

# Occupational Therapy LIFE Programme for Stroke Patients



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Adding years of healthy life

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## **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

JUNC	Offit (A30) III
Section 5: Hand Skills  Dice Tower  1. Put your dice on the table. 2. Using your affected hand, stack the dice into a tower. Stabilise with your unaffected hand. 3. Using your affected hand, un-stack the tower.	第五节: 手部技能训练 挑起和翻转衣扣  1. 把衣扣放在桌上,接成一条直线。 2. 用您的弱手把每一个的衣扣翻转。不要使用来边来帮助 您翻转衣扣。
Stack all dice twice Stack all dice 4 times Stack all dice 6 times  If this is easy: Use Chopsticks 1. Hold the pair of chopsticks with your affected hand 2. Use the pair of chopsticks to stack and unstack the dice tower.	3. 尽量用您最快的速度来完成这项活动。  (重复两次 重复三次 重复大次

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

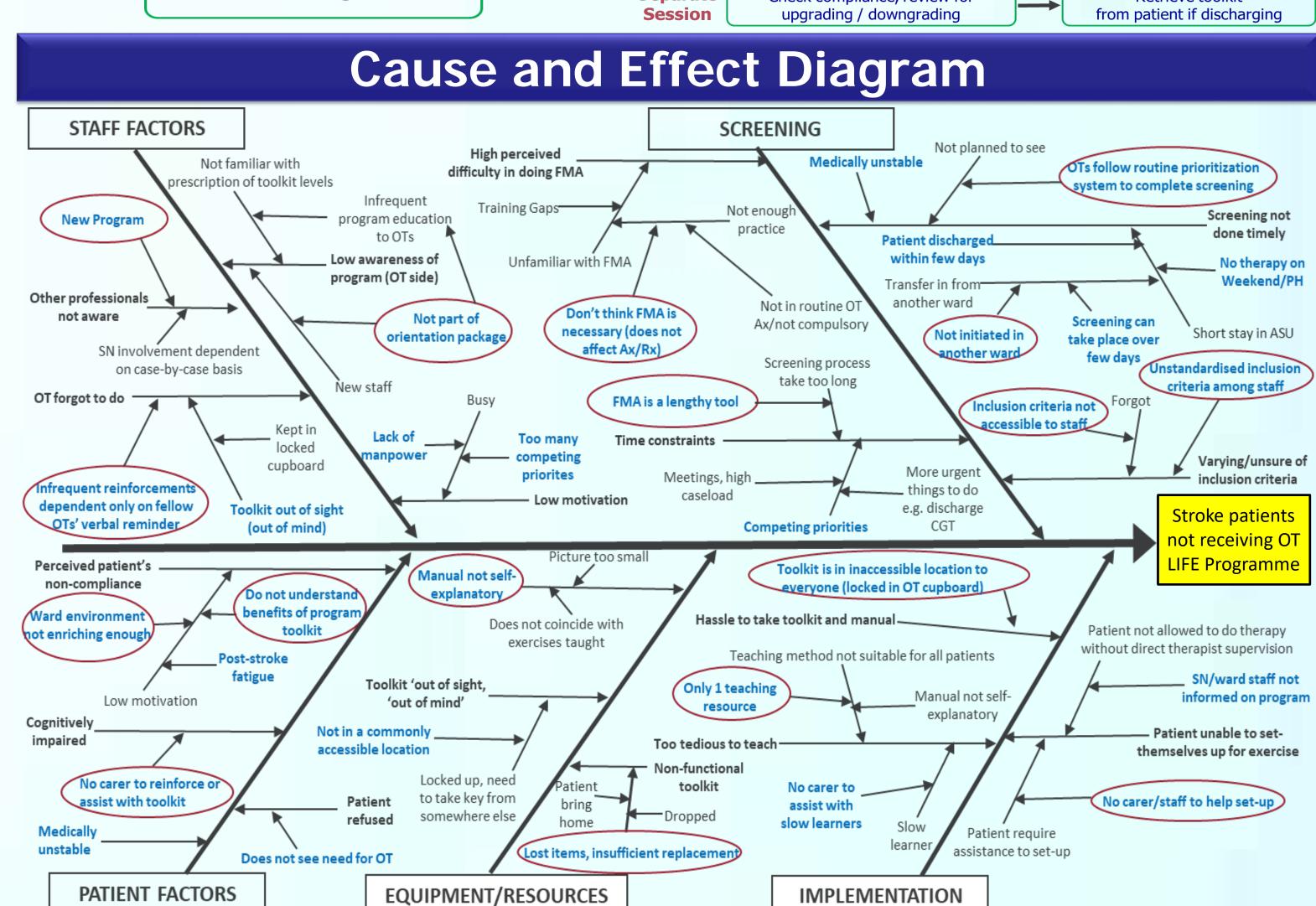
Mentors: Dr. William Chan & Mr. Christopher Ng

