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INTRODUCTION

In Singapore General Hospital (SGH), pre-operative education is rendered to patients undergoing elective Orthopaedic surgeries. The patient will journey through the pre-operative evaluation by anaesthetist, doctor consultation, assessments at Orthopaedic Diagnostic Center (ODC); and followed by receiving pre-operative education by the Orthopaedic Specialty Nurse.

When patient is ready for pre-operative education, our ODC colleague will notify the Orthopaedic Speciality Nurse. The Orthopaedic Speciality Nurse from the inpatient ward spent an average time of 30 -45 minutes giving one-to-one patient education. Pre-operative education is important as almost all these patients have short hospital stays and they must be prepared adequately for surgery and aftercare. SGH embarked on the transformation process to re-design the process to empower the patients and to train nurses at PAC to conduct pre-operative education. Time is saved and the PAC nurses are upskilled to be patient educators.

AIMS

1. To streamline patient education process at the Pre-Admission Centre (PAC).
2. To revamp patient education materials to meet patient learning needs so that 100% of patients received pre-operative education before surgery.
3. Empower PAC nurses to be patient educators.

METHODOLOGY

Root causes of the problem were identified based on a cause and effect diagram as shown in (Fig. 1).
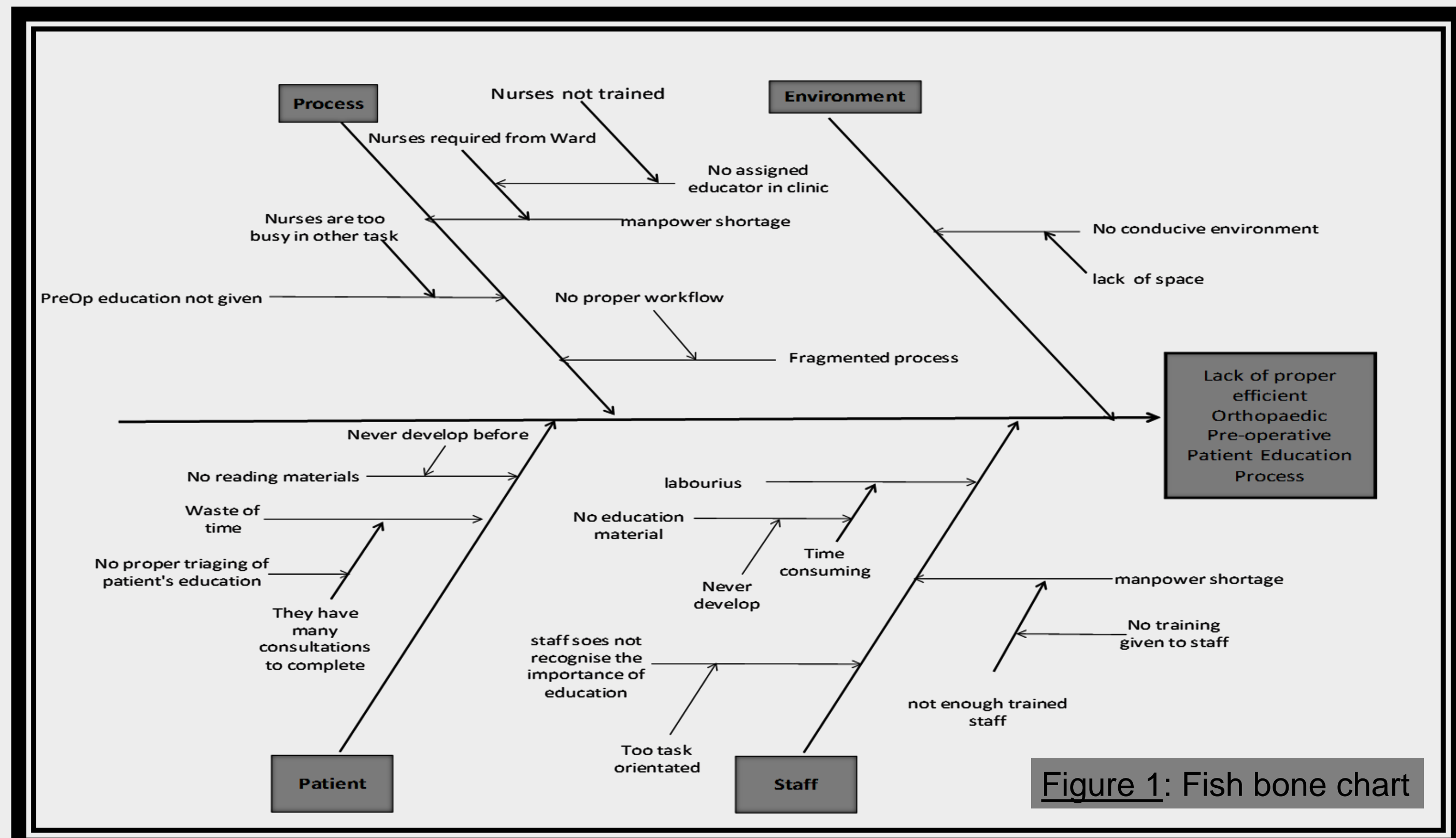

