

Knee Replacement Transformation Journey from Inpatient to Ambulatory Surgery

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Problem Statement

- As one of Singapore's busiest tertiary hospitals, TTSH has a perpetually high bed occupancy rate. The COVID-19 Pandemic resulted in worsening bed crunch such that elective operations had to be cancelled.
 - In TTSH, the average Length of Stay (LOS) for knee arthroplasty patients averages 5.6 days to 6.2 days from Year 2011 to 2016, compared to 3.9 days in overseas centres¹.
- Reference**
1. Nagra NS, Hamilton TW, Strickland L, Murray DW; BONE Collaborative, Pandit H. Enhanced recovery programmes for lower limb arthroplasty in the UK. *Ann R Coll Surg Engl.* 2017;99(8):631-636

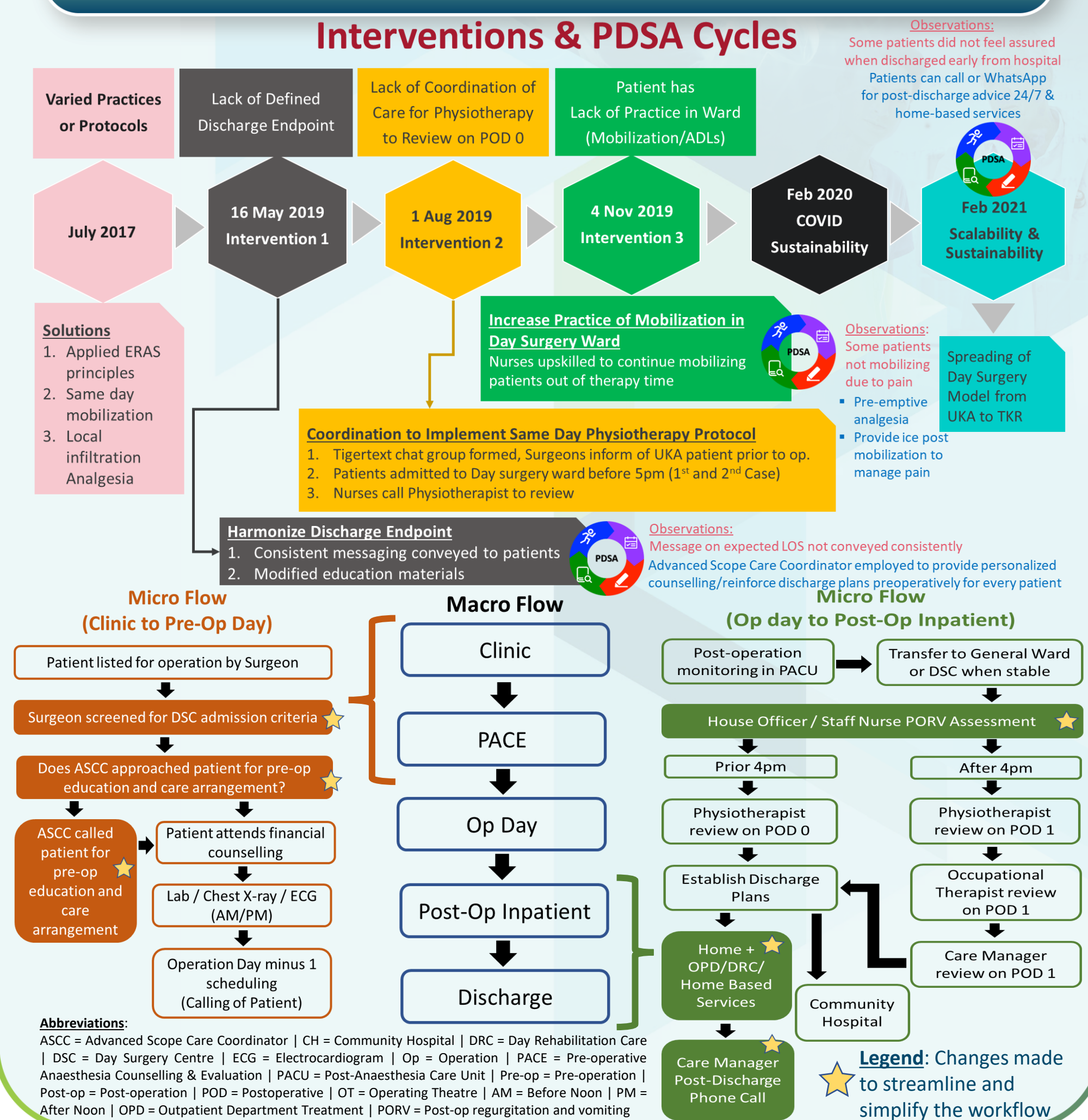
Project Aim

