

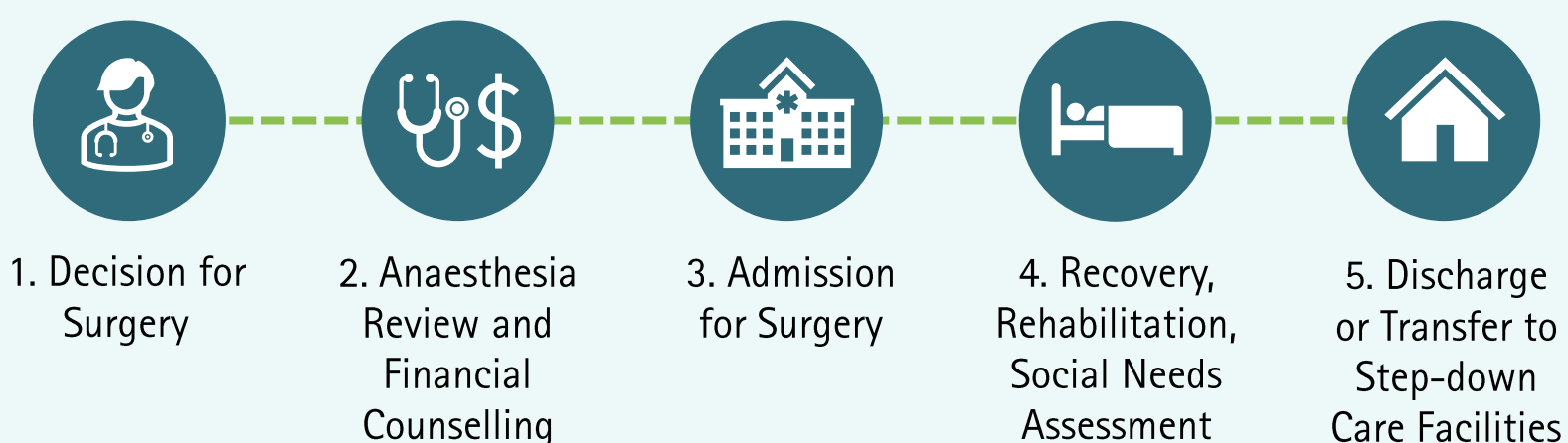
Reducing TKR Length of Stay Through Workflow Redesign

