

Ms. Lim Yi Hui<sup>1</sup> & Dr Deshan Kumar Rajeswaran<sup>2</sup>

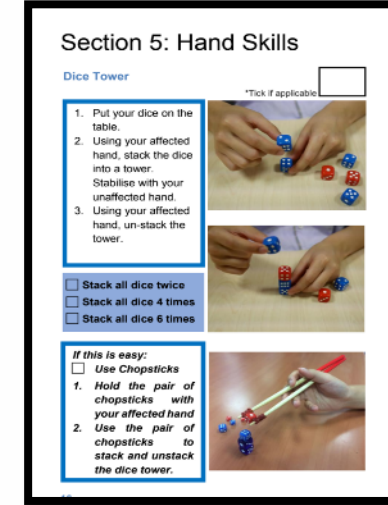
<sup>1</sup> Department of Occupational Therapy | <sup>2</sup> Department of Rehabilitation Medicine

## 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% in 6 months

\*Stroke patients who are:

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



## Team Members

	Name	Designation	Department
Team Leaders	Ms. Lim Yi Hui	Senior Occupational Therapist (Sr OT)	Occupational Therapy (OT)
	Dr. Deshan Kumar Rajeswaran	Consultant	Rehabilitation Medicine
Team Members	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

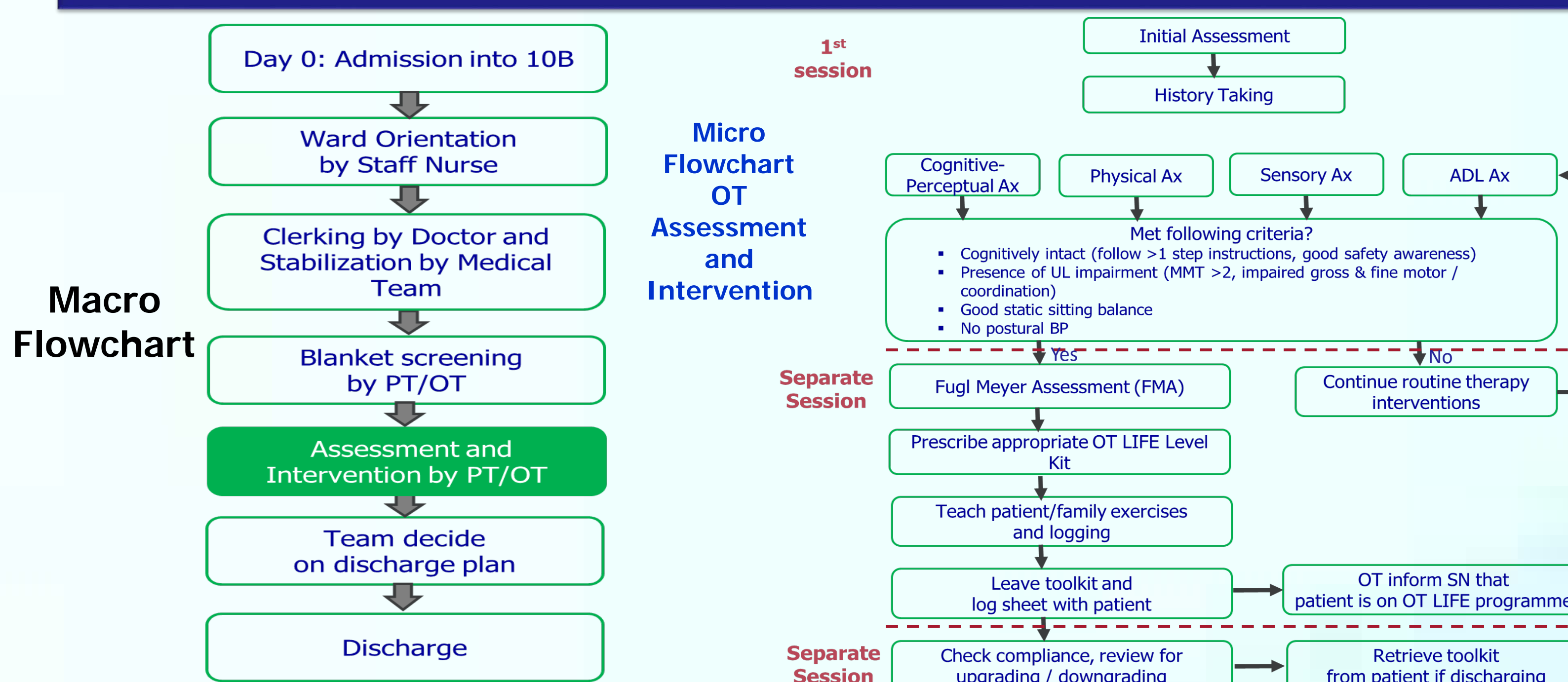
Mentors: Dr. William Chan & Mr. Christopher Ng

