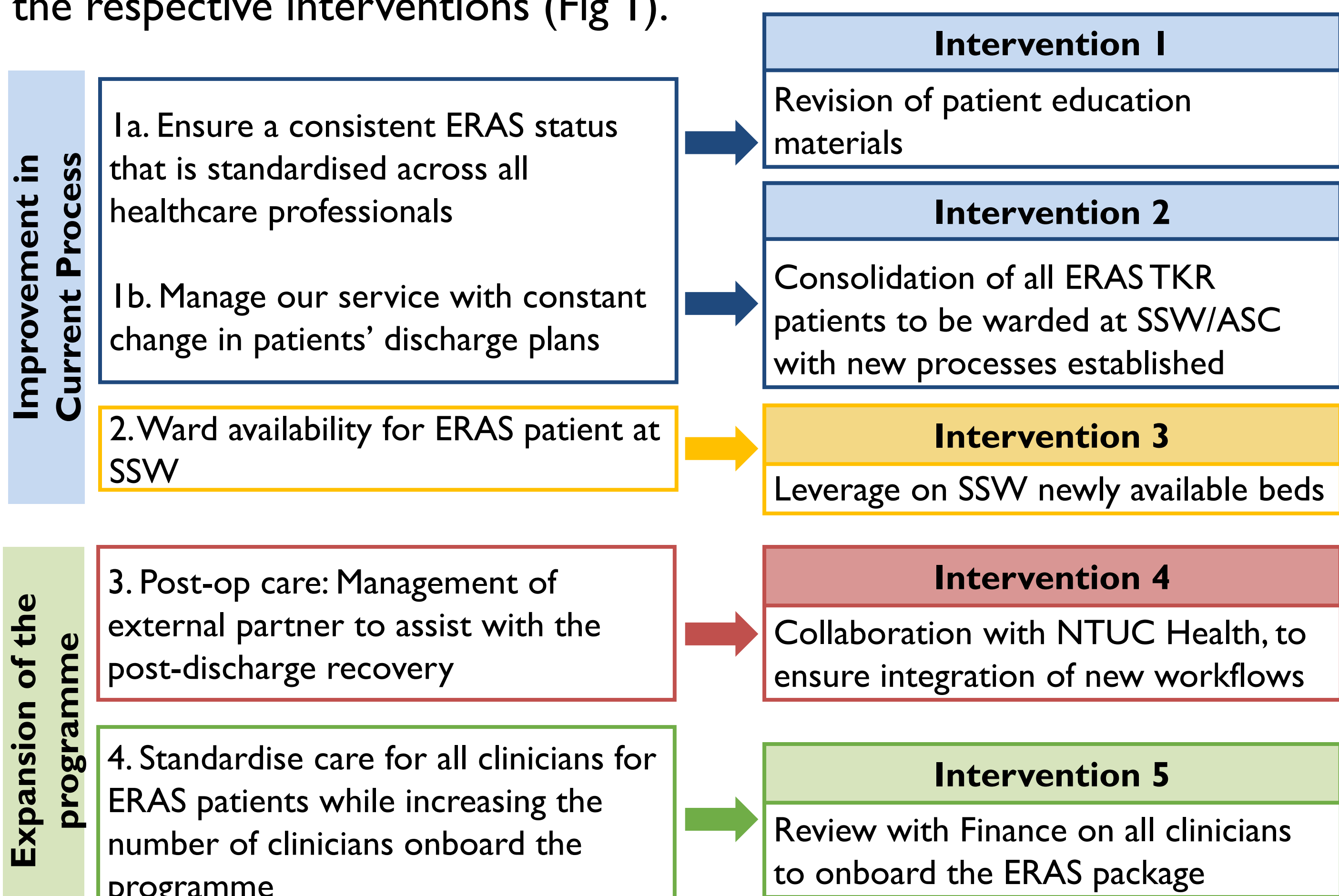


Fig 1: Opportunity areas identified

Interventions

Intervention 1

Revision of patient education materials to manage patient expectation regarding length of stay as an ERAS patient (Fig 2).



Fig 2: Patient education materials

Intervention 2 & 3

Engaged Pre-Admission Centre on the patient's ward location based on the input fields to increase the percentage of ERAS cases warded at SSW through the following initiatives:

- Guided estimation of potential workload from TKR ERAS patients.
- Patients from Saturday OT, discharged on Sun will have their medications e-ported from SGH pharmacy.
- Patients from Saturday OT will have their x-ray done at SGH instead, transferred via wheelchairs.

Intervention 4

Enhanced collaboration efforts with NTUC Health, to ensure that SGH, NTUC and patients are integrated into new workflows (Fig 3).