Sim Wei Ping
Associate Consultant
Orthopaedic Surgery
sim.wei.ping@ktph.com.sg



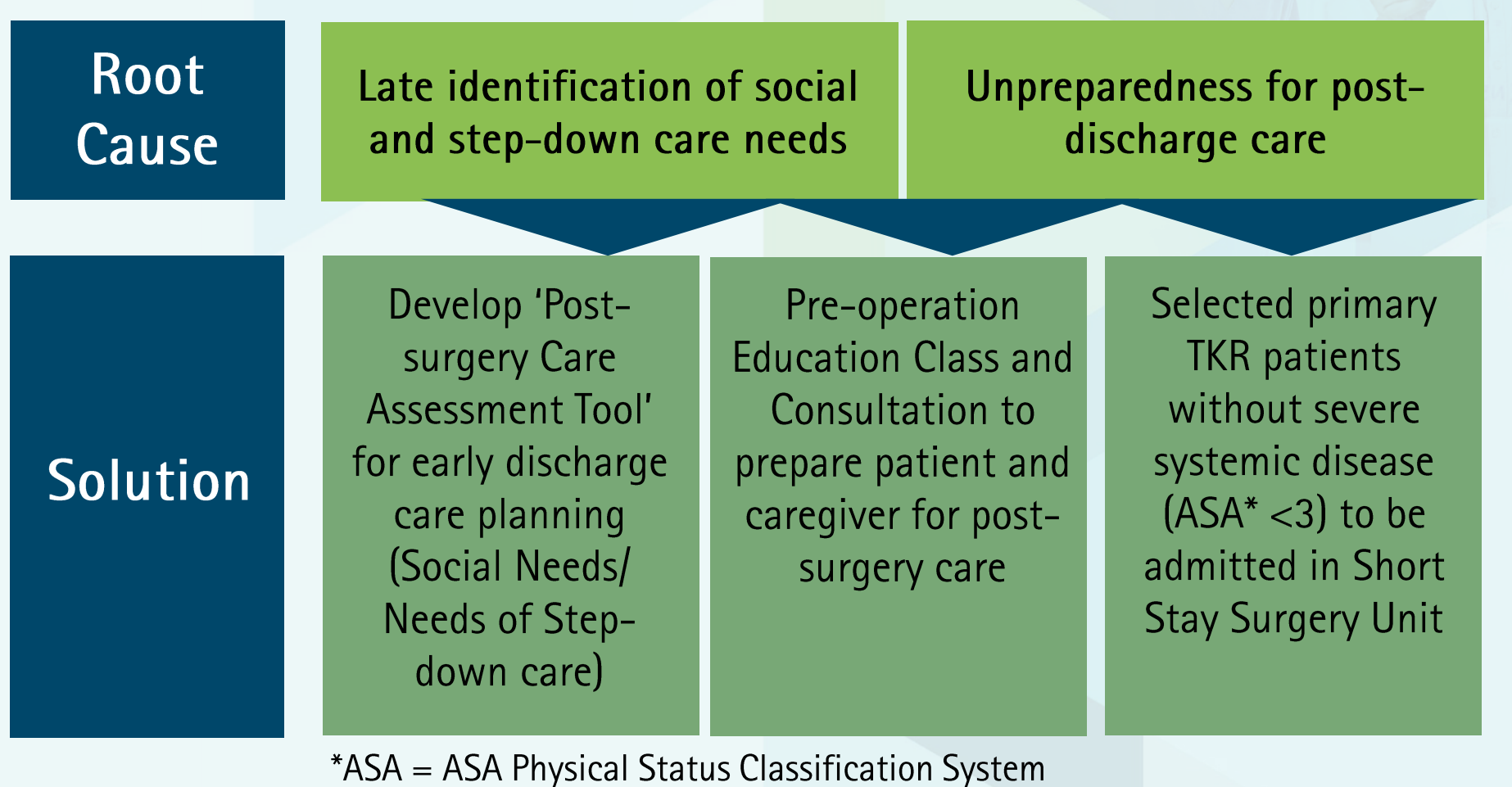
Problem Statement

Total Knee Replacement (TKR) is a common procedure performed in severe knee arthritis to improve patient's function. With advancement in surgical technique and perioperative optimisation, prolonged hospital stay can be avoided. In some studies, the length of acute hospital stay could be 1-2 days after surgery while the average length of stay in KTPH was 3.07 days in 2019.



Potential Solutions

Business Process Re-engineering (BPR) was adopted through collaboration across multidisciplinary teams. The patient flow was re-designed as follows:



Project Aim

The team aims to reduce the average length of stay (ALOS) of TKR patients due to non-clinical reasons from 3.07 days to 2.5 days within 2 years.

