

Ms. Lim Yi Hui

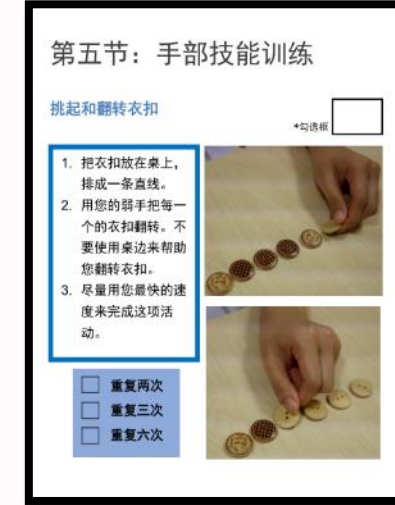
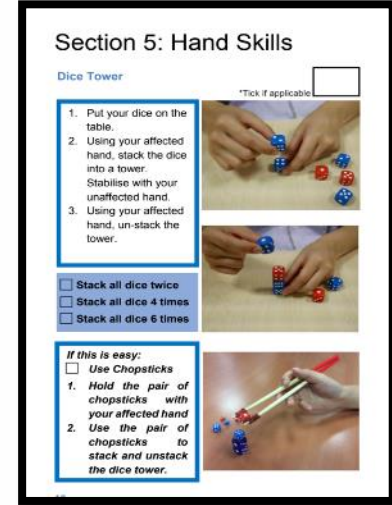
Department of Occupational Therapy

Mission Statement

To increase the percentage of stroke patients* receiving the Occupational Therapy (OT) LIFE Programme in the Acute Stroke Unit (ASU) from 44.4% to 100% over a sustained period

*Stroke patients who are:

- Medically stable
- Have an upper limb impairment
- Able to follow 1 step instruction
- Intact safety awareness
- Able to tolerate and sustain upright sitting (supported) for >15 minutes



Team Members

| Name | Designation | Department |
|-------------------------|---------------------------------------|---------------------------|
| Ms. Lim Yi Hui | Senior Occupational Therapist (Sr OT) | Occupational Therapy (OT) |
| Dr. Christopher Seet | Consultant | Neurology |
| Ms. Heng Wei Ling | Nurse Clinician | Nursing |
| Ms. Ebalan Ma Pamela | Senior Staff Nurse | Nursing |
| Ms. Tai Chu Chiau | Senior Physiotherapist | Physiotherapy |
| Ms. Cheryl Poh Jia Yi | Sr OT | OT |
| Ms. Gladys Lim Wei Tong | Occupational Therapist | OT |