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

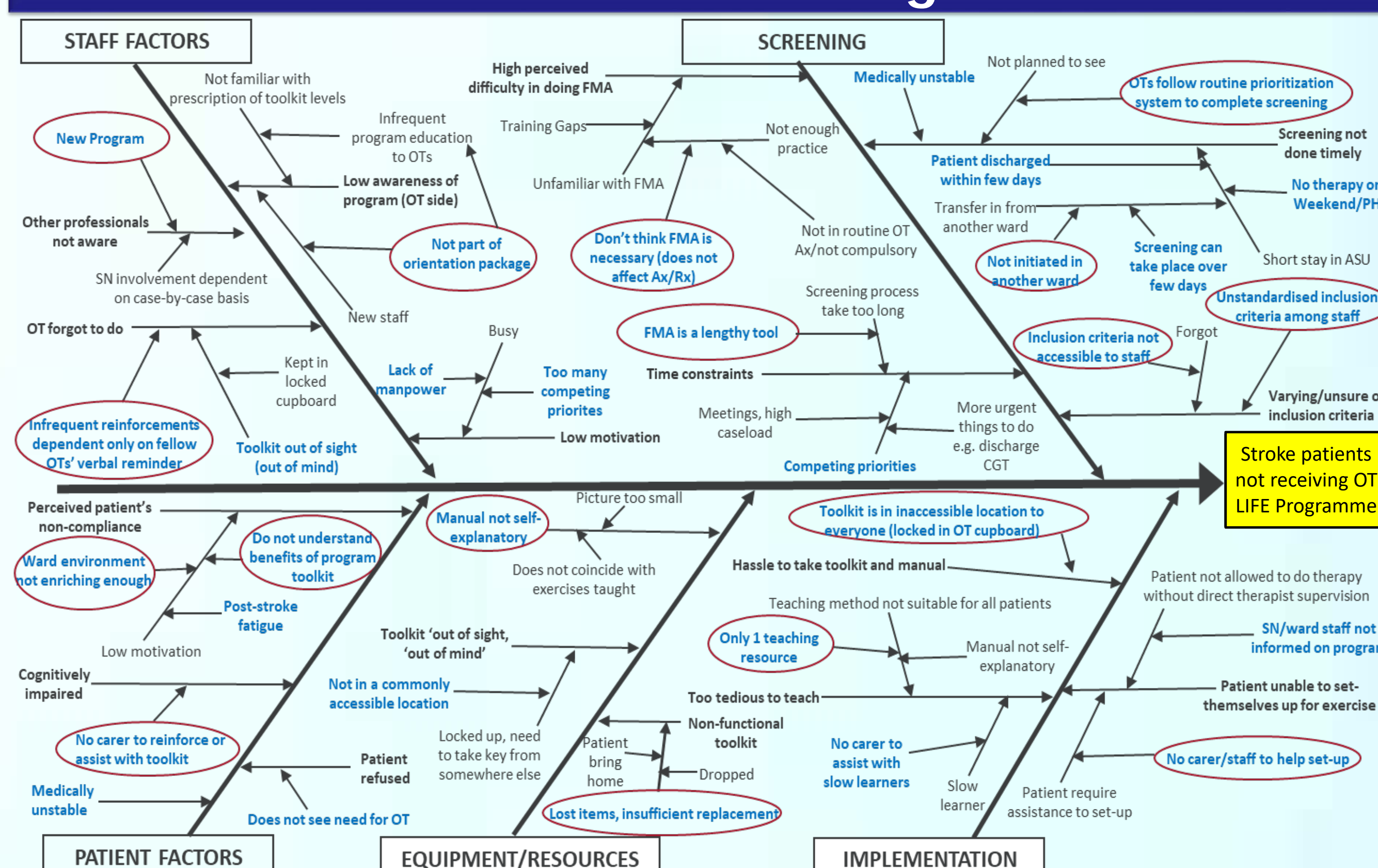
## Evidence for a Problem Worth Solving

- 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.