Reduce length of stay (LOS) for knee arthroplasty from 6.2 days to 3 days over a period of 5 years, with **care transformation to ambulatory surgery** for knee arthroplasty without compromising safety in terms of readmissions or complication rates.

Lessons Learnt

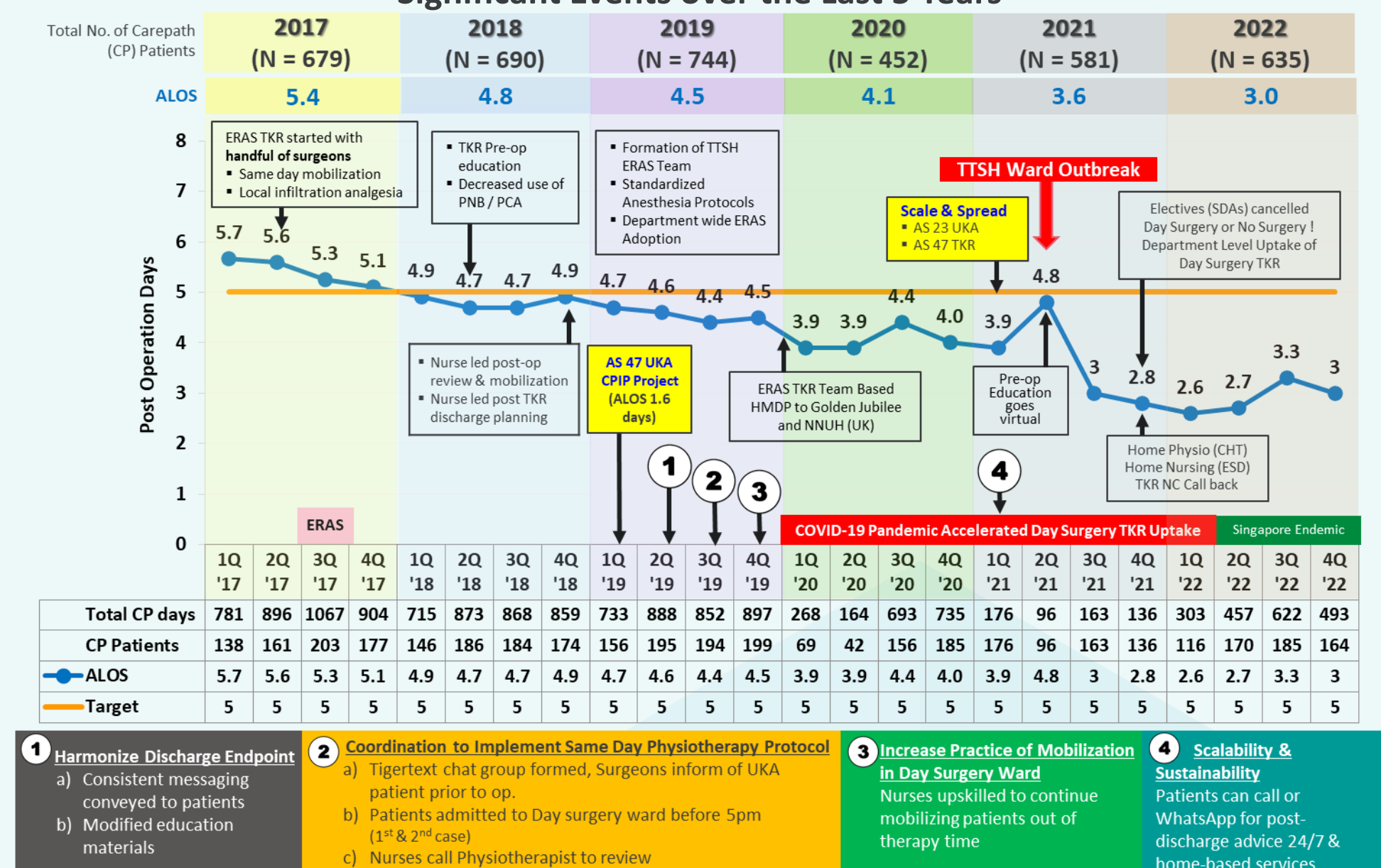
- Adopting a multi-disciplinary, multi-pronged approach with a focus of patient-centered care.
- Build patient & caregiver confidence through education and establishing social setup.
- Creation of a Day Surgery environment which empowers timely discharge.
- "Wrap-around" support care by leveraging upon nurse clinician teleconsultation, home physiotherapist/nursing and 24-hour help line.
- Building sustainability in the system by establishing clinical leads, continuous training and alignment to system goals.