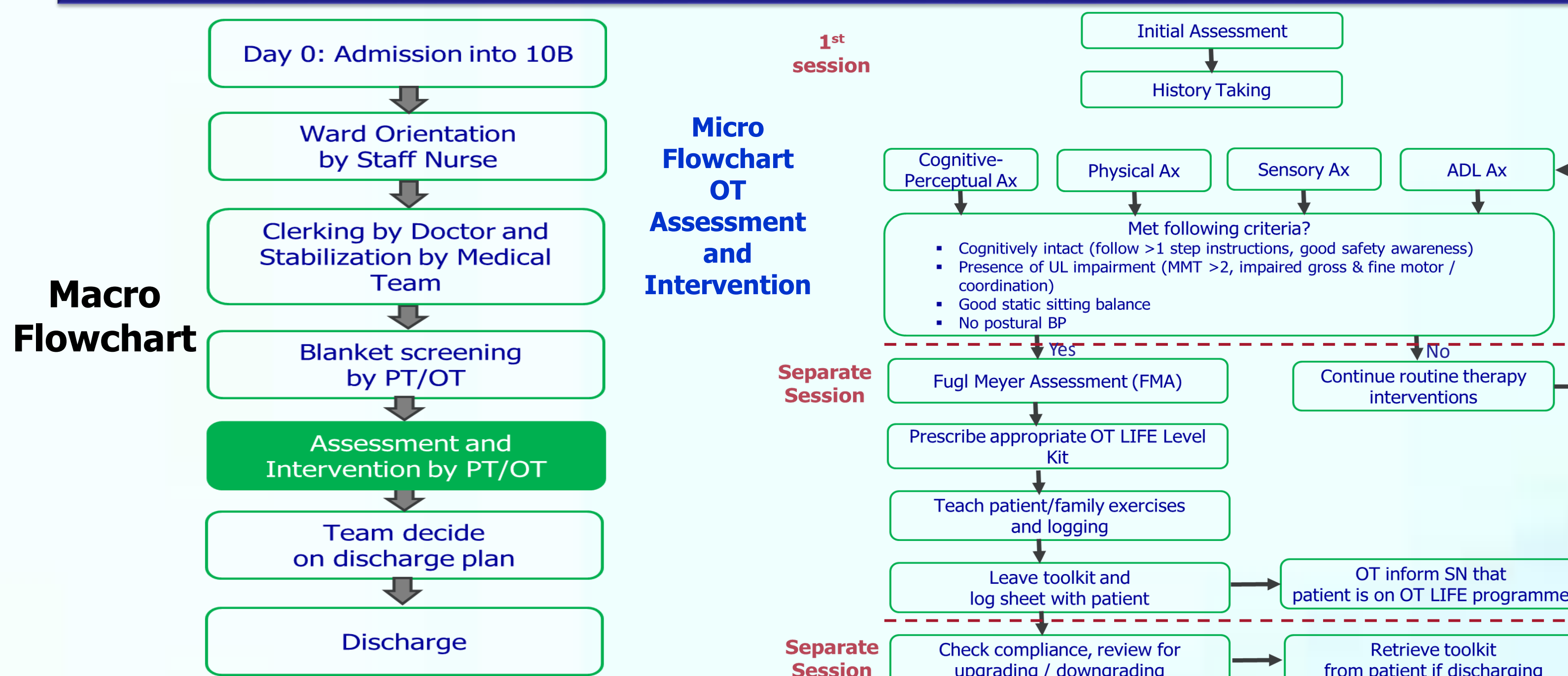
Mentors: Dr. William Chan & Mr. Christopher Ng