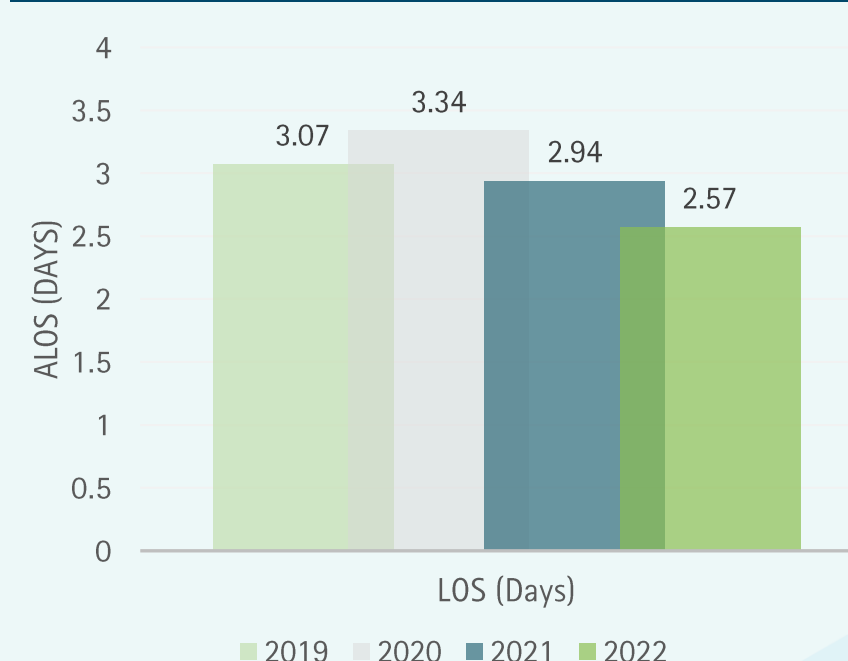
Lessons Learnt

- Working within a multi-disciplinary team presented challenges. With a clearly defined goal, each discipline is able to align themselves to work towards a common objective.
- Implementing and streamlining digital solutions for pre-surgery care assessments enhanced patient involvement in their own care plan. This reduces the manpower needs and allows staff to focus on their core tasks.

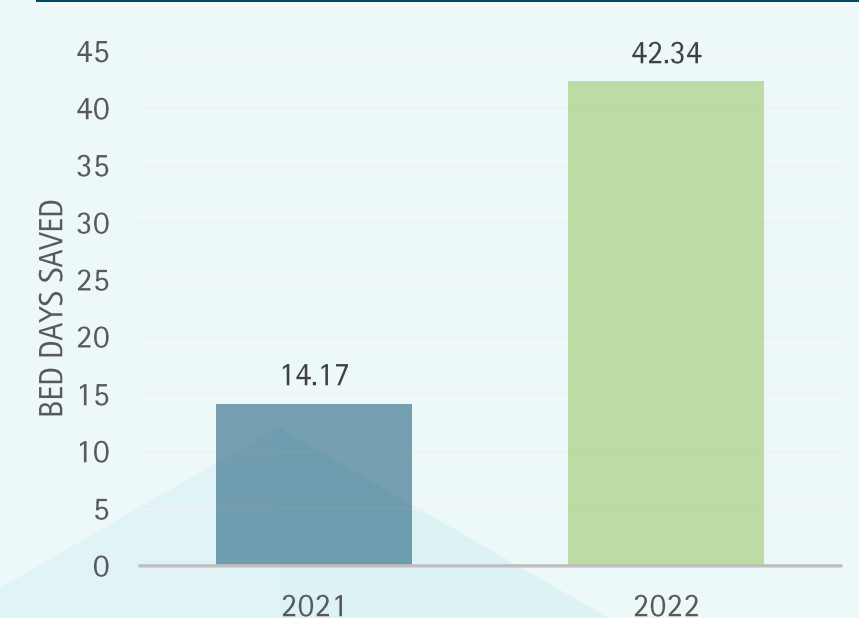
Outcomes & Impacts

The three initiatives collectively reduced ALOS of TKR patients in KTPH from 3.07 days in 2019 to 2.57 days in 2022. A total of 42.34 inpatient bed days were saved.

Average Length of Stay



Yearly Bed Days Saved



*2020 was affected by the COVID-19 pandemic.

Patient-centered BPR allowed early identification and right-siting of patients' post operative care needs. This had allowed the team to perform early discharge planning and prepare patients/caregivers for post-surgery care. This redesign had significantly improved the process flow, resulted in more efficient patient care and allowed us to achieve our objective.