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

## Evidence for a Problem Worth Solving

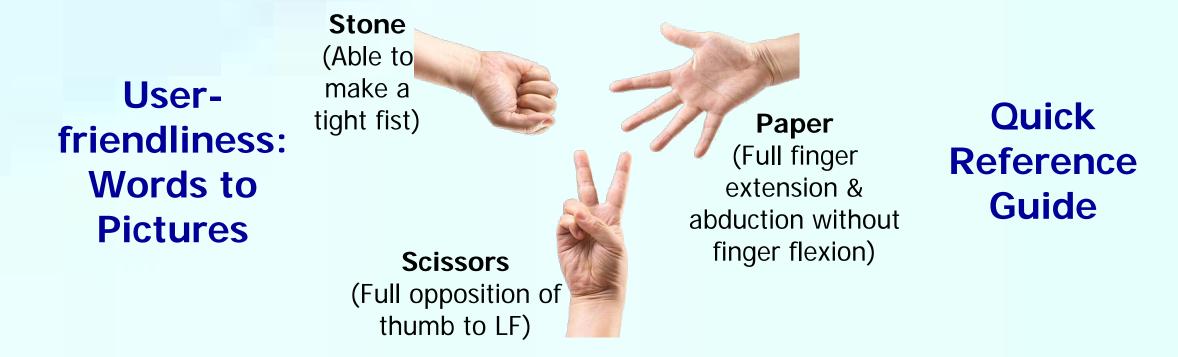
- 1. Stroke is the 3rd leading cause of long term disability in Singapore (Ministry of Health Singapore Burden of Disease Study, 2010).
- 2. More than 70% of individuals experience upper limb (UL) impairments post stroke (Kwakkel et al., 2003).
- 3. According to National Clinical Guidelines for Stroke, 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) 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.
- 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 Physical Ax Sensory Ax Perceptual Ax OT **Assessment** Clerking by Doctor and Met following criteria? Cognitively intact (follow >1 step instructions, good safety awareness) Stabilization by Medical and Presence of UL impairment (MMT >2, impaired gross & fine motor / Team **Intervention** 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 from patient if discharging upgrading / downgrading



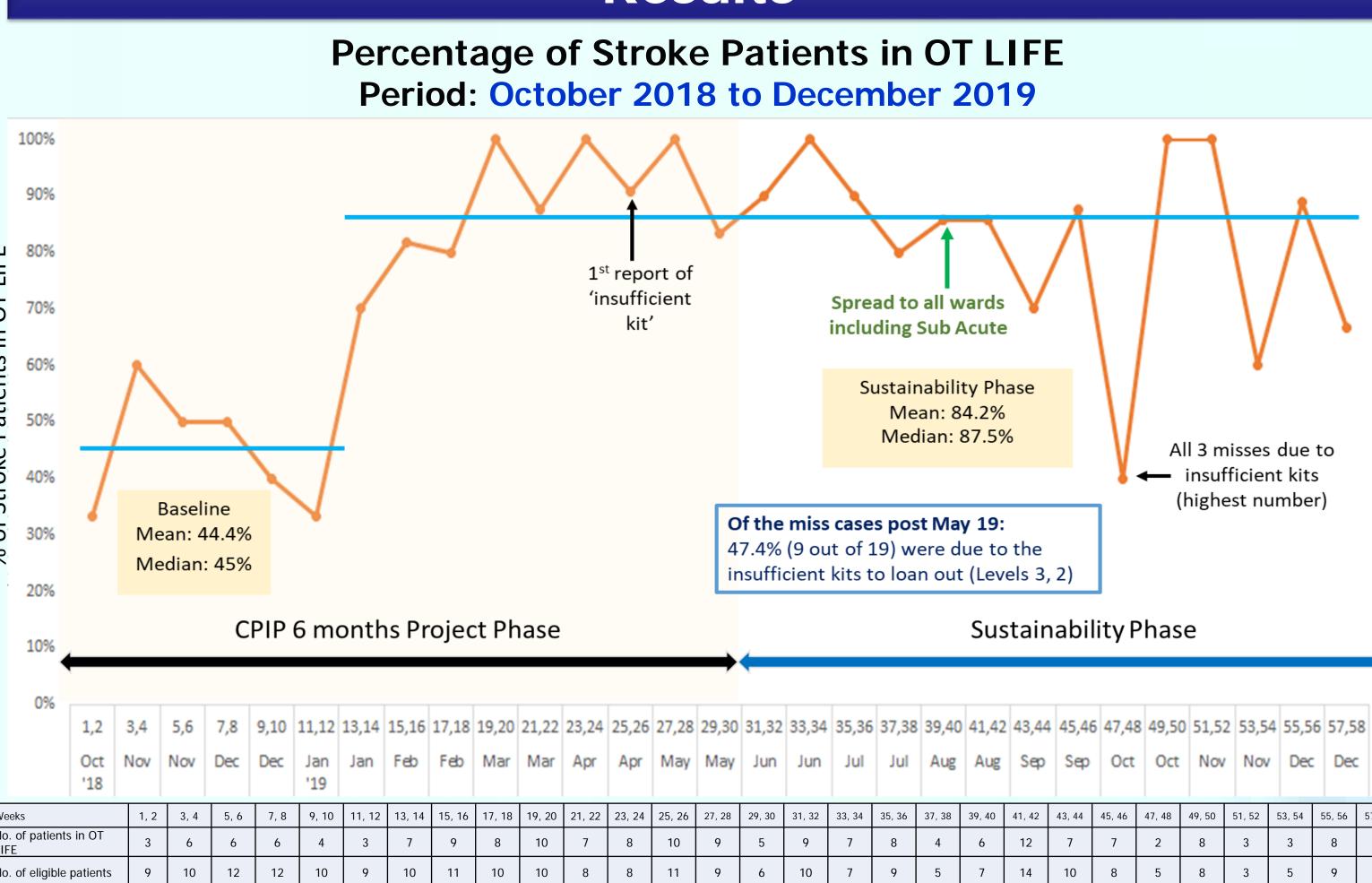
#### **Pareto Chart** Fugl Meyer Assessment (FMA) in screening Not Receiving OT Life Programm Cause A process is lengthy Only 1 teaching resource Cause B Toolkit in inaccessible location Cause C Infrequent reinforcement Cause D Cause E Unstandardised inclusion criteria amongst staff Manual not self-explanatory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

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



Screening

### Results



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

6 of patients in OT LIFE 33.3% 60% 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% 100% 60% 88.9% 66.76

## **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