Sponsors: Dr. Tjan Soon Yin, Ms. Florence Cheong & Ms. Chia Pei Fen

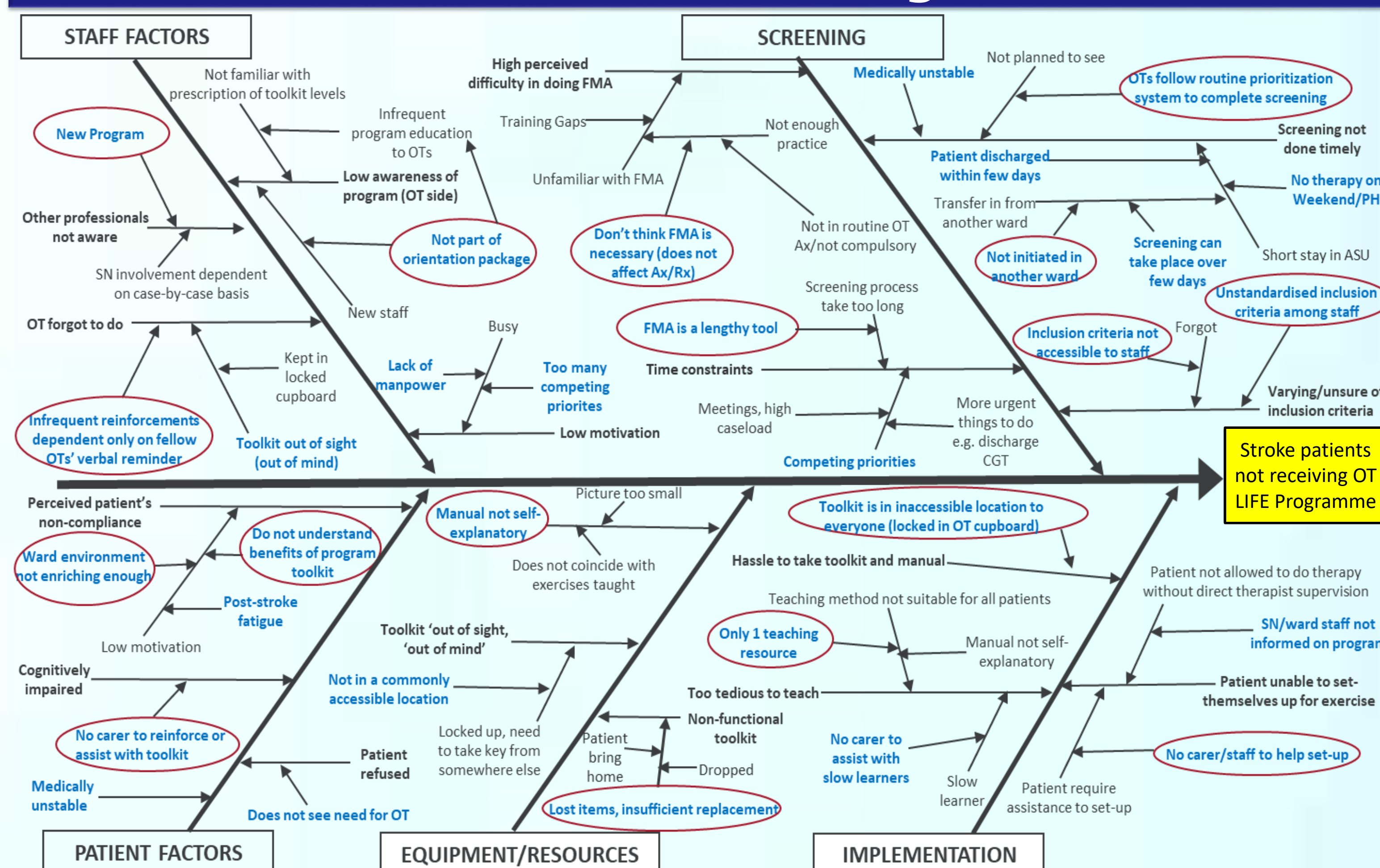
Evidence for a Problem Worth Solving

- Stroke is the 3rd leading cause of long term disability in Singapore (Ministry of Health Singapore Burden of Disease Study, 2010).
- More than 70% of individuals experience upper limb (UL) impairments post stroke (Kwakkel et al., 2003).
- According to National Clinical Guidelines for Stroke, it is recommended that stroke rehabilitation should provide every opportunity for patients to practise graded & repetitive UL functional movements, through supplementary UL programmes designed to maximise rehabilitation time and recovery (National Clinical Guidelines for Stroke, 2016; AHA/ASA Guidelines, 2016).
- The Graded Repetitive Arm Supplementary Program (GRASP) is a recommended UL supplementary programme developed in Canada that had demonstrated improved use of the weaker UL in ADLs, reaching and grasping. With GRASP, significant gains were also maintained at 5 months post stroke. OT LIFE, culturally adapted from the GRASP programme, was introduced in TTSH in 2017 to improve local stroke rehabilitation practice.
- Baseline data showed that majority of stroke patients who will benefit from OT LIFE did not receive the recommended programme intervention. Only 44.4% of eligible patients received the recommended intervention.

