

## Occupational Therapy LIFE Programme for Stroke Patients (Sustainability Phase)



Adding years of healthy life

## 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





Team Members						
	Name	Designation	Department			
Team Leader	Ms. Lim Yi Hui	Senior Occupational Therapist (Sr OT)	Occupational Therapy (OT)			
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	ОТ			
Montovo Dr	•					

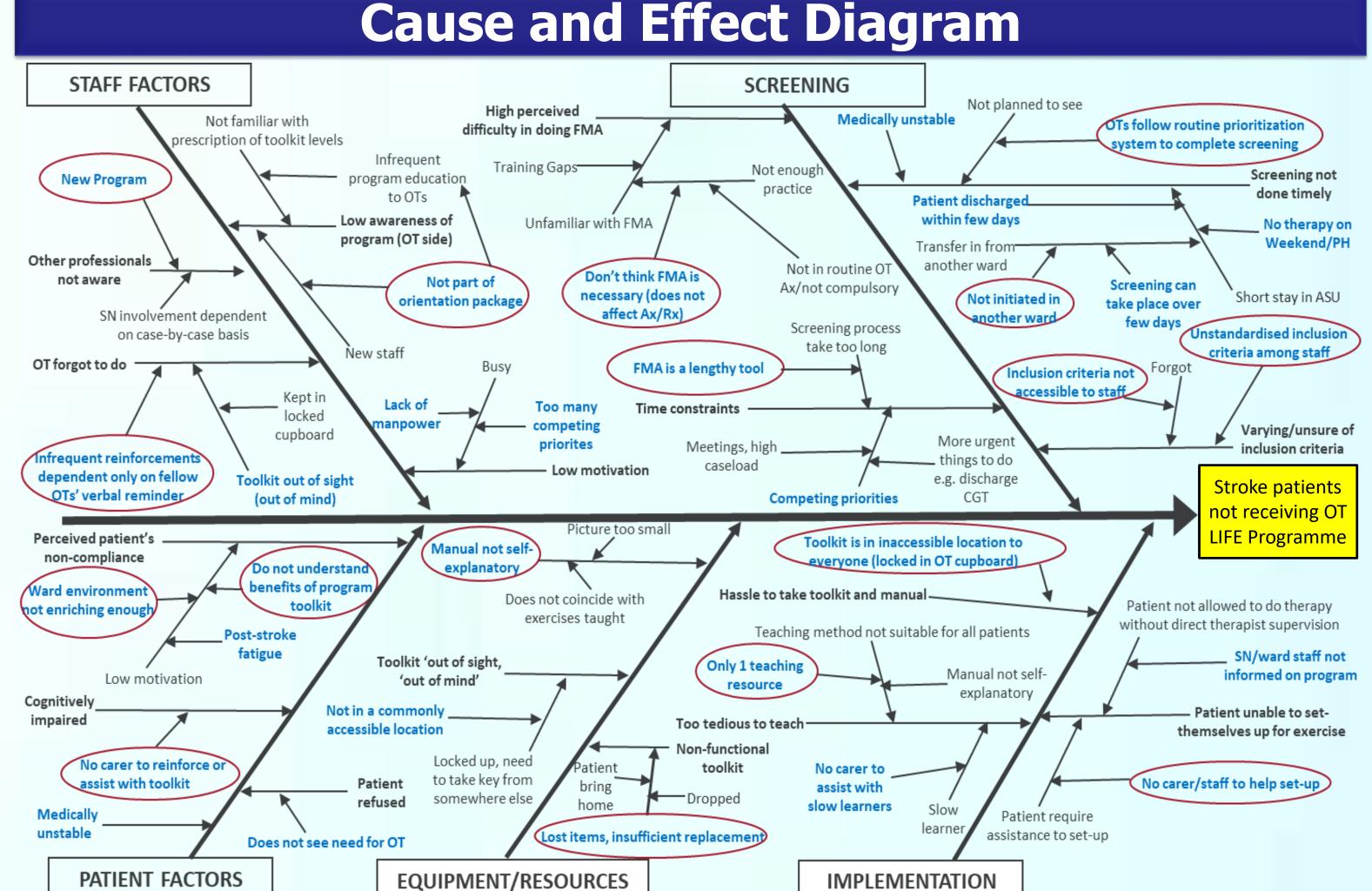
**Mentors**: Dr. William Chan & Mr. Christopher Ng

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

### **Evidence for a Problem Worth Solving**

- 1. Stroke is the 3rd leading cause of long term disability in Singapore (Ministry of Health Singapore Burden of Disease Study, 2010).
- 2. More than 70% of individuals experience upper limb (UL) impairments post stroke (Kwakkel et al., 2003).
- 3. 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).
- 4. The Graded Repetitive Arm Supplementary Program (GRASP) 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.
- 5. 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** Initial Assessment Day 0: Admission into 10B session History Taking Micro **Ward Orientation Flowchart** by Staff Nurse ADL Ax Sensory Ax Physical Ax Perceptual Ax OT **Assessment** Clerking by Doctor and Met following criteria? Cognitively intact (follow >1 step instructions, good safety awareness) and Stabilization by Medical Presence of UL impairment (MMT >2, impaired gross & fine motor / **Intervention** Team Macro Good static sitting balance **Flowchart** Blanket screening **Separate** by PT/OT Continue routine therapy Fugl Meyer Assessment (FMA) Session Prescribe appropriate OT LIFE Level Assessment and Intervention by PT/OT Teach patient/family exercises and logging Team decide on discharge plan OT inform SN that Leave toolkit and patient is on OT LIFE programme log sheet with patient Discharge Retrieve toolkit Check compliance, review for upgrading / downgrading from patient if discharging