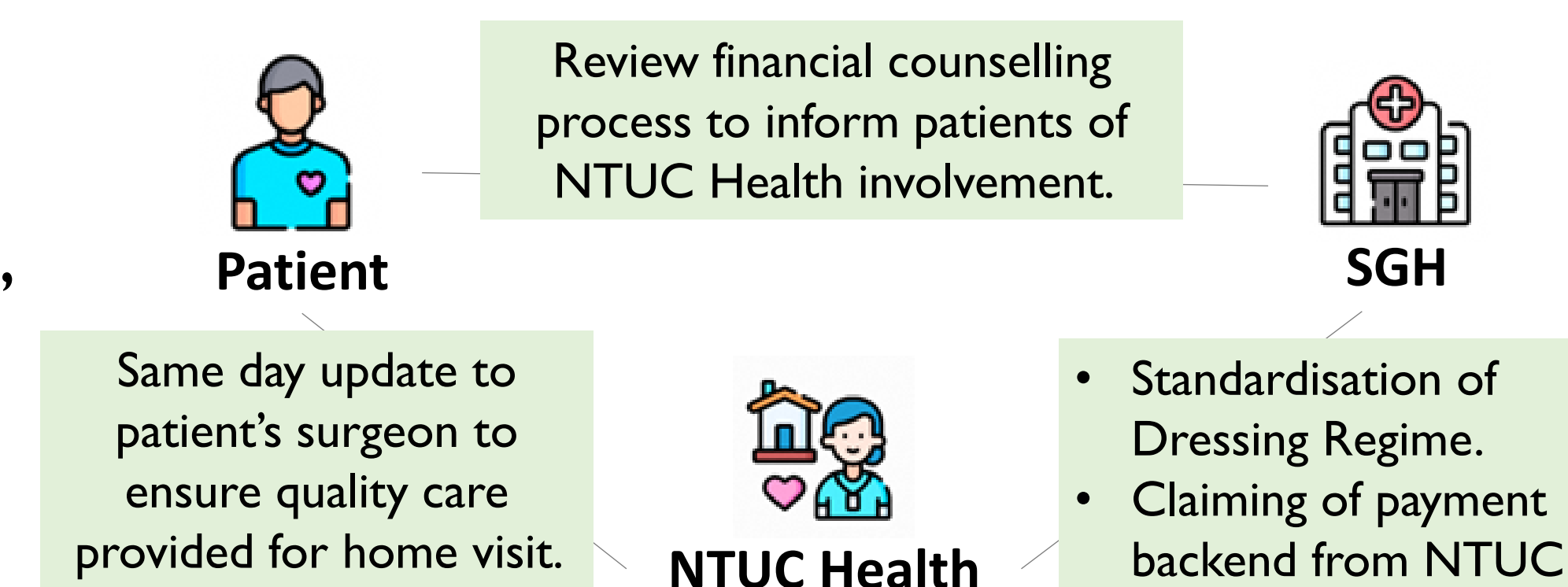


Fig 3: Involvement of the various stakeholders

Intervention 5:

Review with Finance to allow all surgeons- Associate Consultant and above (exclude VC), to list patients for ERAS for TKR surgery from Jun 2023.

Results

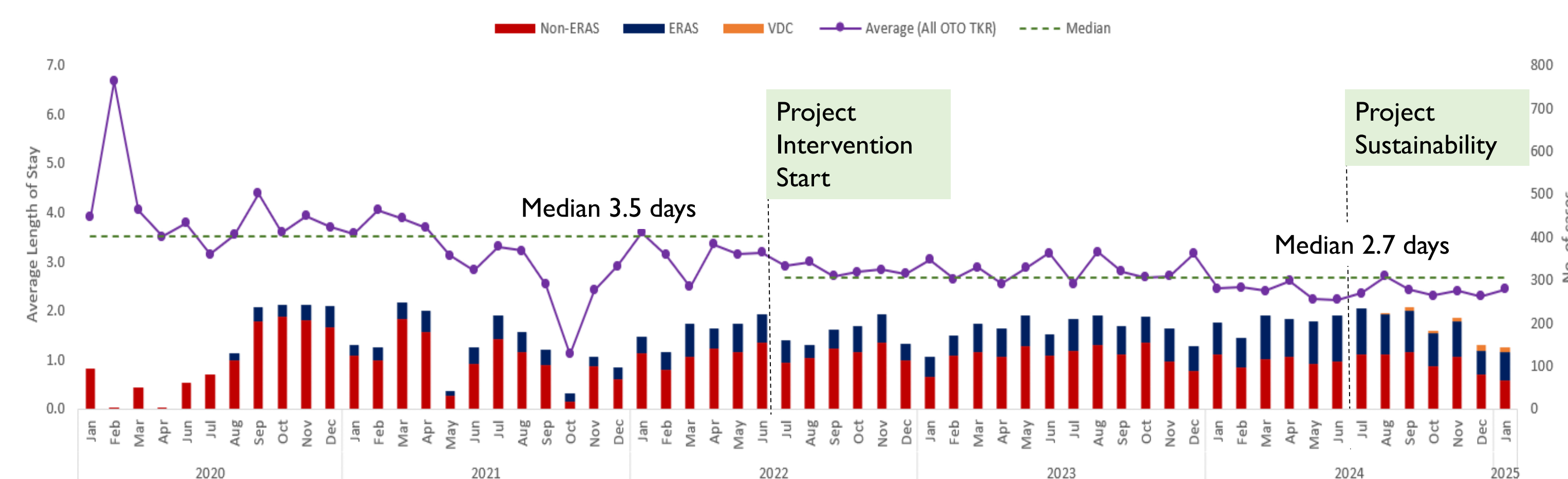


Fig 4: Overall Length of Stay (LOS) for TKR patients

Reduction in the average LOS from a median of 3.5 days to 2.7 days

- Percentage of patient onboard the programme reaches 47% for Q2 CY2024.
- Annual patient cost savings of \$70,022 due to reduced LOS.
- Median percentage of patients warded at SSW increase from 70.1% to 83.7%.
- Re-billing rates remained stable at 1 per week.

Conclusion

Implementation of the ERAS programme has yielded remarkable results in optimising healthcare delivery and resource management, as evidenced by the decrease in ALOS. The programme's ability to maintain these favourable results consistently underscores its sustainability and effectiveness in elevating the standard of patient care. The team will continue to improve the overall length of stay by increasing the ERAS uptake for this programme through engagement with the various healthcare professionals involved in the process.