Figure 1: Fish bone chart

A pareto chart (Fig. 2) was then used to analyze the data.
The main causes were then identified. The causes were as follows,
1. No triaging system
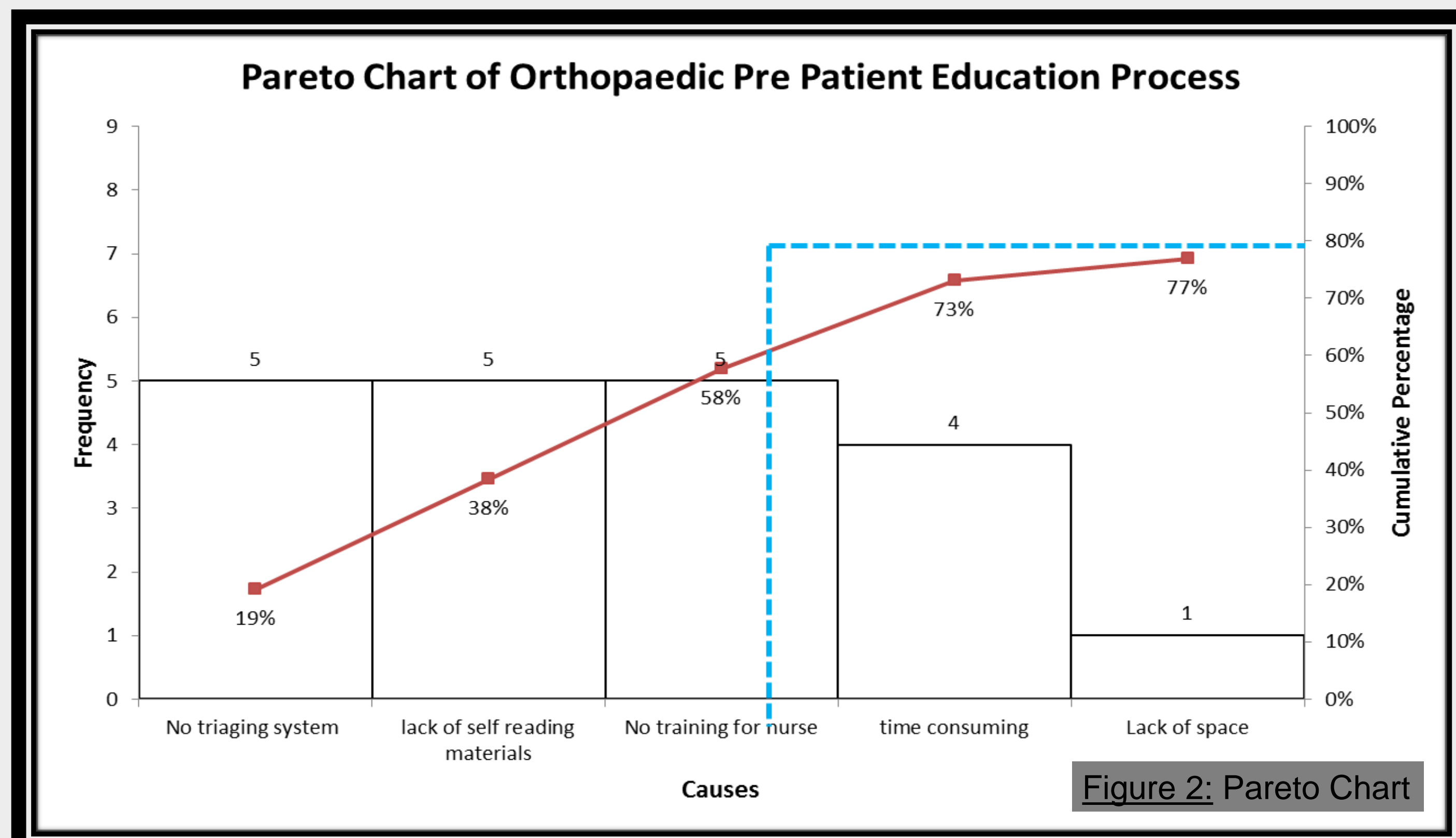2. Lack of self reading materials
3. No training for nurses