#### **Pareto Chart** Causes of Stroke Patients Fugl Meyer Assessment (FMA) in screening Not Receiving OT Life Programm **Cause A** process is lengthy Only 1 teaching resource **Cause B Cause C** Toolkit in inaccessible location Infrequent reinforcement **Cause D** Unstandardised inclusion criteria amongst staff **Cause E** Manual not self-explanatory **Cause F** No carer / staff to help with set-up **Cause G**

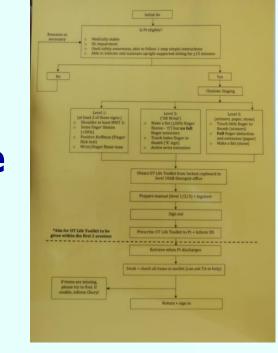
# **Implementation**

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

**User**friendliness: **Words to Pictures** 

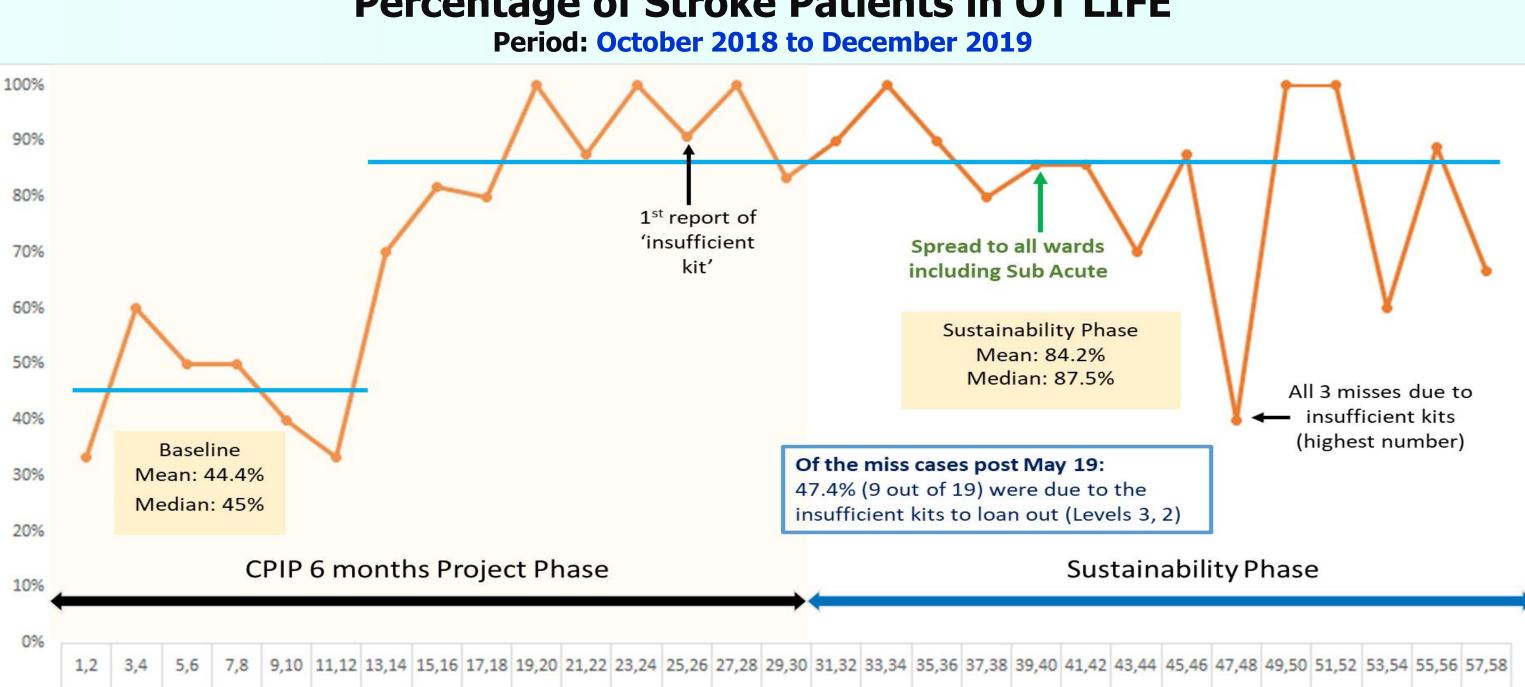


Quick Reference Guide



### Results

### **Percentage of Stroke Patients in OT LIFE**



1, 2 3, 4 5, 6 7, 8 9, 10 11, 12 13, 14 15, 16 17, 18 19, 20 21, 22 23, 24 25, 26 27, 28 29, 30 31, 32 33, 34 35, 36 37, 38 39, 40 41, 42 43, 44 45, 46 47, 48 49, 50 51, 52 53, 54 55, 56 57, 58 No. of patients in OT 50% | 50% | 40% | 33.3% | 70% | 81.8% | 80% | 100% | 87.5% | 100% | 90.9% | 100% | 83.3% | 90% | 100% | 88.9% | 80% | 85.7% | 85.7% | 70% | 87.5% | 40% | 100% | 100% | 60% | 88.9% | 66.7%

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

### **Lessons Learnt**

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

### Strategies to Sustain

- 1. Increase number of OT LIFE kits (specifically levels 2 and 3)
- 2. Implement teaching videos to cater to the wide learning and communication needs of patients
- 3. Engage management on the cost savings achieved with a view towards training therapy assistants to carry out the programme
- 4. Educate other healthcare staff about the OT LIFE programme on a regular basis / via visible platforms to create conscious awareness
- 5. 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