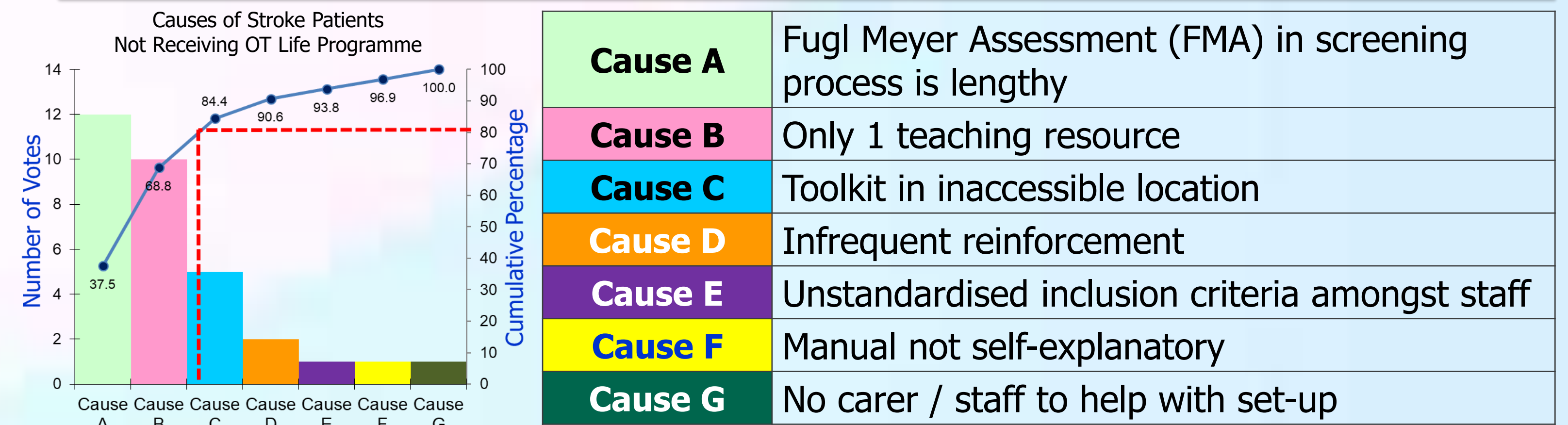
Flow Chart of Process



Cause and Effect Diagram

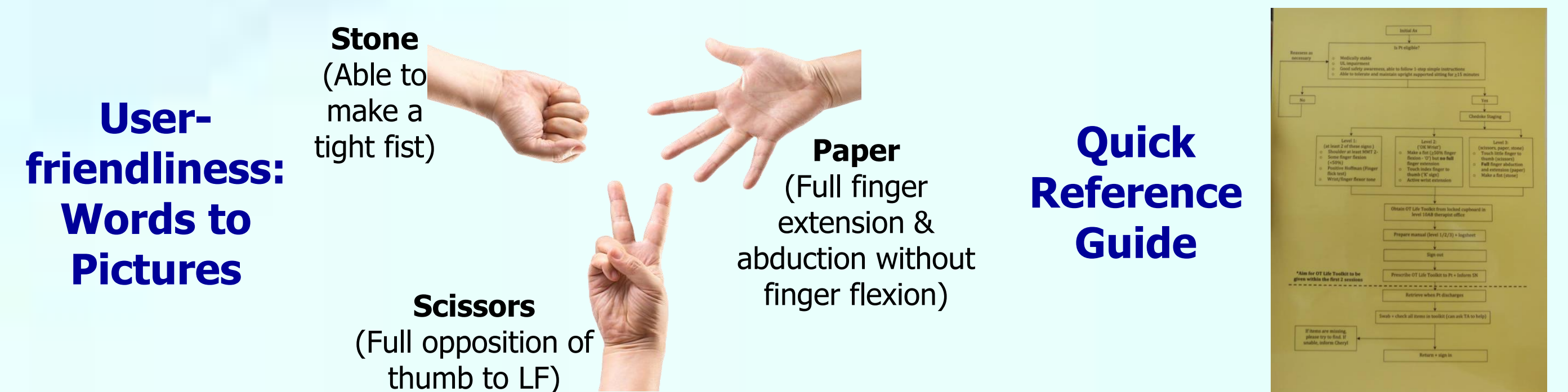


Pareto Chart



Implementation

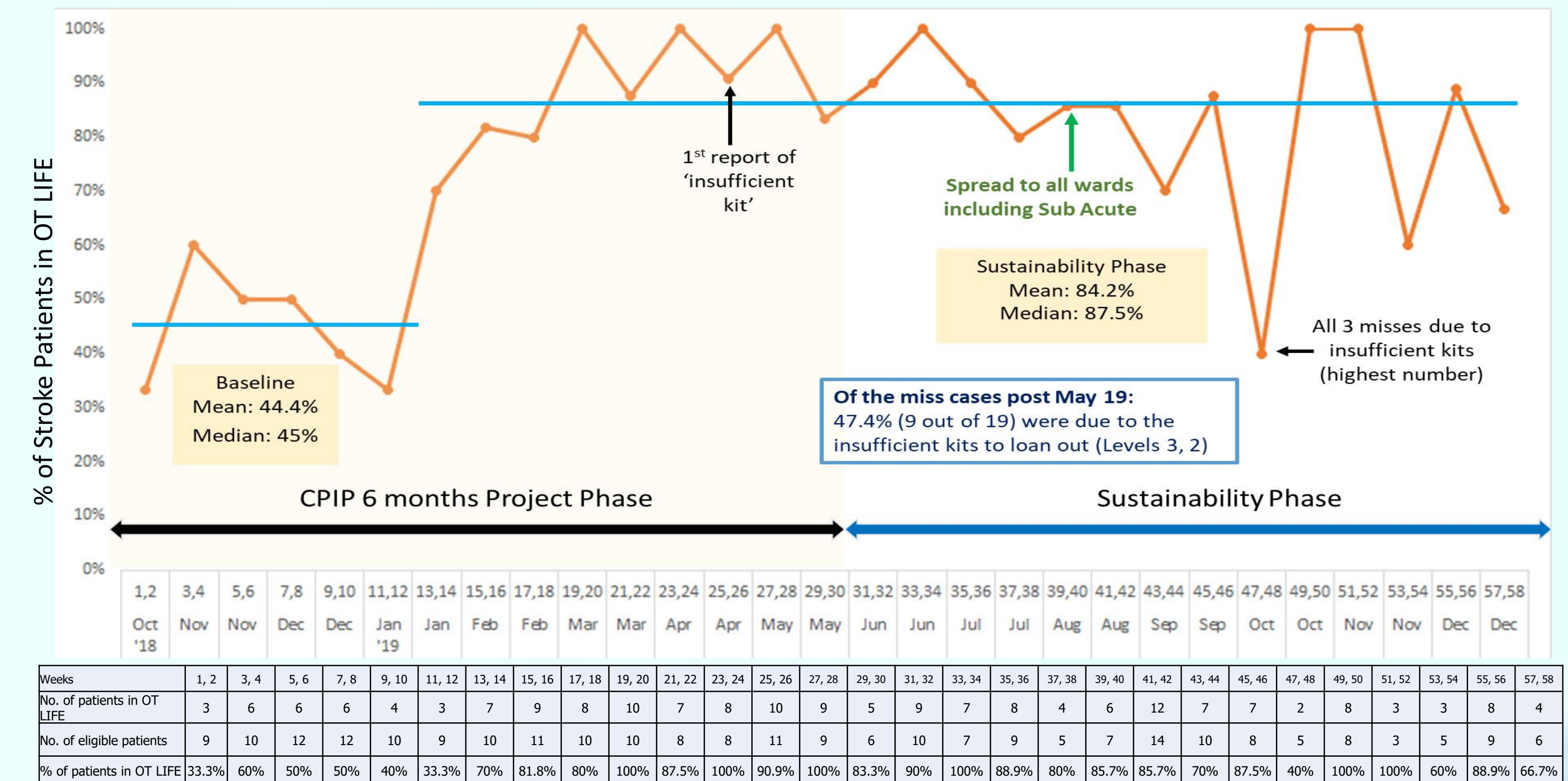
| Root Cause | Intervention | Implementation Date |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Cause A: Fugl Meyer Assessment (FMA) is a lengthy tool | PDSA 1A: Implement Alternative Screening: Chedoke Staging (shorter, part of routine assessment, no extra equipment needed) PDSA 1B: Implement Multi-Disciplinary Screening | 18 Feb 2019 25 Mar 2019 |



Results

Percentage of Stroke Patients in OT LIFE

Period: October 2018 to December 2019



An audit carried out between March 2021 to April 2021 indicated sustenance of results (audit mean = 81.7%):
1/3/21 - 14/3/21: 80% (4 out of 5 prescribed); 15/3/21 - 28/3/21: 81.8% (9 out of 11 prescribed);
29/3/21 - 12/4/21: 83.3% (5 out of 6 prescribed).

Cost Savings

| | Item | Pre Intervention | Post Intervention | Outcome |
|-------------------------------------------|----------------------------------------------------------------------|------------------|-------------------|-------------|
| Per Patient | Mean Time Taken (mins) | 22 | 3 | -19 |
| | Estimated Manhour Cost Saved (\$) *1.29 weighted average cost/min | \$28.38 | \$3.87 | -\$24.51 |
| Annualized (264 patients per year) | Mean Time Taken (mins) | 5808 | 792 | -5016 |
| | Estimated Manhour Cost Saved (\$) *1.29 weighted average cost/min | \$7,492.32 | \$1,021.68 | -\$6,470.64 |

Lessons Learnt

- Concepts in quality improvement and methodology
- Systematic approach to addressing gaps in healthcare delivery
- Value of multi-disciplinary thinking and brainstorming

Strategies to Sustain

- Increase number of OT LIFE kits (specifically levels 2 and 3)
- Implement teaching videos to cater to the wide learning and communication needs of patients
- Engage management on the cost savings achieved with a view towards training therapy assistants to carry out the programme
- Educate other healthcare staff about the OT LIFE programme on a regular basis / via visible platforms to create conscious awareness
- To help with patient compliance and motivation
 - Common gym space areas for therapy assistants to supervise patients in the OT LIFE programme on a daily basis