Figure 2: Pareto Chart

SOLUTIONS

The team brainstormed, and decided that streamlining education materials of common and complex Orthopaedic surgery using Tier model (Tier 1, 2 and 3)
This will empower orthopaedic patients to perform self reading prior coming for preoperative assessments. By doing self learning prior coming for preoperative assessment, patients' learning needs can therefore be identified.

A summary table of the different Tiers were shown in the table below.

Tiers	Description
TIER 1	Self learning – UpToDate patient teaching material/Apps/Patient teaching pamphlet/ YouTube video Criteria: - Not a complex Surgery - Able to understand English - Did not verbalise a need for individual teaching
TIER 2	Group Teaching / Individual Teaching at PAC by Patient Educators
TIER 3	Teaching by Speciality Nurse Criteria: - Complex Surgeries - Warrant a need for individual teaching

PDSA 1: To develop Tier 1 and Tier 2 education materials to be given to patients at PAC.
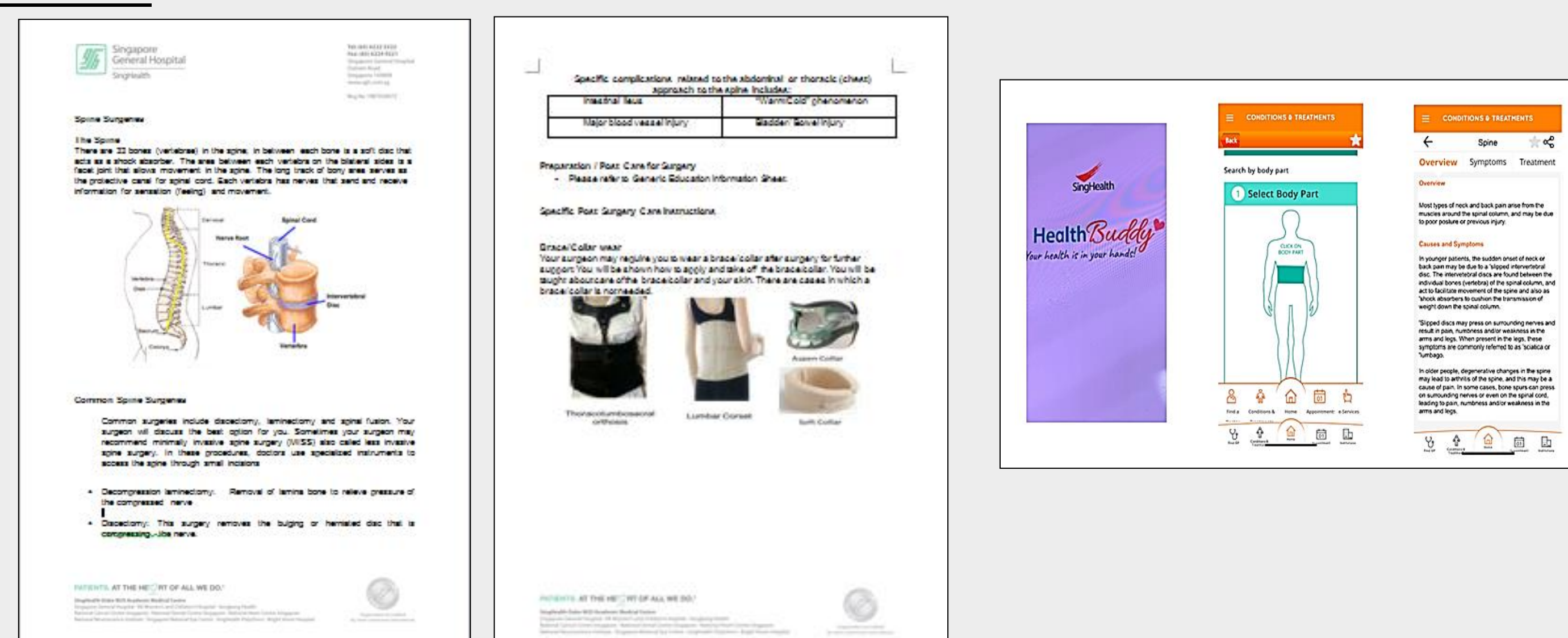
PDSA 2: PAC nurses were trained, and evaluated in conducting PreOp education to the patients.
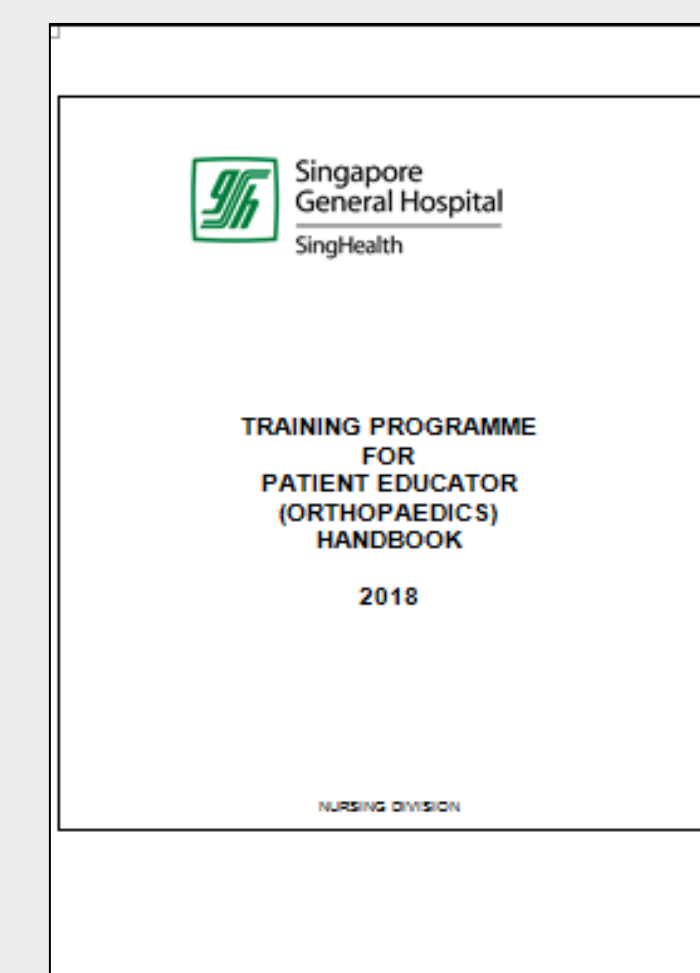
PDSA 3: Orthopaedic Speciality Nurses (APNs and Resident Nurses) will impart education and counselling to patients undergoing complex surgery (Tier 3)

PROJECT'S IMPACT

1. There is an increase in the number of patients receiving pre-operative education before surgery from 75% to 100%.
2. 100% of patients reported that their learning needs are met.
3. 4 nurses at PAC were trained to provide pre-operative education. They reported work satisfaction and are encouraged when patients appreciated their teaching.
4. The Orthopaedic Specialty Nurses only provide pre-operative education and counselling to patients undergoing complex surgery. The time saved enabled them to focus on care of inpatients and being the expert resource nurses for both inpatients and nurse at PAC.

SUSTAINABILITY AND SPREAD

Empowering patients' involvement to decide on their learning needs and equipping nurses at PAC to take over the delivery of pre-operative education has increased both patients' and staff satisfaction.
This education model was successfully implemented and the model is extended to other surgical disciplines in SGH.
Plans to embark on improving the delivery of Tier 1 educational materials to patients using AI technology as in the pipeline.