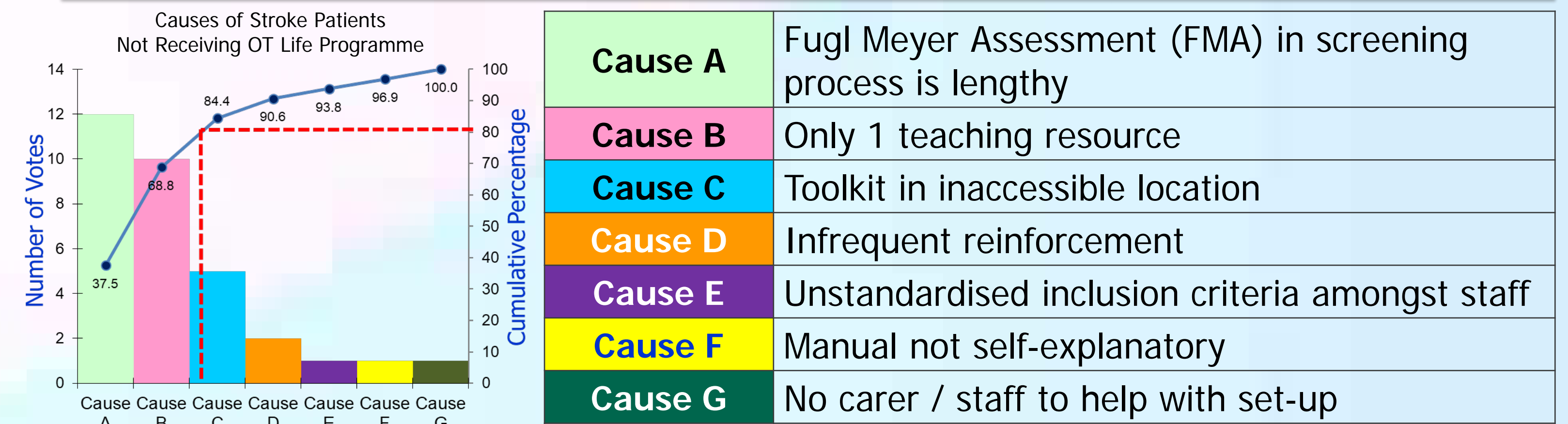
## Flow Chart of Process



## Cause and Effect Diagram

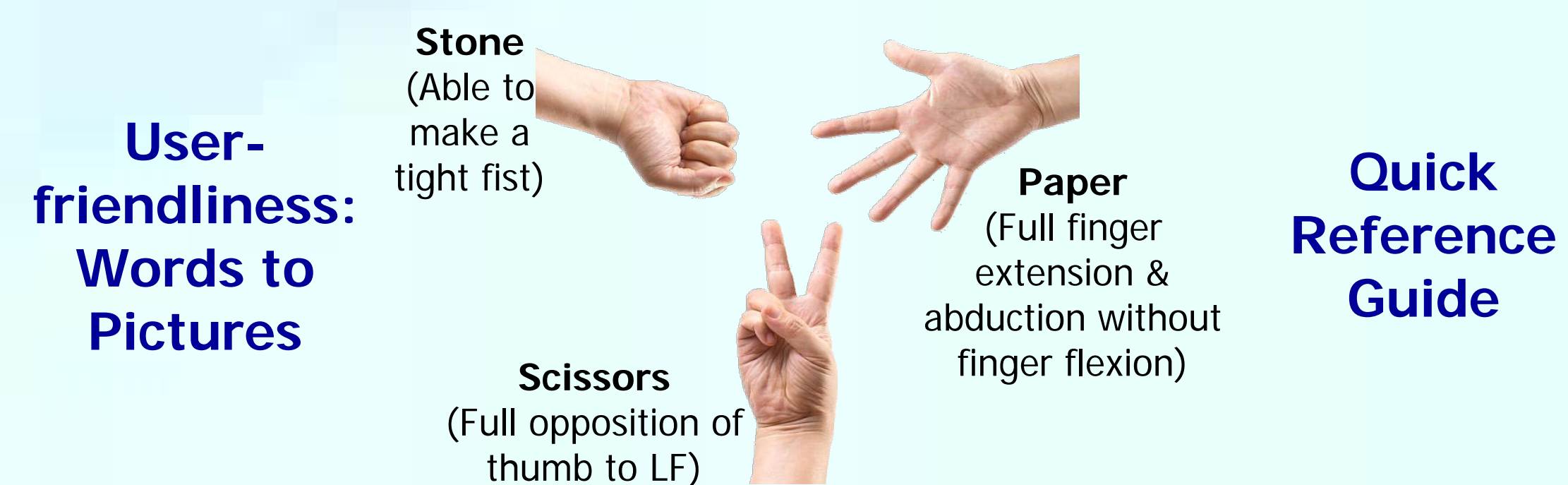


## Pareto Chart



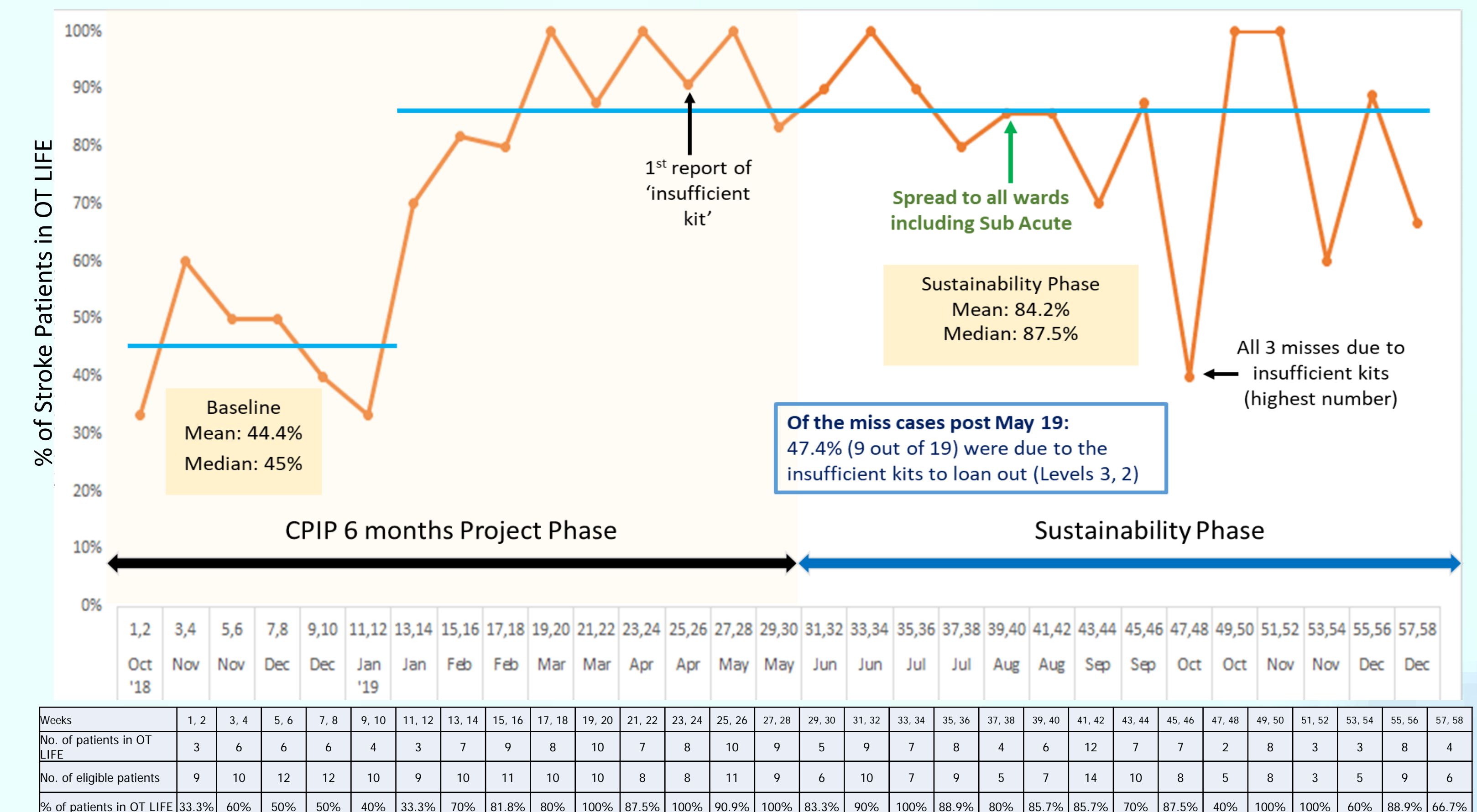
## Implementation

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



## Results

Percentage of Stroke Patients in OT LIFE  
Period: October 2018 to December 2019



## Cost Savings

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

## 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