Potential Solutions

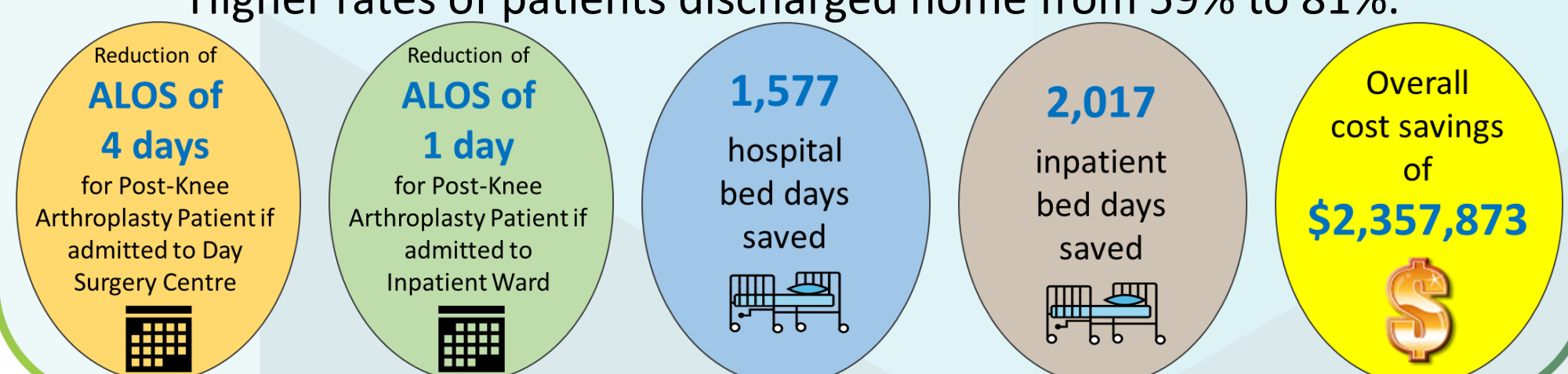


Outcomes & Impacts

TTSH Knee Arthroplasty from Year 2017 to Year 2022



Readmissions have not increased despite shorter length of stay. Higher rates of patients discharged home from 59% to 81%.



Abbreviations: CHT = Community Health Team | CPIP = Clinical Practice Improvement Programme | ESD = Early Supported Discharge | ERAS = Enhanced Recovery After Surgery | HMDDP = Healthcare Manpower Development Program | NNUH = Norfolk and Norwich University Hospital | NC = Nurse Clinician | PCA = Patient Control Analgesia | PNB = Peripheral Nerve Block | SDA = Same Day Admission | TKR = Total Knee Replacement | UKA = Unicompartmental Knee Arthroplasty